**Notes from FEPS Workshop, April 3, 2015**

**Working Group 1 – Economics**

*Chairs: Dr. Erik Johnson, Assistant Professor, GT School of Economics and Dr. Marilyn Brown, Professor, GT School of Public Policy*

*Participants: John Sibley, Southface; Charles Rossmann, Southern Company/Georgia Power; Robert Patrylak, Navigant; David Lloyd, EPA; Jeff Roark, Electric Power Research Institute*

*Assistants: Alex Smith and Jeff Hubbs, GT Climate and Energy Policy Laboratory*

The cost of Clean Power Plan compliance was expected to be borne by utilities differently depending on their form, i.e., investor-owned utilities were viewed as being able to bear costs favorably whereas co-ops and municipal providers were viewed as having less ability to take on load loss. The demand for “green pricing” of electricity suggests that new pricing strategies may help co-ops attract new commercial and industrial customers to their service areas.”. Even within a single utility's service area, costs would likely be heterogeneous; for example, some feeders may be able to accommodate distributed generation but others may not and would require upgrades. Navigant's modeling looked at the Southeast and other regions and found little regional variation in compliance costs.

Rate determination becomes difficult for utilities where there is a higher percentage of renewable generation. In the Southeast so far, the trend has been for public service commissions to move toward a “three-legged stool” approach consisting of performance incentives, program cost recovery, and decoupling. A majority of costs appear to be fixed. Just the same, this does not mean that utilities have to lose money even though some distributed generation may be financed by a utility when that form of generation benefits it. Commercial and industrial customers want more flexible rate arrangements, and utilities that can be more flexible may create a significant business draw to their service territories. Relevant to renewable sources is that industrial customers tend to need 24/7 power, which is less of a characteristic of renewables.

**Working Group 2 – Policy**

*Chairs: Dr. Dan Matisoff, GT School of Public Policy*

*Participants: Joe Hoagland, Tennessee Valley Authority; David Hoppock, Duke University; Katie Southworth, EMVEnergy Solutions; Nick Cooper, Georgia Public Service Commission; Karen Hays, Air Protection; Claudette Ayanaba, Air Protection; Mary Shoemaker, ACEEE; James Johnston, Tennessee Air; Tracy Hawkins, Georgia Power Company; Kevin Kelly, Southface*

*Assistants: Ben Staver and Lu Wang, GT Climate and Energy Policy Laboratory*

The policy group discussed issues associated with smart meters and the common elements approach to low-cost carbon abatement.

The role that smart meters might play to enhance energy efficiency (given that significant market penetration has been achieved in the South), can be examined from the following perspectives. To begin with, the residential usage for smart meters has fallen behind, despite the fact that real time pricing is being implemented, because it only gives the customers hourly usage information. Therefore, pre-paid usage, as with a pay-ahead pricing method, is thought to be needed because it enables the customers to take advantage of differences in electricity generation costs in peak-and peak-off-hour pricing and also gives customers a sense of control over their own daily usage of electricity in a more transparent system. However, customers with lower income might be negatively affected as a consequence of being missed by the current financing options.

Secondly, a common elements approach regarding the clean power plant is not believed to be easily achieved right now. States face a lack of funding, manpower and knowledge. Under such circumstances, it is hoped that EPA will help to define the basic rules, for example, as to cap-and-trade, whether intensity-based or mass-based goals should be used for the energy efficiency credits and future registration, and other such common elements.

**Working Group 3 – Technology**

*Chairs: Dr. Valerie Thomas, GT School of Industrial and Systems Engineering and Dr. John Crittenden, Civil and Environmental Engineering*

*Participants: Isaac Panzarella, U.S. DOE Southeast CHP Technical Assistance Partnership; David McNeal, USEPA; Keith Goff, USEPA; Maggie Shober, Navigant; Bert Pearce, Georgia Department of Natural Resources Environmental Protection Division; Jeff Pratt, Oglethorpe Power Corporation; Judy Adler, Turner Foundation, Inc.*

*Assistants: Wenman Liu and Jean-Ann James, GT Climate and Energy Policy Laboratory*

Two main themes came up during the discussion with the technology group. The first was the impact CHP or CCHP and solar will have on the future of the Southeast. This was not limited solely to emissions but also involved ‘water for energy’ and economic implications with regards to the generation of jobs. The second is that the CPP does not address the impact of other technologies and systems, or the extent to which these technologies and systems could impact the overall emissions of a state.

Below are some of the talking points discussed within each of these themes:

1. Impacts of the Clean Power Plan on the future use of CHP/CCHP and solar:

Implementing CHP/CCHP and solar can have significant impacts on the ‘water for energy’ demand and job growth of a region. The general consensus among the participants is that although solar is shrinking at the moment, it is expected both solar and CHP/CCHP would grow in near future. Solar can come quickly compared to other facilities required more time to install/transform.

Natural gas grid could move to more sustainable directions in the future, but gas grid leakage (3-5%) could be the problem. The federal methane reduction strategy is trying to tackle the concerns. Implementing CHP/CCHP systems will have implications for a natural gas grid and small methane leaks in this system could outpace the CO2 savings of the CHP/CCHP plants.

1. Other technologies and issues:
   1. Electric vehicles (EVs) are a potential technology that could decrease the overall emissions of a state however, increasing the number of EVs in a state could result in an increase in the emissions at the power plant level. EVs could also inversely affect other metrics such as ‘water for energy’ consumption.
   2. Lack of flexibility in the implementation of the CPP could adversely affect disadvantaged populations. For example mandatory requirements for wind generation could lead to potential changes to the cost of systems may have to be passed on directly to the utility’s customers (because of the high costs of wind generation and the utility is not able to implement a least cost solution).

Additional technologies such as storage may eventually become cost effective and this will impact how we approach the entire problem of meeting energy demand.