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Meeting #1 Summary – Draft
Kentucky Climate Action Plan Council (KCAPC)

Frankfort, Kentucky
January 28, 2010

Attendees:

KCAPC: Secretary Len Peters, Rodney Andrews, David Armstrong, Joe Blackburn, Rusty Ashcraft for Joe Craft, David Brown Kinloch, William Daugherty, Don Halcomb, Jesse Mayes for Secretary Mike Hancock, Ken Robinson for Secretary Larry Hayes, Kelley Kline, Chip Simmons for John Lamanna, James Bush for Mayor Jim Newberry, Matt Powell, John Ballantyne for José Sepulveda) Carl Kurz for Steve St. Angelo, John Voyles for Vic Stafferi, Mark Stallons (by phone), Sister Amelia Stenger, Richard Sturgill (by phone), Martha Tarrant, Bryan Thomas for Roger Thomas, Dr. Mickey Wilhelm

Kentucky Energy and Environment Cabinet: Bob Amato, Talina Mathews

Center for Climate Strategies (CCS): Tom Peterson, Tom Looby, Randy Strait, Anne Devero, and by phone Ken Colburn, Lewison Lem, Maureen Mullen, Steve Roe, Jeff Wennberg, Joan O'Callaghan, Rachel Anderson

Others: See Attachment for Members of the Public Who Attended KCAPC Meeting #1.

Background Documents: (*all posted at www.kyclimatechange.us*)

1. Notice and Agenda
2. PowerPoint Presentation
3. Catalogs of State Policy Actions
4. Brief Descriptions of State Policy Actions
5. Draft KY GHG Inventory and Forecast Report
6. KCAPC Members List

Discussion and Conclusions:

1. **Welcome and Introductions**

   KCAPC Chairman Len Peters, Secretary of the Kentucky Energy and Environment Cabinet (EEC), opened the meeting. He asked KCAPC members and the Center for Climate Strategies (CCS) representatives to introduce themselves. After the introductions, Peters briefly reviewed the agenda for the day.

2. Purpose and Goals

Mr. Peters used the power point slides to summarize the goals of the KCAPC process as well as the goals for today's first meeting of the Council. The KCAPC work products will include an Inventory and Forecast of greenhouse gas (GHG) emissions through 2030, proposed statewide GHG reduction goals and targets, a portfolio of recommended GHG Reduction Policy Options in five sectors, and an interim and final report. He noted that the process will be intensive with completion scheduled by the end of 2010. The final work products will represent the most effective actions the KCAPC members believe are best for Kentucky.

Mr. Peters offered some additional opening remarks to set the stage for the process. The Kentucky economy goes way beyond just coal jobs. As Kentucky moves into a new energy paradigm, there is a need for growing an intelligent economy while protecting the environment and reducing GHG emissions. Kentucky has very competitive energy rates and a very dynamic and vibrant economy. How to sustain the three E's—energy, economy, and environment—is an important consideration of this process.

3. Recent Climate Developments

Tom Peterson of CCS gave a brief overview of recent GHG reduction efforts at the international, national, and state levels across the country. He provided a brief recap of some of the outcomes from the Copenhagen climate conference. He also summarized some of the recent federal actions by the administration and potential legislation by Congress. The results of the state climate planning processes are having an important influence in developing workable approaches for Congressional consideration. Congress is looking for energy and economic security as well as GHG reductions.

Using data from the U.S. Energy Information Administration (EIA), Mr. Peterson presented PowerPoint slides showing that GHG emission projections have been decreasing in the last few years. Recent GHG reduction actions taken by states regarding resource conservation, renewable energy, transportation, etc., have contributed to this decline, along with new federal Corporate Average Fuel Economy (CAFE) standards and the 2007 Energy Independence and Security Act. Additional public investment of stimulus funds in GHG reduction activities should contribute to further declines, as well as the initiatives of private companies, such as Walmart, which is requiring its products to meet carbon standards.

Some U.S. states are among the largest emitters of GHGs in the world. To date, 32 states representing two-thirds of the U.S. population and emitting half of U.S. GHG emissions have adopted climate action plans. About two dozen of the policy actions taken by several states are responsible for about 90% of GHG emission reduction potential. In addition to reducing GHG emissions significantly, several of the actions from state climate plans have resulted in billions of dollars in energy savings and the creation of hundreds of thousands of jobs.

4. Recent Climate Actions in Kentucky

Secretary Peters pointed out that Kentucky is fundamentally a manufacturing state, with about 70,000 jobs related to the auto industry. Approximately 30% of all U.S. stainless steel and 40% of U.S. aluminum are produced in Kentucky. Kentucky is tied for fifth place in the nation for the percentage of gross state product connected to the state's economy. The state's agriculture industry is poised to address biomass opportunities. Demographic data indicate that the state's population will increase by 20% between 2025 and 2030. While this is good news, the state will need to be prepared to meet the additional energy demands of an expanding population.

The Kentucky 7-Point Strategy for Energy Independence is a good starting point and will be strategically incorporated into this climate planning process. The KCAPC's economic imperative is to move forward intelligently and determine what actions will benefit Kentucky the most to grow the economy, create good jobs, and protect the environment.

Also, Kentucky is investing in expanding its capabilities in overall energy analysis. The Kentucky Energy and Environment Cabinet (KEEC) has employed a company that works closely with Argonne National Laboratory, which has some of the nation's best energy modelers. The company will help KEEC build in-house energy modeling capacity to enable Kentucky to develop and analyze both retrospective and prospective data to make informed decisions in the future.

5. KCAPC Climate Planning Process

Tom Peterson of CCS used the PowerPoint slides to provide a detailed description of the climate planning process that the KCAPC will undertake. This is further defined in the Process Memo between CCS and KEEC, which is posted on the Kentucky climate planning Web site at www.kyclimatechange.us.

6. Review of the Draft Kentucky GHG Emissions Inventory and Forecast Report

Randy Strait of CCS presented a series of slides on CCS's work to date on the Kentucky GHG emissions inventory and forecast (I&F). The draft GHG I&F report is posted on the Kentucky climate Web page. Mr. Strait emphasized that the state staff have not yet had a chance to review the draft report, so it is entirely CCS's work at this point. The next step is for the state agencies, the KCAPC, the Technical Work Groups (TWGs), and the public to review the draft report and to offer suggested improvements based on more current and/or applicable Kentucky-specific data.

The Kentucky GHG emissions inventory will cover the GHG emissions in Kentucky from 1990 to 2005, and the GHG forecast will cover 2005–2006 emissions through 2030. "Consumption" represents the amount of energy consumed by residents and businesses in Kentucky, while "production" represents the emissions associated with the generation of electricity by Kentucky plants, some of which is exported outside the state. The "reference case" for the forecast assumes no changes from business as usual, and includes state-

approved policies and actions for reducing GHG emissions. The net methods used to calculate the Kentucky GHG emission I&F will take carbon sinks into account.

For the most part, Kentucky gross GHG-equivalent emissions by sector reflect national gross GHG emissions, with the exceptions being higher emissions from the electricity generation industry and lower emissions from the transportation sector. Carbon dioxide (CO_2) emissions constitute the largest share of the state's GHG emissions. While Kentucky per-capita GHG emissions rose during 1990–2005 as a result of the electricity generation sector, emissions from Kentucky's gross state product declined. Between 1990 and 2030, Kentucky's GHG emissions are projected to grow by 20%.

A participant commented that Kentucky will continue to have higher per-capita GHG emissions because of its contribution to the manufacture of high-energy products. He pointed to the social and political disparities between Kentucky's emissions and lower emissions from non-manufacturing states that consume products manufactured in Kentucky.

Another participant asked about the differences between the EIA projections and the CCS process. Mr. Strait explained that CCS uses regional and state data where they are available and the national EIA data where they are not. A request was made for CCS to identify which of the various EIA models are used for the projections.

Mr. Strait reviewed the various methodologies and data sources used for the Kentucky GHG I&F and invited comments on them. CCS will present both consumption- and production-based data as well as gross (no carbon sinks) and net (includes carbon sinks) data.

A participant asked how CCS attributes emissions from barge traffic along the Ohio River. Maureen Mullen of CCS explained they are calculated from total vehicle miles traveled and the number of stops at ports. The same situation applies to freight shipments through Kentucky.

Another question was posed about how the model accounts for variations in traffic. Ms. Mullen noted that this is a finer level of detail than our modeling addresses.

Regarding industrial processes, the two greatest concerns from a GHG emission viewpoint are ammonia production and iron & steel production. Mr. Strait also noted that after the Montreal Protocol phased out the use of substances that deplete the ozone layer, emissions from the replacements for those substances, which are used primarily as refrigerants, have high global warming potentials.

The information in the I&F is in draft form and is based on the best information publicly available. Once better, Kentucky-specific data become available, the data will be substituted for the current information and the report will be updated

Tom Looby of CCS noted that the Kentucky GHG emission I&F report needs to be finalized by the third KCAPC meeting in May and asked that the KCAPC, the TWGs, and the state agencies begin quickly to develop any proposed changes to it for consideration by the KCAPC.

7. Catalogs and Brief Descriptions of Potential State Policy Actions

Mr. Looby provided an overview of the five draft Catalogs and Brief Descriptions of Potential State Policy Options. The five catalogs of over 300 potential state policy actions and brief descriptions of those actions are a consolidation of actions other states have taken in creating their individual state climate action plans. These documents are not yet complete insofar as they do not yet reflect recent actions underway or planned in Kentucky, other than those included in the Kentucky 7-Point Energy Strategy. So the KCAPC and TWGs should regard them as starting points for determining what recent actions in Kentucky should be added to the catalogs. These documents are all available on the KCAPC Web site. The TWGs are charged with developing proposed updates to the catalogs and descriptions documents for review and approval at the second KCAPC meeting in March. The idea is to develop a broad-based, comprehensive list of potential options for consideration in Kentucky. At the third meeting the KCAPC will prioritize the 300+ options down to about 50 options for detailed analysis and design in the second phase of the Kentucky process.

RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL CATALOG

Ken Colburn of CCS briefly summarized the Residential, Commercial, and Industrial (RCI) catalog, which covers a broad range of policy options related to energy efficiency and conservation in the residential, commercial, and industrial sectors, including energy codes and standards, demand-side management, voluntary partnerships and agreements, education and training, new technologies, and management strategies.

A participant asked how Kentucky should properly account for and reflect the contribution of emission reductions in the industrial sector where products are manufactured in Kentucky but not consumed in Kentucky. Mr. Colburn indicated a need to track both consumption and production of energy supply and emissions data at gross and net levels. There is a need to provide different incentives to ensure that both are captured and reconciled across state boundaries. An example of photovoltaic manufacturing was discussed for illustrative purposes. We need to track what is manufactured and consumed within state vs. what is exported. How this is crafted can encourage production and consumption. Mr. Colburn also noted that this level of detail is generally only covered within the electricity sector.

ENERGY SUPPLY CATALOG

Jeff Wennberg of CCS briefly summarized the Energy Supply (ES) catalog, which includes GHG emission policies (e.g., cap-and-trade, carbon tax) and overarching items; renewable energy and energy efficiency standards, incentives, strategies, and technologies; fossil fuel and nuclear electricity incentives and improvements; fuel production, processing, and delivery; carbon capture and storage or reuse; and other energy supply options.

As examples of these actions, Wennberg cited the Regional Greenhouse Gas Initiative, a cap-and-trade system that applies to10 northeastern and Mid-Atlantic states; British Columbia's revenue-neutral carbon tax that reduces other taxes for every dollar generated by reductions in carbon emissions; and the opportunity for states to voluntarily participate in the Chicago Climate Exchange carbon emissions trading market. He noted that policy option

ES-2.8 (Demand-Side Energy Efficiency) typically offers the best bang for the buck from both economic and environmental viewpoints.

Mr. Wennberg also pointed out which of the ES actions relate to Kentucky's 7-point Energy Strategy. ES-4.5 (Coal-to-Liquids and Gas-to-Liquids Production GHG Emission Reduction Incentives, Support, or Requirements) and ES-4.6 (Low-GHG Hydrogen Production Incentives and Support) figure prominently in the strategy.

A question arose regarding the accounting of renewable energy generated and used in Kentucky versus exported to and consumed by other states. Wennberg explained that the Kentucky I&F looks at (1) electricity generated in Kentucky, regardless of who's consuming it, and (2) electricity consumed in state, regardless of where it's generated. Going forward, CCS will provide both production and consumption numbers. In response to another question, Mr. Wennberg noted that biomass-to-liquids actions typically are housed in the issues being addressed by the Agriculture, Forestry, and Waste Management (AFW) TWG, because the AFW sectors are the sources of biomass supply. The ES sector could address biomass for electricity. As the process develops, the allocation of these issues will be coordinated among the TWGs. Another question was posed about the experience with deregulated markets to determine choices in the utility framework for reducing emissions. Mr. Wennberg noted that states typically have more authority in regulated markets.

TRANSPORTATION AND LAND USE CATALOG

Lewison Lem of CCS briefly summarized the Transportation and Land Use (TLU) catalog. He noted that transportation energy efficiency strategies are comprised of three features: (1) the type of vehicle (weight, size, fuel economy, etc.); (2) the type of fuel (alternative vs. conventional fuels); and (3) the activity or amount of travel (distance, highway vs. in-town travel, etc.). He then presented a broad range of policy options related to the following categories: light-duty vehicles; alternative fuel-related measures; land-use, location, and transportation efficiencies; low-GHG travel option incentives; heavy-duty vehicles; intercity passenger travel; and off-road vehicles.

In response to a question about accounting for the net benefits of switching to electric vehicles, Mr. Lem explained that CCS considers the GHG emissions related to the generation of electricity, and balances that against the emissions that would have been generated otherwise from the use of fossil fuels. In response to another question about including light rail as an option, Mr. Lem noted that it might fall under option TLU-5.4 (Expand Transit Infrastructure), and that the TWG will determine how to present light rail to the Council. Comments were offered to support inclusion of increased use of diesels and natural gas vehicles. Lem responded that diesel fuel and natural gas incentives can be inserted somewhere under TLU-3 (Alternative Fuel-Related Measures), if the Council chooses to do so.

A question was posed about accounting for emissions coming from barge traffic on the Ohio River when not destined for Kentucky, but in-transit to other states. The same issue applies to freight transportation and airline transportation. Mr. Lem noted that for the barge traffic,

we should use port data to differentiate between "in transit" and end consumption. For the other types of traffic, he noted that CO_2 emissions are based on fuel consumption. Nitrate and MH_4 emissions are based on vehicle miles traveled.

Another question was asked about whether intelligent transportation system options, such as dynamic message boards, will be considered. Mr. Lem noted that technology options around road systems can be considered later in the process. An inquiry was made about how to reconcile emissions that result from hybrid or electric cars when the electricity is generated by coal fired power plants vs. electricity that is generated from renewable sources. Mr. Lem indicated that we capture emissions data at both gross and net levels for electricity production and electricity consumption, and that we need to find ways to mobilize investment resources to promote greater use of renewable energy sources.

AGRICULTURE, FORESTRY, AND WASTE MANAGEMENT CATALOG

Steve Roe of CCS briefly summarized the AFW catalog, which covers a broad range of policy options related to the following categories: agriculture and forestry—production of fuels and electricity; agriculture—livestock and range management, crop production, land-use change, and farming practices; forestry—biomass protection and management, and wood products and waste; and waste management—waste management strategies, landfill gas strategies, and wastewater activities.

A participant suggested that AFW-1.7 (Manure Digesters/Other Waste Energy Utilization) elaborate on other waste-to-energy sources, such as plasma. Mr. Roe agreed and added that it could also include some new ideas, such as co-managing waste from agriculture-related production with waste from wastewater treatment plants. It was suggested that AFW-4.3 (Prioritize Environmental Remediation Actions for GHG Benefits) include mined land reclamation.

There was some discussion about whether organic farming (AFW-5.2) uses more energy than conventional farming because it requires more cultivation and is more expensive to implement. The AFW TWG will look at individual crop management systems and will compare the GHG benefits of organic and conventional farming.

A Council member noted the significant energy potential of Kentucky's production of wood waste, along with the problem of developing a marketplace for buyers and sellers of this energy source. This issue will be added to AFW-7.3 (Expanded Use of New, Reused, and Recycled Wood Products for Building Materials) as the TWG fleshes out the policy option.

In response to a question about AFW-9.1 (Flare Landfill Methane at Non-NSPS (Smaller) Sites), Mr. Roe explained that methane has a higher global warming potential than CO_2. CCS treats biogenic CO_2 differently from fossil-based CO_2, because the latter has a much longer-term carbon cycle. Landfill methane is biogenic.

Regarding AFW-9.3 (Landfill Methane Energy Programs), Mr. Brown Kinloch pointed out that facilities in Kentucky are already generating electricity from landfill gas, but these activities are hampered by regulatory and legal barriers regarding landfills. He

recommended that this policy option be oriented to removing these barriers. It was also noted that five such projects are currently under development in Kentucky.

Participants also suggested that AFW-10.1 (Energy Efficiency Improvements) include refurbishment of outdated equipment, recycling water from manufacturing and wastewater treatment plants, and capture and reuse of stormwater runoff and gray water for irrigation.

CROSS-CUTTING ISSUES CATALOG

Tom Looby of CCS briefly summarized the Cross-Cutting Issues (CCI) catalog, which reflects broad program-wide synergies among the various policy options. The CCI catalog covers a broad range of enabling policy options related to the following categories: GHG inventory and forecasting; GHG reporting; GHG registry; public education and outreach; adaptation and vulnerability; statewide GHG reduction goals or targets; state, local, and tribal government GHG reduction activities (lead by example); local GHG reduction action; financial policies; climate-related investment and business-to-business engagement; and increased public investment in climate data and analysis.

A participant suggested that the CCI catalog include a policy option for creating a database or clearinghouse for sharing best practices or ideas. Looby concurred, and noted that other states have included this type of option. In response to another question, Looby explained that not all policy options are quantified, because some of them are qualitative and cannot be quantified. The CCI options are not quantified. Another suggestion was to include K-12 education on energy efficiency.

8. **TWG Assignments**

In addition to KCAPC members, the TWGs will be comprised of additional members and technical experts in the respective sectors. During the meeting, KCAPC members were presented with sheets containing proposed Council member assignments to one of the five TWGs. Secretary Peters explained that the TWGs do a substantial amount of the work necessary to inform the KCAPC members' decision making. He encouraged KCAPC members to let Talina Mathews know as soon as possible whether they prefer to serve on TWGs other than those to which they have been assigned, and whether other people not on the TWG lists might provide valuable input as TWG members. Once the recommendations for TWG membership are finalized, the TWG process will move forward.

The following KEEC liaisons and CCS facilitators will support the TWGs:

Organization	AFW	ES	RCI	TLU	CCI
KEEC	Frank Moore	Bob Amato	Greg Guess	John Lyons	Talina Mathews
CCS	Steve Roe	Jeff Wennberg	Ken Colburn	Lewison Lem	Tom Looby

9. **Next Steps**

Between each KCAPC meeting, the TWGs will participate in at least two conference calls that may last up to 2 hours each. Materials and agenda items will be posted before each TWG call to enable TWG members to prepare for the calls. KCAPC members and members of the public may listen in on all TWG conference calls. Information about the calls will be posted on the KCAPC Web site, along with the documents that will be the focus of the calls.

Between Meetings #1 and #2, TWG members will be responsible for reviewing and expanding on the catalogs of potential policy options for Kentucky, along with the brief descriptions of those options. Members will also review the draft Kentucky GHG I&F report, and will be afforded the opportunity to offer recommended improvements at KCAPC Meeting #2.

Between Meetings #2 and #3, the prioritization process will begin in order to narrow the lists of potential policy options in the catalogs. The prioritization criteria at the beginning of the catalogs will help guide TWG members in setting their priorities. By Meeting #3, the five catalogs will be narrowed down to about 50 policy actions to move forward with quantification and fleshing out details related to policy designs.

10. Times and Dates for Next KEEP Meetings

KCAPC Meeting #2 will be held on March 22, 2010. Once the location is determined, it will be published on the KCAPC Web site. The dates for future KCAPC meetings will be proposed during Meeting #2.

11. Public Comments

Tona Barkley, a representative from the Frankfort Climate Action Network and the Kentucky Sustainable Energy Alliance expressed her strong support of the KCAPC's purpose and goals, but noted that there is only one environmental organization included on the Council. She requested that the KCAPC consider adding additional representatives from environmental organizations to its membership. She suggested that the Kentucky Resource Council, the Sierra Club, or the Kentucky Sustainable Energy Alliance were possible sources.

Connie Lemly, a farmer and home school mother, asked the KCAPC members to consider the human and animal voices not in the room as they conduct their work. She asked the Council to keep in mind how their decisions will affect these voices not in the room and future generations in Kentucky, nationally, and globally.

12. Announcements

None.

Attachment

Members of the Public Attending KCAPC Meeting #1
Frankfort, Kentucky
January 28, 2010

Name	Organization
Tona Barkley	Frankfort Climate Action Network
Tamera Fakhoorian	National Algae Association
Mike Hannon	Kentucky Environmental Foundation
Connie Lemly	Farmer
Bill Gardner	