



Kentucky Climate Action Plan Council (KCAPC)

Meeting #2, March 22, 2010

Kentucky Energy and Environment Cabinet
The Center for Climate Strategies

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Welcome and Introductions

- Kentucky Energy and Environment Cabinet (KEEC)
- KCAPC Members
- Kentucky State Agencies
- Members of the Public
- Center for Climate Strategies

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Agenda

1. Welcome and Introductions
2. Approval of KCAPC Meeting # 1 Summary
3. Purpose and Goals of KCAPC Meeting #2
4. Review and Approval of Proposed Additions to the Draft Catalogs and Descriptions of Potential State Actions from Technical Work Groups (TWGs)
5. Review of draft Kentucky GHG Emissions Inventory & Forecast issues identified by TWGs
6. Review of Prioritization Process of Potential KY Priority Policy Options for Further Analysis
7. Next Steps for KCAPC and Technical Work Groups (TWGs)
8. Agenda, Time and Date for Next Meeting
9. Public Input
10. Announcements
11. Adjourn

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Summary of Prior KCAPC Meeting

- Edits and Approval of KCAPC Meeting #1 Summary

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Goals for KCAPC Meeting #2

- Approval of a Catalog and Descriptions of Potential State Actions for Consideration in Kentucky
- Identification of potential issues to address regarding the draft KY GHG Emissions Inventory and Forecast
- Summary of the prioritization process for identifying the policy options to conduct further analysis upon

Stepwise Planning Process

1. Get organized
2. Review and refine inventory & forecast of emissions
3. Identify a full range of possible actions
4. Identify initial priorities for analysis
5. Develop straw policy design proposals
6. Quantify initial GHG reductions and costs/savings
7. Fully develop policy option templates
8. Develop alternatives to address barriers as needed
9. Aggregate and integrate results
10. Finalize and report recommendations

Step 2: Review and Refine Inventory and Forecast

- Scope of coverage
- Data sources
- Methods
- Assumptions
- Key Uncertainties

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Step 3: Expand the Catalog of States Actions

- Over 300 actions taken by US states
 - Existing, planned and proposed state and multi state actions
 - Many US states
 - All sectors
 - Variety of implementation mechanisms
 - Includes key KY actions
- KCAPC adds missing potential actions
 - Starting place for identification of priorities for analysis

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Technical Work Groups

- Residential, Commercial, Industrial
 - Energy efficiency & conservation, industrial process, waste management
- Energy Supply
 - Heat and power generation; locus for cap and trade or carbon tax policy
- Transportation and Land Use
 - Vehicle efficiency, alternative fuels and demand reduction programs
- Agriculture, Forestry, and Waste Management
 - Land protection, forest restoration, sustainable forest management, bioenergy, sustainable wood products, waste reduction, recycling
- Cross-Cutting Issues
 - Reporting, registries, lead by example, public education, goals, etc.

Additions to Catalogs of State Actions

- Identify potentially missing actions for KY
- Add to list for consideration of “priorities for further analysis”
- See handouts for each TWG:
 - AFW TWG
 - TLU TWG
 - RCI TWG
 - ES TWG
 - CCI TWG

Identification of Issues with the Draft Inventory and Forecast of Kentucky GHG Emissions

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Key Points

- Preliminary draft for KCAPC and TWG review and revision, as needed
- Helpful for diagnosis of GHG emissions, but not a baseline for modeling or compliance for individual options
- Consumption and Production methods
- Gross and Net methods

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Coverage

- Six gases per USEPA and UNFCCC guidelines
 - Carbon Dioxide (CO₂), Methane (CH₄), Nitrous Oxide (N₂O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulfur Hexafluoride (SF₆)
- All major emitting sectors
 - Electricity Supply & Demand (Consumption Based)
 - Residential, Commercial, Industrial (RCI) Fuel Use and Non-fuel Use Processes
 - Transportation (onroad and nonroad)
 - Natural gas pipeline transmission & distribution
 - Agriculture, Forestry, and Waste
- Emissions expressed as CO₂ equivalent
 - 100-year global warming potentials
 - CO₂ = 1; CH₄ = 21; N₂O = 310; HFC-23 = 11,700; SF₆ = 23,900

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AFW TWG

- AFW-1: Agriculture—Production of Fuels and Electricity
- AFW-2: Agriculture—Livestock and Range Management
- AFW-3: Agriculture—Crop Production
- AFW-4: Agriculture—Land Use Change
- AFW-5: Agriculture—Farming Practices
- AFW-6: Forestry—Biomass Protection and Management
- AFW-7: Forestry—Wood Products and Waste
- AFW-8: Waste Management—Waste Management Strategies
- AFW-9: Waste Management—Landfill Gas Strategies
- AFW-10: Waste Management—Wastewater Activities

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AFW Catalog Additions

- AFW-2: Agriculture—Livestock and Range Management
 - AFW 2.5 - Mitigation of Carbon Sequestration Loss and GHG Emissions From Prescribed/Controlled Burning of Crop Residues or Grassland Residues
- AFW-4: Agriculture—Land Use Change
 - AFW 4.5 - Increase Productivity of Reclaimed Lands
- AFW-6: Forestry—Biomass Protection and Management
 - AFW 6.10 - Reforestation of Active Mining Operations and Previously Reclaimed Mined Lands
- AFW-8: Waste Management—Waste Management Strategies
 - AFW 8.8 – Industrial Waste Management Programs
 - AFW 8.9 – Utilization of Closed Landfills for Other Purposes

AFW GHG I-F Issues

- Industrial wastewater – Identify production data for industries such as bourbon production
- Municipal Solid Waste – Calculate emissions from bioreactor in Louisville
- Waste combustion – No controlled combustion in-state. Open burning is illegal in the state and largely contained. Some open burning that is exempt from the law such as storm debris; also some illegal “backyard burning”
- Agriculture – Need to include carbon stock in trees on ag land. Up to 5% of agricultural land has trees and this is not included in the USFS forest inventory

Break



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TLU TWG

- TLU-1: Light Duty Vehicles: Technology and Operation
- TLU-2: Light Duty Vehicles: Incentives and Disincentives
- TLU-3: Alternative Fuel-Related Measures
- TLU-4: Land Use and Location Efficiency
- TLU-5: Transportation Efficiencies in Planning, Infrastructure, and Use
- TLU-6: Low GHG Travel Option Incentives
- TLU-7: Heavy Duty Vehicle Technology
- TLU-8: Heavy Duty Vehicle Operations
- TLU-9: Increasing Low GHG Heavy Duty Transportation Options
- TLU-10: Heavy Duty Vehicle Incentives and Disincentives
- TLU-11: Intercity Passenger Travel: Aviation, High Speed Rail, Bus
- TLU -12: Off Road Vehicles: Construction, Marine, Locomotive

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TLU Catalog Additions

- TLU 2.10- Adopt or Enforce Anti-Idling Regulations for Light Duty Vehicles
- TLU 3.8- Sustainable Fuel Standard
- TLU 5.19-Street Connectivity
- TLU 5.20-Comprehensive Municipal Bicycle and Pedestrian Plans
- TLU 6.23 – Cyclist Education Programs

TLU GHG I-F Issues

- Baseline Forecast of VMT (Vehicle Miles of Travel)
- Aviation Fuel Inventory Data and Methods
- Blended fuel composition, included ethanol/gasoline mix

Lunch Break



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Energy Supply TWG

- ES-1 Overarching Policies
- ES-2 Renewable Energy and Energy Efficiency
- ES-3 Fossil Fuel and Nuclear Electricity
- ES-4 Fossil Fuel Production, Processing, and Delivery
- ES-5 Carbon Capture and Storage or Reuse (CCSR)
- ES-6 Other Energy Supply Options (Including Enabling Policies)

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ES Catalog Additions

- ES-1.8 Midwest Renewable Energy Planning Group
- ES-2.9 Hydro Efficiency Improvements, Capacity Increase, and Barrier Removal
- ES-2.10 Utility Energy Efficiency Incentives and Barrier Removal
- ES-2.11 Consumer Energy Efficiency Incentives and Barrier Removal
- ES-2.12 Research and Development for Renewable Technologies
- ES-2.13 Co-Location or Integration of Energy-Producing Facilities
- ES-2.14 Wind Energy Potential Evaluation
- ES-2.15 Photovoltaic Demonstration Projects
- ES-2.16 Inclined Block Rates
- ES-2.17 Feed-in-Tariff
- ES-2.18 Pyrolysis Demonstration/ Evaluation Projects
- ES-4.7 Shale Gas Development
- ES-4.8 Infrastructure to Facilitate Transition to Natural Gas in Transportation
- ES-6.9 Landfill Gas Demonstration/ Evaluation Projects
- ES-6.10 Sustainable Energy Utility
- ES-6.11 Cost-of-Service Utility Rate Structure

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ES GHG I-F Issues

- Role of coal in the forecast – current Business-as-Usual Scenario assumes no carbon tax/cap; need to decide on plausibility of this assumption
- Electricity exports – Typos in the I&F report need to be corrected to be consistent with trends regarding future exports
- Uncertainty – the section on uncertainty needs to address the issue of KY-specific versus regional assumptions

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RCI TWG

- RCI-1: Energy Efficiency Programs, Funds, and Goals
- RCI-2: Buildings and Facilities
- RCI-3: Appliance Standards
- RCI-4: Education and Outreach
- RCI-5: Pricing and Purchasing
- RCI-6: Customer-Sited Distributed Energy and Combined Heat and Power
- RCI-7: Non-Energy Emissions (HFCs, PFCs, SF₆, CO₂ Process Emissions)
- RCI-8: GHG Emissions-Specific Goals and Policies
- RCI-9: Other

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RCI Catalog Additions

- RCI-2.18: Require Solar Hot-Water Systems in New Buildings
- RCI-2.19: Implement a Building Energy Labeling Program
- RCI-2.20: Require Designers of State and Local Government Buildings to be Certified as High Performance Building Design Professionals
- RCI-5.8: Green Power Sales from Distributed Generation Sources

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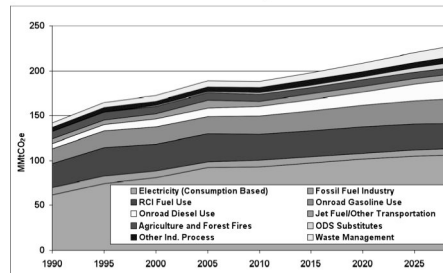
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RCI GHG I-F Issues

- On graphs, clarify that “GHG Emissions” means all six standard GHGs in MMTCO₂e.
- Include a graph similar to Figure 3 with subsector emissions (R, C, & I) broken out separately, at least for their electricity and fuel use emissions.

Figure 3. Kentucky Gross GHG Emissions by Sector, 1990-2030: Historical and Projected



RCI – direct fuel use in residential, commercial, and industrial sectors. ODS – ozone depleting substance.

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Cross Cutting Issues TWG

- CCI-1: GHG Inventory and Forecasting
- CCI-2: GHG Reporting
- CCI-3: GHG Registry
- CCI-4: Public Education and Outreach
- CCI-5: Adaptation and Vulnerability
- CCI-6: Statewide GHG Reduction Goals and Targets

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Cross Cutting Issues TWG (cont'd.)

- CCI-7: State, Local, and Tribal Government GHG Reduction, Energy Intensity and Energy Efficiency Activities (Lead by Example)
- CCI-8: Local GHG Reduction, Energy Intensity and Energy Efficiency Actions
- CCI-9: Financial Policies
- CCI-10: Climate-Related Investment and Business- Business Engagement
- CCI-11: Dedicate Greater Public Investment in Climate Data and Analysis

Cross Cutting Issues TWG- Additions

- CCI 2.2- Utilize federal data from the mandatory reporting rule
- CCI 2.3- Utilize local inventories, where available
- CCI 4.10- Efforts targeting carbon capture, transport and geological storage
- CCI 4.11- Encourage energy/environmental education and solution research
- CCI. 5.3- Conduct state vulnerability assessment for carbon constraints from federal actions
- CCI 5.4- Develop a state mitigation adaptation plan in response to federal carbon actions

Cross Cutting Issues TWG- Additions- Cont'd.

- CCI- 6- Expand scope of goal setting to include energy efficiency and energy intensity along with GHG reductions
- CCI 6.2- Establish goals or targets for statewide GHG energy intensity and energy efficiency
- CCI 6.3- Conduct a broad stakeholder process to develop statewide goals and targets
- CCI 7- Expand scope of Lead by Example options to include energy intensity and energy
- CCI 7.5- Require programs funded w/ state bonding to meet energy efficiency and energy intensity targets
- CCI 7.9- Consider establishing a consortium of coal producing states to pool resources in addressing GHG reductions

Cross Cutting Issues TWG- Additions- Cont'd.

- CCI 8- Expand Local Government Actions to include energy intensity and energy efficiency
- CCI 8.4- Encourage local governments to develop their own energy intensity and efficiency targets
- CCI 8.5- Promote voluntary individual actions to improve energy efficiency and intensity
- CCI 8.6- Establish public – private partnerships to seek investment capital

CCI GHG I-F Issues

- Other TWGs requested to identify why Kentucky's carbon footprint and per capita GHG emissions are so high relative to the national average

Prioritization Process

- Review of the Process for Prioritizing Potential Priority Policy Options for Further Analysis in Kentucky

Notional Ratings

- For each sub-option, use a High, Medium or Low Notional Rating in the Potential GHG Reductions and Costs Columns
- Submit Notional Ratings to CCS for Compilation
- Identify Proposed Option Consolidations

Balloting on Priorities for Analysis

- Each TWG member will receive a ballot via e-mail.
- Each member may cast 10 votes, with no more than one vote per sub-option. Return ballot to CCS.
- CCS will compile results into 3 Tiers and distribute to the TWG for review and discussion on next call
- On call #4, TWG will review and identify priority options for analysis to be recommended to KEEP.
- Priority options for analysis may include bundled options that combine several individual sub-options from the catalog

Priority Tiers

- TWG Priorities determined through a notional rating and balloting process
- TWGs have discretion to consolidate related options
- Each TWG independently identifies its Tier 1, Tier 2 and Tier 3 priorities
- KEEP makes final decision on Tiers
- Only Tier 1 Options will move to Design Phase for Further Analysis and Quantification

Priority Tiers (cont'd.)

- **Tier 1 Options**: Proposed Policies that receive substantial support from the TWG to recommend for further analysis in the design phase of the KCAPC process.
- **Tier 2 Options**: Policies that receive a lower level of support than Tier 1 from the TWG, and that the KCAPC may have interest in moving up to Tier 1.
- **Tier 3 Options**- Policies with little or no support from the TWG and not included in the lists for further analysis.

Next Steps KCAPC, TWGs

- 2 TWG meetings before next KCAPC meeting
 - Conduct Prioritization Process on Potential State Priority Policy Options in the TWG Catalog of Potential State Actions
 - Recommend Highest Priority Options for Further Analysis to KCAPC at Meeting #3
 - Review and comment on inventory and forecast

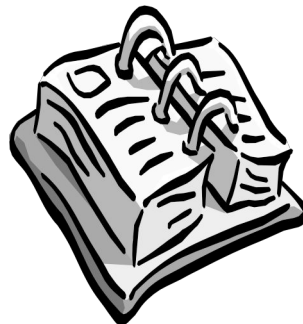
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Next KCAPC Meeting

- Agenda:
 - Review and approve proposed Priority Policy Options from TWGs for Further Analysis
 - Review and approve TWG suggested updates to the draft KY GHG emissions inventory and forecast, if any
 - Prepare for next steps (Development of Straw Policy Option Descriptions and Designs)
- Location and Date: Frankfort, KY; May TBD, 2010



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Timing – KCAPC Meetings

Date	Action
January 28, 2010	1st KCAPC meeting
March 22, 2010	2nd KCAPC meeting
May, 2010	3rd KCAPC meeting
July, 2010	4 th KCAPC meeting and Interim Report
September, 2010	5 th KCAPC meeting
November, 2010	6 th KCAPC meeting
December, 2010	Final Report due
Between KCAPC Meetings	TWG conference calls and meetings

Public Input

Announcements

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Adjourn

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