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## Memo

**To:** Kentucky Climate Action Plan Council

**From:** The Center for Climate Strategies

**CC:** Kentucky Energy and Environment Cabinet

**Subject:** Preparation for Fourth Meeting of the Kentucky Climate Action Plan Council (KCAPC)

**Date:** August 4, 2010

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At our fourth meeting of the KCAPC on Wednesday, August 4, 2010, we will review and approve an Interim Report from the KCAPC and will review and approve straw policy option proposals from the Technical Work Groups (TWGs) for the priority policy options selected by KCAPC at Meeting #3. Based on this discussion and any adjustments made by the KCAPC, the TWGs will proceed to develop the full policy option templates for consideration by the Council. We will also review and approve a Quantification Process Memo to be utilized by the TWGs in quantifying selected policy options.

As preparation for our meeting, please review the attached lists of TWG-suggested draft straw policy option proposals and other background documents posted to the project website at: [www.kyclimatechange.us](http://www.kyclimatechange.us).

In terms of overall progress, the KCAPC has completed several key milestones since its launch, including:

- Identification of a full range of potential Kentucky options for mitigation of GHG emissions, including about 380 possible state actions.
- KCAPC approval of 50 recommended priority policy options for further analysis and design.
- Approval of the Kentucky GHG Inventory and Forecast Report, incorporating final changes made at KCAPC Meeting #3.

The next stages of the KCAPC process will include completion of the following milestones:

- Review and approval of the KCAPC Interim Report.
- Approval of “straw” policy option proposals for the 50 selected priorities at our fourth meeting today.
- Review and approval of a Quantification Process Memo at our meeting today to be utilized by the TWGs as they proceed to design the full policy options.

- Quantification of the cost-effectiveness of each quantifiable option for presentation to the KCAPC at its fifth and sixth meetings.
- Development of the full policy option templates for each option for consideration by the KCAPC at its fifth and sixth meetings.
- Development of proposed GHG reduction and energy efficiency and energy intensity goals and targets for review and approval by the KCAPC.
- Final approval of the remaining KCAPC policy option recommendations at our fifth and sixth meetings.

**Summary of KCAPC Progress and Next Steps**

<b>Status of Draft Policy Options</b>	
Original Number of Potential Options Presented to the KCAPC from the CCS Catalog of State Actions	300+
Updated Number of Potential Options in the CCS Catalog of State Actions, Including KCAPC Additions [AFW-61, ES-54, CCI- 46, RCI-82, TLU-137]	380
Priority Policy Options Selected by the KCAPC for Further Analysis	50
• Agriculture, Forestry, and Waste Management	9
• Energy Supply	12
• Residential, Commercial, and Industrial	10
• Transportation and Land Use	11
• Cross-Cutting Issues	8
<b>Next Steps</b>	
Approve Straw Proposals for Draft Policy Option Design	KCAPC Meeting #4
Present First Round of Analysis of Draft Policy Options and Identify Early Consensus Recommendations	KCAPC Meeting #5
Approve Final KCAPC Policy Option Recommendations and Establish Statewide GHG Reduction and Energy Efficiency and Intensity Goals	KCAPC Meetings #5 and #6

**Table 1. Agriculture, Forestry, and Waste Management (AFW)  
Technical Work Group**

**Summary List of Pending Priority Policy Options for Analysis**

No.	Policy Recommendation	GHG Reductions (MMtCO <sub>2</sub> e)			Net Present Value (Million \$)	Cost-Effectiveness (\$/tCO <sub>2</sub> e)	Level of Support
		2020	2030	Total 2010–2030			
AFW-1	Forestry Management for Carbon Sequestration	<i>Not Yet Quantified</i>					<i>Pending</i>
AFW-2	Expanded Use of Biomass Feedstocks for Electricity, Heat, and Steam Production	<i>Not Yet Quantified</i>					<i>Pending</i>
AFW-3	On-Farm Energy Production and Efficiency Improvements	<i>Not Yet Quantified</i>					<i>Pending</i>
AFW-4	In-state Liquid/Gaseous Biofuels Production	<i>Not Yet Quantified</i>					<i>Pending</i>
AFW-5	Soil Carbon Management	<i>Not Yet Quantified</i>					<i>Pending</i>
AFW-6	Increase Productivity of Abandoned and Reclaimed Lands	<i>Not Yet Quantified</i>					<i>Pending</i>
AFW-7	Reforestation, Afforestation, and Restoration of Mined Lands and Other Non-forested Lands	<i>Not Yet Quantified</i>					<i>Pending</i>
AFW-8	Advanced MSW Reuse, Recycling, and Organic Waste Management Programs	<i>Not Yet Quantified</i>					<i>Pending</i>
AFW-9	Landfill Methane Energy Programs	<i>Not Yet Quantified</i>					<i>Pending</i>
	<b>Sector Total After Adjusting for Overlaps</b>						
	<b>Reductions From Recent Actions</b>						
	<b>Sector Total Plus Recent Actions</b>						

GHG = greenhouse gas; MMtCO<sub>2</sub>e = million metric tons of carbon dioxide equivalent; \$/tCO<sub>2</sub>e = dollars per metric ton of carbon dioxide equivalent; MSW = municipal solid waste.

Negative values in the Net Present Value and the Cost-Effectiveness columns represent net cost savings.

The numbering used to denote the above policy recommendations is for reference purposes only; it does not reflect prioritization among these important policy recommendations.

**Table 2. Transportation and Land Use (TLU)  
Technical Work Group**

**Summary List of Pending Priority Policy Options for Analysis**

No.	Policy Recommendation	GHG Reductions (MMtCO <sub>2</sub> e)			Net Present Value (Million \$)	Cost-Effectiveness (\$/tCO <sub>2</sub> e)	Level of Support
		2020	2030	Total 2010–2030			
TLU-1	Bike and Pedestrian Comprehensive Plan and Infrastructure Development	<i>Not Yet Quantified</i>					<i>Pending</i>
TLU-2	Livability, Brownfield Redevelopment, Downtown Revitalization, and Location-Efficient Strategies	<i>Not Yet Quantified</i>					<i>Pending</i>
TLU-3A	Transportation System Management	<i>Not Yet Quantified</i>					<i>Pending</i>
TLU-3B	Transit Management	<i>Not Yet Quantified</i>					<i>Pending</i>
TLU-4	Expand Transit Infrastructure (Rail, Bus, Bus Rapid Transit)	<i>Not Yet Quantified</i>					<i>Pending</i>
TLU-5	Education and Outreach for Vehicle Maintenance, Idle Reduction, and Co-Driving, and Promote Alternative Modes of Travel	<i>Not Yet Quantified</i>					<i>Pending</i>
TLU-6	Land Use, Zoning, Tax, and Building Code Reform, and Connectivity	<i>Not Yet Quantified</i>					<i>Pending</i>
TLU-7	Parking Management and Ride Sharing	<i>Not Yet Quantified</i>					<i>Pending</i>
TLU-8	Strategies to Move Freight in More GHG-Efficient Ways	<i>Not Yet Quantified</i>					<i>Pending</i>
TLU-9	Promote Consumption of Locally Produced Goods and Services	<i>Not Yet Quantified</i>					<i>Pending</i>
TLU-10	Promote the Use of Alternative Fuels	<i>Not Yet Quantified</i>					<i>Pending</i>
TLU-11	Promote the Use of Clean Vehicles	<i>Not Yet Quantified</i>					<i>Pending</i>
	<b>Sector Total After Adjusting for Overlaps</b>						
	<b>Reductions From Recent Actions (EISA Title II requirements for new appliances and lighting)</b>						

No.	Policy Recommendation	GHG Reductions (MMtCO <sub>2</sub> e)			Net Present Value (Million \$)	Cost-Effectiveness (\$/tCO <sub>2</sub> e)	Level of Support
		2020	2030	Total 2010–2030			
	<b>Sector Total Plus Recent Actions</b>						

GHG = greenhouse gas; MMtCO<sub>2</sub>e = million metric tons of carbon dioxide equivalent; \$/tCO<sub>2</sub>e = dollars per metric ton of carbon dioxide equivalent.

Note: The numbering used to denote the above pending priority policy options is for reference purposes only; it does not reflect prioritization among these important draft policy options.

## Table 3. Energy Supply (ES) Technical Work Group

### Summary List of Pending Priority Policy Options for Analysis

No.	Policy Recommendation	GHG Reductions (MMtCO <sub>2</sub> e)			Net Present Value (Million \$)	Cost-Effectiveness (\$/tCO <sub>2</sub> e)	Level of Support
		2020	2030	Total 2010–2030			
ES-1	Biomass Development and Efficiency Improvements at Existing Power Plants	<i>Not Yet Quantified</i>					<i>Pending</i>
ES-2	Demand Side Energy Efficiency and Management Programs	<i>Not Yet Quantified</i>					<i>Pending</i>
ES-3	Advanced Fossil Fuel Technology (IGCC, CCSR, Advanced Pulverized Coal, CFB) Incentives, Support, or Requirements	<i>Not Yet Quantified</i>					<i>Pending</i>
ES-4	CCSR Enabling Policies, R&D, Infrastructure, and Incentives, Including Enhanced Oil Recovery Using CO <sub>2</sub>	<i>Not Yet Quantified</i>					<i>Pending</i>
ES-5	Pricing Strategies to Promote Efficiency and Renewables, Including Net Metering, Feed-In Tariff, Interconnection Rules, Inclined Rates, and Examination of the Standard Rate Structure	<i>Not Yet Quantified</i>					<i>Pending</i>
ES-6	New Nuclear Energy Capacity	<i>Not Yet Quantified</i>					<i>Pending</i>
ES-7	Renewable Energy Incentives and Barrier Removal, Including CHP	<i>Not Yet Quantified</i>					<i>Pending</i>
ES-8	Technology Research and Development (Not Including CCSR or Wind Potential Study)	<i>Not Yet Quantified</i>					<i>Pending</i>
ES-9	Policies to Support Wind Energy	<i>Not Yet Quantified</i>					<i>Pending</i>
ES-10	Shale Gas Development and Natural Gas Transportation Infrastructure and Gas-to-Liquids Technology	<i>Not Yet Quantified</i>					<i>Pending</i>
ES-11	Smart Grid, Including Transmission and Distribution Efficiency	<i>Not Yet Quantified</i>					<i>Pending</i>

No.	Policy Recommendation	GHG Reductions (MMtCO <sub>2</sub> e)			Net Present Value (Million \$)	Cost-Effectiveness (\$/tCO <sub>2</sub> e)	Level of Support
		2020	2030	Total 2010–2030			
ES-12	Coal-to-Liquids Production: GHG Emission Reduction Incentives, Support, or Requirements	<i>Not Yet Quantified</i>					<i>Pending</i>
	<b>Sector Total After Adjusting for Overlaps</b>						
	<b>Reductions From Recent Actions (EISA Title II requirements for new appliances and lighting)</b>						
	<b>Sector Total Plus Recent Actions</b>						

\$/tCO<sub>2</sub>e = dollars per metric ton of carbon dioxide equivalent; CCSR = carbon capture and sequestration or reuse; CFB = circulating fluidized-bed; CHP = combined heat and power; EERS = energy efficiency resource standard; EISA = Energy Independence and Security Act of 2007; GHG = greenhouse gas; IGCC = integrated gasification combined-cycle units; MMtCO<sub>2</sub>e = million metric tons of carbon dioxide equivalent; R&D = research and development.

Negative values in the Net Present Value and the Cost-Effectiveness columns represent net cost savings.

The numbering used to denote the above policy recommendations is for reference purposes only; it does not reflect prioritization among these important policy recommendations.

**Table 4. Residential, Commercial, and Industrial (RCI) Technical Work Group**

**Summary List of Pending Priority Policy Options for Analysis**

No.	Policy Recommendation	GHG Reductions (MMtCO <sub>2</sub> e)			Net Present Value (Million \$)	Cost-Effectiveness (\$/tCO <sub>2</sub> e)	Level of Support
		2020	2030	Total 2010–2030			
RCI-1	Improve Building Codes for Energy Efficiency, Coupled with Improved Energy Code Training and Enforcement	<i>Not Yet Quantified</i>					<i>Pending</i>
RCI-2	Promote, Encourage, and Incentivize “Beyond-Code” Efficiency in All Building Characteristics and Systems That Impact Energy Consumption	<i>Not Yet Quantified</i>					<i>Pending</i>
RCI-3	Expand Utility DSM Programs (Beyond EERS) for Electricity	<i>Not Yet Quantified</i>					<i>Pending</i>
RCI-4	Develop and Implement Comprehensive Education, Outreach, and Marketing, Including Consumer Awareness, School Curriculum, Truth-in-Advertising, Technical Information and Support (e.g., How to Do GHG Inventories), Rationales for Action, etc.	<i>Not Yet Quantified</i>					<i>Pending</i>
RCI-5	Financing Programs and Incentives for Energy Efficiency and CHP (PBF, Revolving Loans, etc.)	<i>Not Yet Quantified</i>					<i>Pending</i>
RCI-6	Financing Programs, Incentives, Policies, and Research for Conversion to RE or Low-Carbon Energy Sources	<i>Not Yet Quantified</i>					<i>Pending</i>
RCI-7	Government Lead by Example (GLE) in Highly Efficient State and Local Government Buildings	<i>Not Yet Quantified</i>					<i>Pending</i>
RCI-8	Training and Education for Builders, Contractors, and Building Operators	<i>Not Yet Quantified</i>					<i>Pending</i>
RCI-9	Building Commissioning and Recommissioning, Including Energy Tracking and Benchmarking, and Implement a Building Energy Labeling Program	<i>Not Yet Quantified</i>					<i>Pending</i>

No.	Policy Recommendation	GHG Reductions (MMtCO <sub>2</sub> e)			Net Present Value (Million \$)	Cost-Effectiveness (\$/tCO <sub>2</sub> e)	Level of Support
		2020	2030	Total 2010–2030			
RCI-10	Implement Advanced Metering Technologies and Associated Policies for Greater Load Management, Customer Control, Awareness, Price Signaling, etc.	<i>Not Yet Quantified</i>					<i>Pending</i>
	<b>Sector Total After Adjusting for Overlaps</b>						
	<b>Reductions From Recent Actions (EISA Title II requirements for new appliances and lighting)</b>						
	<b>Sector Total Plus Recent Actions</b>						

\$/tCO<sub>2</sub>e = dollars per metric ton of carbon dioxide equivalent; CHP = combined heat and power; DSM = demand-side management; EERS = energy efficiency resource standard; EISA = Energy Independence and Security Act of 2007; GHG = greenhouse gas; MMtCO<sub>2</sub>e = million metric tons of carbon dioxide equivalent; PBF = performance-based financing; RE = renewable energy.

Negative values in the Net Present Value and the Cost-Effectiveness columns represent net cost savings.

The numbering used to denote the above policy recommendations is for reference purposes only; it does not reflect prioritization among these important policy recommendations.

**Table 5. Cross-Cutting Issues (CCI)  
Technical Work Group**

**Summary List of Pending Priority Policy Options for Analysis**

Policy No.	Policy Option	GHG Reductions (MMtCO <sub>2</sub> e)			Net Present Value (Million \$)	Cost-Effectiveness (\$/tCO <sub>2</sub> e)	Level of Support
		2020	2030	Total (2010–2030)			
CCI-1	Greenhouse Gas (GHG) Emission Inventories, Forecasts, Reporting, and Registry	<i>Not Quantified</i>					Pending
CCI-2	Public Education and Outreach	<i>Not Quantified</i>					Pending
CCI-3	Adaptation and Vulnerability	<i>Not Quantified</i>					Pending
CCI-4	Statewide GHG Emission Reduction, Energy Intensity, and Energy Efficiency Goals and Targets	<i>Not Quantified</i>					Pending
CCI-5	State and Local Government GHG Emission Reduction, Energy Intensity, and Energy Efficiency Activities (Lead by Example)	<i>Not Quantified</i>					Pending
CCI-6	Local GHG Emission Reduction, Energy Intensity, and Energy Efficiency Actions	<i>Not Quantified</i>					Pending
CCI-7	Financial Policies	<i>Not Quantified</i>					Pending
CCI-8	Conduct an Impact Analysis of Federal GHG Constraints on Kentucky	<i>Not Quantified</i>					Pending

GHG = greenhouse gas; MMtCO<sub>2</sub>e = million metric tons of carbon dioxide equivalent; \$/tCO<sub>2</sub>e = dollars per metric ton of carbon dioxide equivalent.

Note: The numbering used to denote the above pending priority policy options is for reference purposes only; it does not reflect prioritization among these important draft policy options.