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Meeting #4 Summary
Governor's Commission on Global Warming
Little Rock, Arkansas
February 28, 2008

Attendees:

GCGW: Aubra Anthony, Nick Brown, Representative Joan Cash, Steve Cousins, Jerry Farris, PhD, Rob Fisher, Richard Ford, PhD, Miles Goggans, Art Hobson, PhD, Kevan Inboden, Chris Ladner, Robert McAfee, PhD, Elizabeth Martin, PhD, Hugh McDonald, Bill Reed, Pearlie Reed, Cindy Sagers, PhD, Jeffrey Short, Kevin Smith, Gary Voigt, Representative Kathy Webb

Advisory Body: Lawrence Bengal, John Bethel, Maria Haley, Nancy Ledbetter, Lynn Malbrough, Teresa Marks, John Shannon, Ed Swaim (for Randy Young)

Governor's Office: Marc Harrison, Kathryn Hazelett, Jillian Hicks

Arkansas Attorney General's Office: Grace Ellen Rice, Agency Liaison

Arkansas Bureau of Legislative Research: Gina Mercer, Carol Stapleton

Center for Climate Strategies: Tom Peterson, Ken Colburn, Joe Pryor, Joan O'Callaghan, and by phone Donna Boysen, Lewison Lem, Kathy Leotta, Randy Strait

Others: See Attachment for Members of the Public Who Attended GCGW Meeting #4.

Background Documents: (all posted at www.arclimatechange.us)

1. Notice and Agenda
2. PowerPoint Presentation
3. Catalog of State Climate Actions
4. Brief Catalog Descriptions of State Actions and Policy Options

Discussion and Conclusions:

1. Welcome and Introductions

The Governor's Commission on Global Warming (GCGW) Co-chair Kathy Webb opened the meeting, asking GCGW members, Advisory Body members, and the Center for Climate Strategies (CCS) representatives to introduce themselves.

2. Meeting Purpose and Goals

Tom Peterson of CCS explained that the main goal of the meeting was to review and clarify the actions in each of the catalogs and add any that should be included for Arkansas. The goal is to have the full universe of actions applicable for Arkansas to use as the starting point for the GCGW and the TWGs to consider as they begin to focus on developing the initial list of priority policy options for analysis after today's meeting.

3. Approval of Draft Summary of GCGW Meeting #3

The draft summary of GCGW Meeting #3 was approved, with the addition of Kathryn Hazelett to the list of attendees from the Governor's Office.

4. Review and Approval of the GCGW Policy Options Catalog

GCGW members were provided handouts of the catalogs of state actions and a brief description of the actions developed by each of the five Technical Work Groups (TWGs): Agriculture, Forestry, and Waste Management (AFW); Energy Supply (ES); Residential, Commercial, and Industrial (RCI); Transportation and Land Use (TLU); and Cross-Cutting Issues (CC). During today's meeting, the CCS facilitator for each TWG will provide a brief overview of the catalog of actions and identify additions and revisions that the TWG made to the catalog. The CCS facilitator and TWG members will then respond to questions and comments from the GCGW. The catalogs will be revised to incorporate the GCGW's comments and the revised catalogs will be used as the starting point for then next phase of the process. The following provides a brief summary of the discussion and comments that the GCGW provided on the catalog for each TWG.

AGRICULTURE, FORESTRY, AND WASTE MANAGEMENT

Joe Pryor of CCS provided a brief overview of the catalog of actions and identified additions and revisions that the TWG made to the catalog. Pryor and the TWG members then responded to questions and comments from the GCGW.

AFW-1 (Production of Fuels and Electricity): This group of potential options is examining the supply side of electricity production; the ES and RCI TWGs are examining the demand side. Updates to the Catalog from the TWG include moving recent actions under AFW-1.3 to AFW-2.1 and correcting Act 1287 to Act 87. The TWG also added AFW-1.4 (Encourage Cogeneration at Ag-Biomass Energy Sites) to the catalog, because this option could result in significant gains in energy efficiency and greenhouse gas (GHG) reductions. A TWG member noted that the reference under AFW-1.2 in the catalog description to House Bill (HB) 1379 should be changed to Act 873 because it is now a state law.

AFW-2 (Agriculture—Livestock): The TWG had discussed AFW-2.1 and addressed the need to move manure from nutrient-rich areas to nutrient-deficient areas to reduce nitrous oxide (N₂O) emissions. The energy content of animal feed could be reduced, particularly at confined animal feeding operations.

AFW-3 (Agriculture—Crop Production): Peterson noted that AFW-3.1 (Soil Carbon Management) is a general umbrella category that could include a variety of practices that build up carbon—no till, low till, etc. The TWG can leave this option as it is or split it out further, depending on the GCGW's recommendation. Co-chair Pearlle Reed commented that different geographic regions may have different policy issues, particularly those affecting row cropping. The GCGW agreed to leave AFW-3.1 as is, but to give more thought to breaking it out into additional components.

The TWG moved recent actions under AFW-5.2 (Promotion of Farming Practices That Achieve GHG Benefits) to AFW-3.2 (Nutrient Management).

Regarding AFW-3.4 (Water Management), the TWG emphasized the need to use the state's surface water versus its groundwater to reduce energy consumption from pumping and to improve the drainage and irrigation components of water management. A TWG member commented that section 3.4 of the brief catalog description doesn't reference the surface water/groundwater issue, and requested that this be included in the catalog as a separate option (i.e., AFW-3.6). Another TWG member reported that Union County has converted all of its major water uses from groundwater to surface water.

Co-chair Reed observed that the irrigation component of water management raises three issues—surface water uses, removing water from navigable streams, and removing water from non-navigable areas—that involve changes in wetland characteristics. He recommended that the TWG further examine and refine AFW-3.1, AFW-3.4, and AFW-3.5 (Drainage Management). A TWG member added that water management involves nutrient management as well. Several questions arise regarding how water is used—time of holding water, ditches, aquaculture, food security, etc. He suggested that this option could be divided into subcomponents. It was also recommended that 3.4 be expanded to include water use in urban and suburban areas (noting that this may also be addressed by the RCI TWG) - including the energy intensive nature of water purification.

Pryor suggested inserting an additional option AFW-3.6 to focus on the energy efficiency of using surface water versus groundwater.

A GCGW member asked if catfish farms create methane emissions. Pryor responded that though he doesn't know specifically about catfish, he would guess that they do create emissions, because ponding enhances anaerobic processes and thus increases GHG emissions. He added that CCS will investigate this question.

AFW-4 (Agriculture—Land-Use Change): The TWG changed the wording in AFW-4.1 from Land-Use Management That Promotes *Grassland* Cover to Land-Use Management That Promotes *Permanent* Cover because GHG benefits could be derived from agricultural land-use practices and technologies not related to grassland. The new, less prescriptive wording will be better suited to broad issues that may arise. Peterson asked whether there are potential federal opportunities Arkansas might want to consider. Co-chair Reed responded the option has potential opportunities for Arkansas to be better positioned to compete for resources under the conservation programs in the proposed federal Farm Bill.

AFW-5 (Agriculture—Farming Practices): The TWG made no changes to this group of options. A GCGW member asked how the TWG is addressing water use for lawn irrigation, and whether it should be included in this group. Pryor responded that the TWG could add text about improving the energy efficiency of pumping, water use, denitrification, etc., under AFW-5.1 (Reductions in On-Farm Energy Use), or as a subcomponent of AFW-3.4 (Water Management), or under one of the RCI categories. Peterson suggested saying that AFW-3.4 includes both agricultural and urban/suburban water management. The GCGW agreed.

A TWG member suggested mentioning revamping or better using the University of Arkansas Cooperative Extension Service to improve the state's management of water. Peterson suggested adding a new category called “technical assistance and education”. Pryor added that educational issues are often addressed by the CC TWG.

AFW-6 (Forestry—Production of Fuels and Electricity in Forestry): The TWG changed the wording in AFW-6.3 from Improved Energy Capture Within *Woodwaste Combustion* to Improved Energy Capture Within *the Forestry Industry* because less prescriptive wording will be better suited to broad issues that may arise. It was suggested that wood energy crop production could be added to this group as a new category.

AFW-7 (Forestry—Biomass Protection and Management): Regarding AFW-7.1 (Forest Protection—Reduced Clearing and Conversion to Nonforest Cover), the TWG noted that Arkansas has made significant afforestation improvements over the past 30 years, but further progress in this area is unlikely without additional incentives. Peterson noted in response to a GCGW member's question that this option include the shifts from industrial forest ownership to nonindustrial and residential forest ownership, which conservation easements have encouraged. Pryor added that AFW-4 also could include the conversion of marginal agricultural land to forestland.

Because the TWG believed the focus of the previously worded AFW-7.3 (Afforestation/*Restoration*) was ambiguous, it changed the title to Afforestation/*Reforestation* to encourage GHG reduction benefits from reforestation. An Advisory Committee member noted that wording under section 7.3 of the brief catalog description should be change from "soil preparation" to "site preparation," to keep currently forested areas unchanged and to convert cropland to forestland. Peterson asked whether the proposed Farm Bill is likely to provide afforestation/reforestation incentives. Co-chair Reed responded that the short answer is yes.

A GCGW member asked the TWG to make sure it addresses the significant benefits from carbon sequestration on prairies, in wetlands, etc. Pryor responded that 4.1 partly addresses this issue. He added that wetlands, which can be a source of or sink for GHG emissions, could be added as a component under 7.3. Peterson said the TWG should include other classes (e.g., short-rotation grassland, use of biomass for biofuel production) when talking about carbon sequestration. Pryor noted that AFW-1 and AFW-6 include biofuel production.

A TWG member encouraged the TWG to consider that increasing forestland not only prevents GHG emissions but also absorbs emissions. The GCGW agreed to Pryor's suggestion to include woody crops as a stand-alone option under AFW-6. Another GCGW member added that other tree growing can sequester chemicals in addition to carbon. The GCGW agreed to Pryor's suggestion to insert under AFW-7.3 the additional benefits of these types of forests.

A GCGW member asked whether AFW-7.4 (Forest Management for Carbon Sequestration) and AFW-7.5 (Mitigation of Forest Carbon Sequestration Loss and Emissions Due to Wildfires) distinguish between wildfire and prescribed burns, expressing her concerns that prescribed burns often get out of control. Peterson suggested that the TWG clearly distinguish between high-temperature wildfires and low-temperature controlled burns, and change "wildfire" to "forest fire."

AFW-8 (Forestry—Wood Products and Waste): The only addition the TWG made to this group of actions was to add under section AFW-8.3 of the brief catalog descriptions that the Arkansas Energy and Natural Resource Conservation Act encourages the use of wood in green buildings. A TWG member noted that an Arkansas statute specifically

awards points for any product (including wood) that sequesters extra carbon. Peterson asked him to provide the statutory language. Another member clarified that wood products were previously eligible for these points, but weren't encouraged. About 11 or 12 states have followed Arkansas' lead in this area.

AFW-9 (Waste Management—Waste Management Strategies): The TWG changed AFW-9.1 from *Recycling and Composting* to *Advanced Recovery and Recycling*, and added AFW-9.8 (No Net Increase in Imported Waste). A GCGW member asked whether AFW-9.1 should include AFW-9.6 (Enhanced Management of Organic Waste) to reduce methane emissions. Pryor responded that AFW-10 examines landfill gas strategies.

AFW-10 (Waste Management—Landfill Gas Strategies): No additions, questions, or clarifications.

AFW-11 (Waste Management—Waste Management Activities): The TWG is considering changing the title of 11.4 (Restoration of Soil Organic Carbon From Application of WWTP [wastewater treatment plant] Biosolids) to reflect its broader applications. A GCGW member noted that new aerators at his WWTP have cut energy use by 50%. Another GCGW member suggested that all of the five TWGs add a general category for engineering process improvements. Pryor responded that the AFW TWG will add a new category for engineering incentives for measuring oxygen in WWTPs.

A GCGW member asked how to aggregate and evaluate the benefits of policy option features that cut across several options, such as new waste management technologies. Peterson replied that the key is to identify potential actions and score out the climate change benefits, along with the costs or cost savings, of doing more to reduce GHG emissions.

A TWG member commented on the TWG's lack of expertise in the livestock, poultry, and waste management areas. He expressed his desire to show the catalog to experts in those areas to solicit their feedback. Co-chair Webb encouraged other GCGW members and Advisory Body members to share the catalogs with any experts who can provide guidance to the GCGW. An Advisory Body member from the Arkansas Department of Environmental Quality (DEQ) offered to have a DEQ representative participate in the TWG's conference calls.

General Comment: A TWG member complimented the CCS AFW team for its excellent facilitation of the TWG's teleconferences.

Approval of AFW Catalog

AFW-1—Approved, with revision to replace HB 1379 with Act 873.

AFW-2—Approved without changes.

AFW-3—Approved, with revision to specify "(Including Drainage and Irrigation)" in 3.4 and add option 3.6 "Promote Use of Surface Water Over Groundwater."

AFW-4—Approved without changes.

AFW-5—Approved, with revision to add AFW-5.4 "Technical Assistance and Education."

AFW-6—Approved, with revision to add AFW-6.5 "Encourage the Use of Energy Crops as a Feedstock for Energy Production."

AFW-7—Approved, with revision to change "Wildfire" in AFW-7.5 to "Forest Fire."

AFW-8—Approved without changes.

AFW-9—Approved without changes.

AFW-10—Approved without changes.

AFW-11—Approved, with revision to add AFW-11.7 "Engineering Process Improvements."

RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL

Donna Boysen of CCS provided a brief overview of the catalog of actions and identified additions and revisions that the TWG made to the catalog. Boysen and the TWG members then responded to questions and comments from the GCGW. Boysen noted that the first TWG call on January 20 was well attended, with the TWG making modest changes to the catalog overall. She explained that the far right column of the catalog reflects comments made during the call and e-mail correspondence received after the call.

RCI-1 (Energy Efficiency Programs, Funds, and Goals): The TWG didn't change the 10 potential policy options in this group, though it did identify energy efficiency actions underway in Arkansas.

RCI-2 (Buildings): The TWG broke RCI-2.6 (Promotion of and Incentives for Improved Design and Construction in the Private Sector) into two subcomponents to address new and existing buildings coherently. A TWG member noted that RCI-2 may be the best place to temporarily insert recommendations for treating and transporting water.

RCI-3 (Appliance Standards): A GCGW member asked whether the need to educate builders and consumers about ground-source heat pumps should be addressed under RCI-3.3 or RCI-4. A TWG member responded that it would probably fit better under RCI-4, to raise public awareness of the technologies available for reducing GHG emissions and energy costs.

RCI-4 (Education and Outreach): The TWG agreed about the significant need for education and outreach. The only recommended revision was to specify that RCI-4.2 (Energy Efficiency School Curriculum) include primary, secondary, and university programs. A GCGW member asked where the TWG intended to include the need to educate architects, engineers, and builders about the benefits of energy-efficient, environmentally friendly homes and buildings. Boysen responded that RCI-2.9 and RCI-2.10 address training people at the professional level, and RCI-2.2 addresses training regulators. A TWG member suggested considering inserting this information under RCI-2.6 (Promotion of and Incentives for Improved Design and Construction in the Private Sector). The GCGW member added that RCI-2.6 could be expanded to encourage building professionals and consumers to follow Green Globes and National Association of Home Builders standards. Another GCGW member suggested that the state require continuing education for professionals seeking state licenses.

RCI-5 (Pricing and Purchasing): No additions, questions, or clarifications.

RCI-6 (Customer-Sited Distributed Energy and Combined Heat and Power): The TWG added RCI-6.10 (Property Tax-Break Incentive) to this group of options to provide incentives for homeowners to invest in energy-efficient and renewable technologies. A TWG member suggested that RCI-6.10 should also give credit with respect to developing impact fees, not just property taxes.

RCI-7 (Non-Energy Emissions [HFCs, PFCs, SF₆, CO₂ Process Emissions]): The TWG agreed to include incentives to reduce emissions from non-energy-producing activities, including substitutes for refrigerants that have been phased out by the *Montreal Protocol on Substances That Deplete the Ozone Layer*.

RCI-8 (GHG Emissions—Specific Goals and Policies): A GCGW member asked what RCI-8.2 (Industry-Specific Emissions Cap-and-Trade Program) means? Boysen responded that it attempts to establish an emission profile separate from the electricity sector. An industry-specific program wouldn't be effective economically. Encouraging sources of GHG emissions to report their emissions via *The Climate Registry* (TCR) would help. A TWG member noted that there wasn't consensus about this option within the TWG: some members opted to leave it on the list, while others think it's anticompetitive for specific industry sectors. Another TWG member clarified that Arkansas wouldn't independently develop a cap-and-trade program, but might consider participating in a regional cap-and-trade program.

RCI-9 (Other): No additions, questions, or clarifications.

Approval of RCI Catalog

RCI-1—Approved without changes.

RCI-2—Approved without changes.

RCI-3—Approved without changes.

RCI-4—Approved, with revision to add primary, secondary, and university programs to RCI-4.2 (Energy Efficiency School Curriculum).

RCI-5—Approved without changes.

RCI-6— Approved, with revision to include in RCI-6.10 giving credit for developing impact fees.

RCI-7—Approved, with revision to include incentives to reduce emissions from non-energy-producing activities.

RCI-8—Approved without changes.

ENERGY SUPPLY

Donna Boysen of CCS provided a brief overview of the catalog of actions and identified additions and revisions that the TWG made to the catalog. Boysen and the TWG members then responded to questions and comments from the GCGW. Boysen noted that the first TWG call on January 20 was well attended, with the TWG making modest changes to the catalog overall. She explained that the far right column of the catalog reflects comments made during the call and e-mail correspondence received after the call.

ES-1 (Emission Policies and Overarching Items): A GCGW member commented that he would like to see somewhere in this group of options support for the timely cost recovery of these investments by industry. The GCGW agreed it should be included as an additional option ES-1.7. Another GCGW member said the GCGW needs to make sure that the policy options it shapes are fair to Arkansans. A TWG member added that any regulations requiring utilities to take specific measures should have some form of cost recovery. Another TWG member suggested that the GCGW consider recommending that Arkansas join surrounding states in a cap-and-trade program. Another GCGW member asked whether the TWG considers cost recovery to be the same as return on investment and, if not, suggested that the TWG distinguish between the two and articulate how the cost recovery would be implemented. Another GCGW member asked what the difference is between ES-1.1 (GHG Cap-and-Trade Program) and ES-1.2 (Carbon [GHG] Tax). Boysen responded that the TWG agreed that a carbon tax wouldn't work well if applied in Arkansas alone in the absence of a larger program, and a cap-and-trade program should be at least regional, if not national or international.

ES-2 (Renewable Energy and Energy Efficiency): The GCGW agreed option ES-2.10 should be added for Arkansas to "explore regional opportunities for achieving greater economies of scale for the implementation of renewable energy and energy efficiency practices." Regarding ES-2.4 (Green Power Purchases and Marketing), a GCGW member asked how far the GCGW is going from its primary mission. Ken Colburn of CCS explained that the language in the brief policy option description is meant to assist the GCGW and can be changed. With regard to biomass, in the current cycle, unused biomass would decay. Burning biomass for fuel is preferable to burning fossil fuels. Another GCGW member expressed confusion about ES-2.8 (Technology-Focused Initiatives [Biomass Co-Firing, Energy Storage, Fuel Cells, Etc.]) and requested further elaboration on the biomass burning explanation. A TWG member responded that the TWG needs to examine this issue further.

ES-3 (Fossil Fuel and Nuclear Electricity): The TWG agreed to add ES-3.6 (Geological Underground Sequestration at New Plants) to address the new coal plants that will come on line in the state (the Osceola, Plum Point, and Turk plants, with the possibility of a second unit within each of those units). Regarding ES-3.3 (Relicensing/Up-Rating Existing Nuclear Power), a GCGW member noted that the two nuclear units in Arkansas have had life extensions. Another GCGW member commented that no one has studied the significant opportunity to enhance oil recovery from old oil production in Arkansas. Another GCGW member added that old oil fields could be used for carbon sequestration. Colburn suggested that the TWG examine the opportunities from old oil fields, and Boysen suggested incorporating this discussion under ES-3.4

(Efficiency Improvements and Repowering Existing Plants) or ES-3.6, Colburn noted it could fit under ES-4.1 (Oil and Gas Production: GHG Emission Reduction Incentives, Support, or Requirements), and a GCGW member said it could go under ES-5.2 (R&D for CCSR [Carbon Capture and Storage or Reuse]) as well.

ES-4 (Fuel Production, Processing, and Delivery): No additions, questions, or clarifications.

ES-5 (Carbon Capture and Storage or Reuse): The TWG is confused about where CCSR should go, because other areas speak to CCSR as well. A member of the public commented that the industry produces carbon dioxide (CO₂) in Louisiana and is looking into piping it into Arkansas to stimulate the old oil fields. A GCGW member asked whether the incentives proposed in ES 5.1 (CCSR Incentives, Requirements, and/or Enabling Policies [Administration, Regulation, Liability, Incentives]) would be paid to energy companies. Colburn replied that the TWG would delineate how the incentives would be implemented, and added that companies doing CCSR would most likely receive them.

ES-6 (Other Energy Supply Options): No additions, questions, or clarifications.

Approval of ES Catalog

ES-1—Approved, with revision to add option ES-1.7 "Provide for the Timely Cost Recovery of Investments in Energy Efficiency and Renewable Energy." Consider recommending that Arkansas join surrounding states in a cap-and-trade program.

ES-2—Approved, with revision to add option ES-2.10 "Explore Regional Opportunities for Implementing Renewable Energy and Energy Efficiency Practices."

ES-3—Approved, with revision to address old oil fields as noted in the discussion for this action.

ES-4—Approved without changes.

ES-5—Approved without changes.

ES-6—Approved without changes.

TRANSPORTATION AND LAND USE

Lewis Lem of CCS provided a brief overview of the catalog of actions and identified additions and revisions that the TWG made to the catalog. Lem and Kathy Leotta of CCS, and the TWG members then responded to questions and comments from the GCGW.

TLU-1—Passenger Vehicle GHG Emission Rates

TLU-1.1 (Passenger Vehicle Technology): Lem noted that CCS will be quantifying the GHG emission reductions associated with the recent federal requirements for improving the corporate average fuel economy standards. A GCGW member asked whether improving roadways would be included here or elsewhere. Lem responded that there's no obvious place for improvements in road construction and operations, and that the TWG

will discuss inserting it somewhere under TLU-2. *[Ultimately, this strategy was added under TLU-5—Off-Road Vehicles.]*

TLU-1.2 (Passenger Vehicle Operations): A GCGW member favors increasing vehicle emission control standards, but noted that doing so is pointless if the standards aren't enforced. He recommended that the TWG look into whether the standards are being enforced in Arkansas and, if not, determine why not. He added that state and highway police (as opposed to local police) should be responsible for enforcing the standards. Peterson suggested inserting text to this effect in the notes column of the catalog. Another GCGW member observed that most emission controls on cars control criteria air pollutant and toxic pollutant emissions and not GHG emissions.

TLU-1.3 (Incentives and Disincentives): A GCGW member thinks TLU-1.3.4 (Tax Credits for Efficient Vehicles) is too prescriptive in that it is limited to the first-time purchase of energy-efficient vehicles. He recommended that the option be modified to offer tax credits to any purchase of energy-efficient vehicles. A TWG member asked whether TLU-1.3.8 (Establish a Fleet Replacement Grant Program) applies only to corporate fleets, or whether it also includes public and private fleets. Lem responded it could apply to all of those fleets. Another member suggested providing incentives to students who buy flex car memberships on university campuses, such as good parking places. Kathy Leotta of CCS responded that 2.2.11 (Car Sharing) discusses such incentives.

TLU-1.4 (Fuel-Related Measures): Regarding 1.4.1 (Low-GHG Fuel Standard [e.g., Renewable]), a GCGW member noted that similar to the impracticality of Arkansas having its own carbon tax, having its own fuel standard may be impractical. Peterson suggested that when the TWG identifies its priorities for analysis, it should note that multistate implementation will be more effective than Arkansas-only implementation.

TLU-2—Land-Use and Location Efficiency

TLU-2.1 (General): A GCGW member suggested merging 2.1.1 (Statewide Growth Management Plan) and 2.1.13 (Smart Growth Planning, Modeling, and Tools). Lem explained that this is a judgment call, and 2.1.13 focuses on tools and modeling. Peterson added that when the TWG presents its priorities at the next GCGW meeting, the GCGW can look at bundling options at that stage.

TLU-2.2 (Increase Low-GHG Travel Options): Lem explained that by prioritizing funding for preserving and managing the existing road system, 2.2.7 (Enhance Current "Fix-It-First" Policy) will produce indirect GHG benefits by encouraging more travel to stay downtown. A GCGW member asked whether 2.2.9 (Telecommute, Live-Near-Your-Work, and Compressed Work Week) applies only to private-sector employers, or also includes county government-funded sites as well. Peterson responded that the TWG can shape the option as it chooses.

A TWG member suggested encouraging the state to restrict student driving. Lem explained this topic is addressed under 2.3.15 (Encourage Arkansas Colleges To Restrict Student Driving by Limiting Student Parking on Campus) and 2.3.16 (Encourage Arkansas Secondary Schools To Restrict Student Driving by Initiating Restrictive Policies for Student Parking). A GCGW member added that parents should be

encouraged to allow their children to ride the bus to school ("get kids back on the bus") and to arrange carpools for driving their kids to school. Another member recommended removing the restriction on using state turn-back funds for constructing trails. A GCGW member also suggested broadening the option to include transportation (i.e., not just turn-back) funding for transportation alternatives.

TLU-3—Heavy-Duty Vehicles: No additions, questions, or clarifications.

TLU-4—Intercity Passenger Travel: Aviation, High-Speed Rail, Bus

TLU-4.3 (Aircraft Emissions): A member asked how the GCGW can be effective in this area, since most aircraft operations are subject to federal regulation. Lem agreed that states have limited power, and suggested that the TWG dig deeper and consider local policies, such as taxiing on runways. Co-chair Reed asked where emissions from crop dusters are being considered. Lem replied that the TWG will include this issue under 4.3.

TLU-5—Off-Road Vehicles [Construction Equipment, Outboard Motors, ATVs, Etc.

TLU-5.6 (Low-Carbon Fuel [Off-Road and Recreational Marine]): A GCGW member observed that similar to 1.4.1 (Low-GHG Fuel Standard [e.g., Renewable]); this option should note that multistate implementation will be more effective than Arkansas-only implementation. Another GCGW member suggested that the TWG look at small portable power generators, off-road recreational equipment, and residential systems.

TLU-5.11 (Regulate Outboard Motor Boat and Lawn Mower Gasoline Engines): A GCGW member noted that emission control technologies for these engines control toxic and other emissions, but not GHG emissions. Lem responded that the co-benefits of this option would be more efficient engine use and reduced soot and smog.

Approval of TLU Catalog

TLU-1—Approved, with revisions noted in the discussion of this action.

TLU-2—Approved, with revisions noted in the discussion of this action.

TLU-3—Approved without changes.

TLU-4—Approved, with revisions noted in the discussion of this action.

TLU-5—Approved without changes.

CROSS-CUTTING ISSUES

Ken Colburn of CCS provided a brief overview of the catalog of actions and identified additions and revisions that the TWG made to the catalog. Colburn and the TWG members then responded to questions and comments from the GCGW.

CC-1 (Greenhouse Gas Inventories and Forecasts): A TWG member asked an Advisory Body member whether this option falls under the purview of the Arkansas DEQ. She responded that the DEQ has no authority over CO₂ because it's not regulated by the U.S. Environmental Protection Agency (EPA). Though regulating emissions is

part of the DEQ's delegated authority, the DEQ can't impose more stringent requirements than those specified by EPA. Arkansas has the authority to set more stringent requirements if it conducts an economic analysis of the impacts of such regulation. Also, obtaining data in anticipation of regulation by the state could be beneficial. Colburn noted that the state law would be challengeable in light of the recent Supreme Court decision about the stricter CO₂ standards proposed by California. He added that other states have requirements that exceed the national air quality limits for ozone and particulates, but not for CO₂.

CC-2 (State Greenhouse Gas Reporting): The TWG suggested establishing a clearinghouse for GHG reporting protocols. Some work is already being done on this, but it's not very comprehensive.

CC-3 (State Greenhouse Gas Registry): The TWG wants *The Climate Registry* to include sinks, in addition to GHG reductions.

CC-4 (Statewide Greenhouse Gas Reduction Goals or Targets): Option 4.2 (Institute an Accountability Program To Measure and Report Progress in Reducing GHG Emissions) provides a follow-up mechanism for determining the state's progress toward meeting its GHG reduction goals and targets.

CC-5 (The State's Own Greenhouse Gas Emissions [Lead by Example]): The TWG added 5.7 (Review Sources of Renewable Energy), 5.8 (Apply Pollution Prevention Principles to GHG Emission Reductions), and 5.9 (Promote Carpooling by State Employees), and recommended that an assessment similar to that in 5.7 be conducted for all forms of renewable energy.

CC-6 (Comprehensive Local Government Climate Action Plans): This option encourages local governments to use similar approaches in reducing their GHG emissions.

CC-7 (State Climate Public Education and Outreach): This action includes six “target audiences.” Details on approaches for developing education and outreach strategies for each audience are provided in an appendix to the CC catalog.

CC-8 (Market-Based Greenhouse Gas Reduction Policies): Colburn explained the CC TWG doesn't quantify its policy options. Sometimes another TWG related to a cap-and-trade program will quantify the GHG reduction potential and cost-effectiveness of those options.

CC-9 (Creative Financing Mechanisms): A GCGW member noted that in addition to policies like carpooling, state government can adopt indirect approaches to reducing GHG emissions. The state's purchasing incentives can help move Arkansas businesses in the right direction, for example, through bid preferences, cooperative purchasing arrangements, etc. It was agreed to change the title to “Creative Financial Mechanisms.”

CC-10 (Adaptation and Vulnerability): This option looks at what can be done about the effects of climate change. Many states have approached this by recognizing the need to identify potential impacts and developing a coordinated, statewide plan for addressing the identified potential impacts. Some states have recognized the need to launch a

commission that focuses on adaptation policy options and oversee the development of such a plan.

CC-11 (Participate in Regional and Multistate Greenhouse Gas Emission Reduction Efforts): This option overlaps with CC-8 (Market-Based Greenhouse Gas Reduction Policies). It tries to be more explicit than CC-8 and mentions regional and multistate organizations that have formed in the Northeast, the West, and the Midwest. This action also presents a leadership opportunity for Arkansas.

CC-12 (Create a Clearinghouse To Facilitate Investment in Climate-Related Business Opportunities): This option provides a meeting place for entrepreneurs and capital.

CC-13 (Encourage the Creation of a Business-Oriented Organization To Share Information and Strategies, Recognize Successes, and Support Aggressive GHG Reduction Goals): This option is like CC-12, in that it also provides a meeting place for entrepreneurs and capital. A TWG member cautioned that the GCGW should avoid reinventing the wheel with CC-12, CC-13, and CC-14, and should take advantage of the information and opportunities provided by the Arkansas Environmental Federation.

CC-14 (Dedicate Greater Public Investment to Climate Data and Analysis): Colburn noted that the extensive, high-quality international data on climate can sometimes be downscaled to the regional level to draw a climate picture that can provide a basis for sound decision making. The TWG isn't clear on where this type of an option would reside.

CC-15 (Facilitate the Development of an Effective Carbon Credit System): Agricultural sequestration can be a source of money. The state might undertake to add definition and liquidity to have sources of GHG emissions sell their carbon credits.

CC-16 (Regulatory Realignment in Government To Encourage Constructive Climate Action): The TWG added this option to facilitate the state's responses to climate change. It was suggested to modify a bullet in the notes column for CC-16.1 to identify ways to reduce or eliminate “throughput incentives” so that regulated utilities are compensated for demand-side reductions, not just supply-side activities.

CC-17 (Establish a Climate Analogue to the Arkansas Biosciences Institute): The TWG thought the GCGW should consider establishing a climate institute in the state similar to the Arkansas Biosciences Institute. A TWG member explained that the end result may be a single institution that incorporates trends analysis data. Another TWG member added that funding might be provided under the proposed Climate Securities Act or the U.S. Fish and Wildlife Service's Arkansas office. It was suggested to modify a bullet in the notes column for CC-17.1 to include a planning and prioritization component to identify likely future opportunities to secure and impacts and risks to prepare for.

CC-18 (Evaluate Climate Change Policy Options To Determine Potential Risks, Costs, and Benefits to Public Health and Environmental Justice): The TWG added this option to examine the social implications of proposed policy options before they are recommended and implemented. How this option would be implemented isn't yet clear (e.g., regulatory review, overall review). It was agreed to change the title to read:

“Evaluate Climate Change Policy Options To Determine Impacts (Potential Risks, Costs, and Benefits) to Public Health, Environmental Justice, and Low-Income Residents.”

Approval of CC Catalog

CC-1—Approved, with modification to note the need to ensure that Arkansas has adequate authority to address CO₂/GHGs.

CC-2—Approved without changes.

CC-3—Approved without changes.

CC-4—Approved without changes.

CC-5—Approved, with revision to add CC-5.10 "Target Lower-GHG Product Preferences in State Procurement and Through Buying Cooperatives."

CC-6—Approved without changes.

CC-7—Approved without changes.

CC-8—Approved without changes.

CC-9—Approved, with revision to change title to “Creative Financial Mechanisms,” add CC-9.1 “Establish and promote creative financing mechanisms for projects and products that reduce GHGs” and CC-9.2 “Establish and utilize creative financial mechanisms” with reference in notes column to examples discussed.

CC-10—Approved without changes.

CC-11—Approved without changes.

CC-12—Approved without changes.

CC-13—Approved, with modification to investigate whether the Arkansas Environmental Federation would be a good home for such an effort.

CC-14—Approved without changes.

CC-15—Approved without changes.

CC-16—Approved, with modification to notes column as discussed.

CC-17—Approved, with modification to notes column as discussed.

CC-18—Approved, with the following revision to the title of this action: “Evaluate Climate Change Policy Options To Determine Impacts (Potential Risks, Costs, and Benefits) to Public Health, Environmental Justice, and Low-Income Residents.”

5. Review of Next Steps

Peterson explained that between the fourth and fifth GCGW meetings, each of the five TWGs will pare down the list of actions in the catalog through a consolidation and balloting process to develop their suggested priorities for analysis to recommend to the GCGW for review and approval. The TWGs will also be reviewing and developing recommendations for improving the draft inventory and forecast for Arkansas. During the fifth meeting, GCGW members will review and approve the TWG’s recommendations on

initial priorities for analysis. After the fifth meeting, the TWGs will develop “straw proposals” for the options that the GCGW approves as priorities for analysis to flesh out their recommendations on the basic elements of policy design—timing, coverage, level of effort, etc. Ultimately, the potential environmental impacts, GHG emission reductions, and costs or cost savings resulting from implementing these options will be quantified; externality and feasibility issues will be evaluated; barriers to consensus will be addressed; and results will be aggregated for final recommendations.

A GCGW member asked Peterson whether CCS would develop a cross-referenced matrix to see how the policies relate to each other. Peterson responded that CCS will address this as the GCGW moves forward, but will first want to discuss overlap at the next GCGW meeting. Another member noted that the GCGW can't make priority decisions without cost information. Peterson explained that the TWGs will develop estimates of high, medium, and low costs for GHG emission reductions. The GCGW will be provided screening information and key externalities as well.

6. Agenda, Time, and Date for Next GCGW Meeting

The fifth GCGW meeting is scheduled to take place on April 9, 2008, from 9:30 a.m. to 4:30 p.m., in the State Capitol. Between the fourth and fifth GCGW meetings, each of the five TWGs will hold two conference calls.

7. Public Input and Announcements

There were no announcements or input from the public. Peterson asked the GCGW members whether the time slot for public comment should be moved up to early in the morning or after lunch. The members agreed that the GCGW Co-chairs would determine the best timing for this and report back to the GCGW.

Attachment

Members of the Public Attending Arkansas GCGW Meeting #4

Little Rock, Arkansas

February 28, 2007

Name	Company
Jenny Ahlen	Arkansas Energy Office, Arkansas Economic Development Commission
Mark Allison	
Karen Bassett	Arkansas Department of Environmental Quality
Sammie Cox	Southwestern Electric Power Company
Lynda Englehart	Mitchell Williams
Don Erbach	Entegra
Kenny Hall	Arkansas State Chamber of Commerce/Associated Industries of Arkansas
John Harriman	Mitchell Williams
Frankie Hayne	BA Associates
Kenny Henderson	CenterPoint Energy
Carrie Henry	Arkansas Electric Cooperatives
Bobby Hogue	BA Associates
Glen Hooks	Sierra Club
Earl Jones	
Helen Jones	
J.D. Lowery	University of Arkansas at Little Rock
Rep. Allen Maxwell	Arkansas House of Representatives
Sen. Sue Madison	Arkansas Senate
Peter Main	Southwestern Electric Power Company
Paul Means	Entergy Arkansas
Eddy Moore	
Rep. Robert Moore	Arkansas House of Representatives
Brandon Nick	Trinity Consultants
Danny Ormond	Arkansas Department of Emergency Management
Grace Ellen Rice	Attorney General's Office
Kelly Robbins	Arkansas Forestry Association
Courtney Sheppard	Government Solutions
John Suskie	
George Wheatley	Waste Management
Jim Wimberly	BioEnergy Systems LLC