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Meeting #7 Summary
Governor's Commission on Global Warming
Little Rock, Arkansas
June 17, 2008

Attendees:

GCGW: Aubra Anthony, Stacy Duckett for Nick Brown, Rep. Joan Cash, Steve Cousins, Jerry Farris, PhD, Rob Fisher, Richard Ford, PhD, Miles Goggans, Art Hobson, PhD, Christopher Ladner, Elizabeth Martin, PhD, Robert McAfee, Hugh McDonald, PhD, Bill Reed, Jeffrey Short, Kevin Smith, Gary Voigt, Rep. Kathy Webb

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

Governor's Office: Marc Harrison, Jillian Hicks, Andrew Parker

Arkansas Bureau of Legislative Research: Gina Mercer, Carol Stapleton

Center for Climate Strategies: Tom Peterson, Donna Boysen, Joe Pryor, Joan O'Callaghan, and by phone Lewison Lem, Hal Nelson, Randy Strait, Brad Strode

Others: See Attachment for Members of the Public Who Attended GCGW Meeting #7.

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

1. Notice and Agenda
2. PowerPoint Presentation
3. Draft Summary of GCGW Meeting #6
4. CCS Memo to GCGW on Preparation for Meeting #7
5. CCS Memo to GCGW on Quantification Methods
6. Policy Option Descriptions for Analysis

Discussion and Conclusions:

1. Welcome and Introductions and Review of Day's Agenda

The Governor's Commission on Global Warming (GCGW) Co-chair Kathy Webb opened the meeting. She announced that Co-chair Pearlie Reed resigned from his position for health reasons, and asked the GCGW for nominations for his replacement. Kevin Smith was nominated and elected unanimously as the new Co-chair. Co-chair Webb added that the Governor will appoint a new member to the Agriculture, Forestry, and Waste Management (AFW) Technical Work Group (TWG) to fill Reed's vacancy on that TWG. Tom Peterson of the Center for Climate Strategies (CCS) briefly reviewed the agenda for the meeting.

2. Public Input and Announcements

Several members of the public commented on the issues the GCGW is addressing, including placing a moratorium on building unsequestered coal plants, requiring Leadership in Energy and Environmental Design™ (LEED) certification, using natural gas for electricity generation, and expanding the use of renewable fuels.

Sammie Cox (Manager, Governmental Affairs, American Electric Power–Southwestern Electric Power Company [SWEPCO]) is opposed to placing a "moratorium on SWEPCO building the Turk plant until carbon capture and storage technology is available." He believes, that if implemented, such a policy will "harm Arkansas' ratepayers and economy, and ignores the eventuality of a national cap-and-trade program, which will enable our [SWEPCO's] companies to reduce CO₂ [carbon dioxide] emissions in the most cost-effective manner." He recommended that the GCGW focus instead on promoting incentives for development of renewable energy technologies, encouraging energy efficiency and demand-side management (DSM), and providing tax incentives for developing clean-coal technologies.

Mr. Cox also is opposed to taxing utilities based on the carbon content of their fuels and restricting their ability to recover these costs. He noted that a carbon tax at the state level will place additional burdens on ratepayers, "harm economic development, and place Arkansas at a competitive disadvantage when recruiting new business and industry."

Ron Bank (retired building contractor) expressed his doubt about the predicted environmental catastrophes resulting from climate change. He then said that the LEED certification requirement has overstated benefits and understated costs and restricts trade. He added that 90% of a building's costs are related to design, and 90% of Arkansas building contractors don't have LEED certification. He asked why LEED needs to be mandated if it makes economic sense, adding that overregulation may produce unintended consequences. He concluded that if LEED truly produces cost savings, contractors will become certified voluntarily.

Matthew Petty (Co-Chair, Carbon Caps Task Force) noted the GCGW is tasked with recommending policies for reducing total greenhouse gas (GHG) emissions. He urged the commissioners look to science as a guide to their work; to "require all energy production proposals to include a reasonably up-to-date and comprehensive economic and environmental analysis of alternatives to new plant construction, such as infrastructure development or expansion of efficiency programs"; and to "prevent those results from being redacted from rulings by" the Arkansas Public Service Commission (APSC). Finally, he requested that the GCGW make strong recommendations to the Governor "to ensure the APSC acts in Arkansas' best interests and only endorses the best solutions," and to place a "permanent moratorium on [building new] unsequestered coal" plants.

Mike Callen (President, Arkansas Oklahoma Gas Corporation) observed that using natural gas for electricity generation is cost-effective and can reduce peak requirements. Using natural gas for energy results in 90% efficiency, compared to 27% efficiency from using other fossil fuels. The gas utilities don't agree with the statement in the Residential, Commercial, and Industrial RCI-2 (Utility and Non-Utility DSM for Electricity and

Natural Gas) policy description that says that because of the decline in sales to consumers that natural gas utilities have experienced over the last 10 years, it is not necessary to impose a state goal for utilizing DSM programs to reduce consumption of natural gas. He added that RCI-5 (Education for Consumers, Industry Trades, and Professions) should include education for consumers on the benefits of natural gas.

William Ball (Chairman of the Arkansas Renewable Energy Association and President of Natural Environments, Inc.) made the following observations: "(1) there are too many options and there is overlap between policies of the different TWGs, (2) just one or two good policies that will make it through the legislature and survive the interpretation of the APSC will be better than a slue of weaker ideas, and (3) mandates may produce less desirable results than incentives and goals with "teeth".... [W]hat started as a 1.3 billion-dollar budget to build a coal-fired power plant would cover the cost of installing enough PV [photovoltaic energy] in Arkansas, and do so at a time of day and year that is semi-coincident with peak demand." He added that improving building shells and mechanical equipment can require less than half the energy the average building requires.

Michelle Kitchens (Associate Director, National Affairs, Arkansas Farm Bureau) expressed the Farm Bureau's strong support of the renewable fuels industry. She pointed out that renewable fuels have a small effect on the rising price of food, and that the bigger challenge food markets face is the grain losses in the Midwest as a result of the recent widespread floods. She observed that the increasing use of cellulosic ethanol could be limiting gas prices. Without expansion of renewable fuels, world food prices would be even higher than today. More research and development needs to be devoted to developing alternative sources of energy. Arkansas has tremendous potential for developing biodiesel and cellulosic ethanol fuels, and should also increase carbon sequestration and conservation easements.

Ken Smith (State Director, Audobon Arkansas) stated that we know for a fact that GHGs are rising. Worldwide temperature increases are having profound effects on species, particularly birds. History has proven that environmental restrictions, such as those imposed by the Clean Air and Clean Water Acts and the Superfund program, have not harmed the economy. Audobon Arkansas supports recommendations for national and regional cap-and-trade programs, a carbon tax, and energy efficiency programs.

3. Approval of Draft Summary of GCGW Meeting #6

The GCGW approved the draft summary of GCGW Meeting #6 with the following revisions:

- Page 2—(1) Under Venita McClellan's statement, change integrated gasification combined-cycle technology to ultra-supercritical technology. (2) Under Kenny Henderson's statement, revise the last two sentences as follows: "A Black & Vetch study has found that emissions from natural gas-fueled space and water heaters produce 40% less CO₂ emissions than do space and water heaters powered by electricity generated from fossil fuels, when considering emissions from the power plant. The industry believes that establishing a goal for direct use of natural gas will provide benefits to all consumers."

- Page 12—Under ES-7, insert "not" into the last paragraph to read as follows: "The Hempstead and Plum Point coal plants have not received air permits...."

4. Dates and Times for Next GCGW Meetings

Peterson noted that the remaining GCGW meetings that have been scheduled will be held from 9:30 a.m. to 4:30 p.m. as follows: Meeting #8 on July 31, 2008; Meeting #9 on September 9, 2008; and the final Meeting #9 on September 25, 2008.

5. Review of GCGW Process Status

Peterson briefly reviewed the 10-step planning process. He noted that for Meeting #7, the TWGs fleshed out the design specifics of the pending priority policy options and began to conduct initial analyses of the GHG emission reductions and costs or cost savings resulting from the options.

A commissioner then made a short presentation on resource allocation, which involves efficiently balancing items that society is producing (allocative efficiency) and producing them as efficiently as possible using the least resources (technical efficiency). His concern is that the GCGW isn't addressing allocative efficiency. He explained that as CO₂ is removed from the atmosphere, marginal costs increase and marginal benefits decrease. He believes the benefits for Arkansas of reducing CO₂ will probably be flat, regardless of the degree of reduction, will probably not change marginal costs, and will have a negligible effect on global warming.

6. Review and Approval of the Policy Designs for Quantification

RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL (RCI)

Donna Boysen and Hal Nelson (CCS) provided a brief overview of the RCI options and RCI TWG members provided additional information in responding to the GCGW's questions and comments. In the interest of looking at the big picture, before discussing the individual policy options, Nelson explained that RCI -1 and RCI-2 have the most potential for GHG reductions. A member added that RCI-3, RCI-4, RCI-6, and RCI-9 will also have significant potential for reducing GHG emissions.

Summary of Comments and Responses to Questions:

RCI-1 (Improved Building Codes)—A GCGW member requested support from the Arkansas Energy Office and others for information on improving the energy efficiency standards for mobile homes. Nelson noted that the TWG is looking for data on how energy standards will affect this policy option.

A TWG member noted the need to make sure Arkansas is meeting the requirements of all building codes, to strengthen enforcement toward this end, and to educate builders about code requirements. Peterson recommended that GCGW members send any follow-up questions to CCS for further examination by the TWG. They also suggested that the TWG consider bringing in experts to provide additional information and guidance.

RCI-2 (Utility and Non-Utility DSM for Electricity and Natural Gas)—A GCGW member suggested adding another goal to be: Implement energy efficiency programs to

reduce growth in energy use by 5% per year by 2010 and by 10% per year by 2015. They also noted that the 2014 target to reduce growth in electricity peak demand should be 2015.

A GCGW member observed that reducing total CO₂ emissions will be difficult if Arkansas' growth in population and housing continues. They suggested the TWG look at reducing peak energy demand per housing unit, rather than overall peak energy demand.

Regarding this policy option's goals, a GCGW member finds "growth in" and "peak" confusing. Since the overall goal is to reduce total electricity use, they proposed deleting both "growth in" and "peak," and making the reduction cumulative, using 1.5–2% per year as a reasonable figure. They noted that at the APSC hearings on the Hempstead Turk plant, an expert APSC witness testified that a 1.5%/year reduction is possible. They added that Maryland has legislated a reduction target of 15% by 2015 (which is more than 1.5%/year), and that Minnesota has set a cumulative reduction target of 1.5%/year through 2025. A member supported this proposal, and recommended that the TWG establish a baseline of 2009–2010 against which to measure future reductions. A representative from the Arkansas Energy Office clarified that the expert APSC witness testified that 1.5%/year is high, while 0.5%/year is low.

Another GCGW member commented that reducing total growth isn't feasible. They pointed to California, which is spending \$400 million a year toward this end, yet the state's total electricity use is still growing, though the rate of growth is lower. A GCGW member added that the average growth in electricity use in the state is 1.7–2.2% in rural areas and 3–3/2% in urban and suburban areas. A GCGW member said that APSC should have the growth rates on record, so the TWG could easily project the likely impacts of the two scenarios. Boysen explained that the last TWG meeting, the TWG discussed examining two goals as RCI-2a and RCI-2b: reduce overall electricity demand and reduce peak electricity demand (including efficiency as well as growth rate for both). The TWG will get the necessary data and report to the GCGW the results of its analysis of the two scenarios.

A GCGW member recommended that the second paragraph of the Policy Description address the need for utilities to get into the energy efficiency business and to be rewarded for actions taken to improve energy efficiency. They agreed to provide the TWG draft language on this subject. Peterson suggested that this information be included in the Implementation Mechanisms section as well.

RCI-3 (Reduced Energy Use in State-Owned Buildings: Government “Lead by Example”)—Co-chair Webb offered to provide the TWG a recent presentation by the North Carolina energy manager. A member asked whether the goals should be divided into new and existing buildings. The GCGW agreed to this modification.

RCI-4 (Promotion and Incentives for Improved Building Design and Construction)—Boysen explained that in its last meeting, the TWG decided to drop "renewable" from the second bullet of the Goals section, because it isn't an energy efficiency issue. A GCGW member added that the goal is to discourage resistance heating for water, which doesn't compare well to natural gas or heat pumps for energy efficiency. For GCGW Meeting #8, this option will specify this goal's percentage target(s) and timeline(s).

A TWG member noted that the second paragraph of the Policy Description is redundant with RCI-3, which addresses new and existing buildings.

A GCGW member noted that references to LEED should also refer to Green Globe and similar programs, allowing people to choose what works best for their circumstances; the TWG will look into this.

RCI-5 (Education for Consumers, Industry Trades, and Professions)—This policy option was described as not being quantifiable as other options are being quantified, in terms of its potential GHG emission reductions and costs or cost savings. A TWG member noted that the number of professionals trained, students educated, etc., can be quantified. This information could be included in the Goals section.

RCI-6 (Incentives and Funds To Promote Renewable Energy and Energy Efficiency)—A GCGW member noted that Arkansas currently makes extensive loans through low-income housing, and asked whether the TWG is addressing other programs to adopt LEED certification standards. The TWG has not looked into this yet. Rather, it is focusing more on residential weatherization programs that will move low-income residents into livable, energy-efficient homes. The GCGW member suggested that the TWG consider incorporating energy efficiency requirements into the construction loans. A discussion ensued regarding resident-owned homes versus landlord-owned homes. The TWG will look into all of these issues.

A representative from the Arkansas Energy Office noted that RCI-6 and RCI-7 were supposed to have incentives for renewable energy, which got dropped by the wayside. A GCGW member responded that these incentives are addressed under the Energy Supply policy options.

RCI-7 (Green Power Purchasing for Consumers)—A GCGW member commented that the goal for consumer participation in green power purchasing programs to equal 25% of electricity usage in Arkansas by 2020 is very aggressive. A TWG member noted that green power should include all sources of low-GHG energy—nuclear, sequestered coal, etc.—since the goal of this policy option is to reduce GHG emissions. Another member responded that the TWG's goal was not to include nuclear and sequestered coal in green power purchasing. Nelson clarified that other states define green power as wind, biomass, solar, thermal, and solar photovoltaic. The TWG will look into whether these states include nuclear and sequestered coal in their definitions, and whether these sources of low-GHG energy should be included in this policy option.

RCI-8 (Nonresidential Energy Efficiency)—A GCGW member (Gary Voight) will provide the TWG information it needs to define both the baseline and efficiency targets. The TWG will present this policy option in much more detail at future GCGW meetings.

RCI-9 (Support for Energy-Efficient Communities, Including Smart Growth)—A GCGW member asked about the potential for overlap between RCI-9 and TLU-4 (Smart Growth, Pedestrian, and Bicycle Infrastructure). Peterson explained that overlap between policy options is sometimes intentional. TLU-4 focuses on location efficiency—things that affect the amount of travel people need to do. In contrast, RCI-9 focuses on building and site efficiency.

Another GCGW member asked whether the 50% goal is twice as aggressive as can be achieved. A member explained that the intent was to use ENERGY STAR portfolio manager targets. Since 30% can be easily achieved, the TWG added 20% to it. Another TWG member explained that by 2030, there will be a higher average number of energy-efficient buildings, and as more infill occurs, more than 50% of new buildings in former strip malls will be energy efficient. The TWG will check what the reference case for the average building will be.

RCI-10 (Energy-Savings Sales Tax)—This policy option is ready for quantification. There was no additional discussion.

Voting on Draft RCI Policy Options:

RCI-1 (Improved Building Codes)—No objections to moving forward for further analysis.

RCI-2 (Utility and Non-Utility DSM for Electricity and Natural Gas)—No objections to moving forward for further analysis.

RCI-3 (Reduced Energy Use in State-Owned Buildings: Government “Lead by Example”)—No objections to moving forward for further analysis.

RCI-4 (Promotion and Incentives for Improved Building Design and Construction)—No objections to moving forward for further analysis.

RCI-5 (Education for Consumers, Industry Trades, and Professions)—No objections to moving forward for further analysis.

RCI-6 (Incentives and Funds To Promote Renewable Energy and Energy Efficiency)—No objections to moving forward for further analysis.

RCI-7 (Green Power Purchasing for Consumers)—No objections to moving forward for further analysis.

RCI-8 (Nonresidential Energy Efficiency)—No objections to moving forward for further analysis.

RCI-9 (Support for Energy-Efficient Communities, Including Smart Growth)—No objections to moving forward for further analysis.

RCI-10 (Energy-Savings Sales Tax)—No objections to moving forward for further analysis.

ENERGY SUPPLY (ES)

Donna Boysen and Hal Nelson (CCS) provided a brief overview of the ES options and ES TWG members provided additional information in responding to the GCGW’s questions and comments. Policy options ES-7 (Geological Underground Sequestration for New Plants), ES-8 (Transmission System Upgrades), ES-9 (Nuclear Power), ES-10 (Carbon Tax), and ES-11 (Efficiency Improvements and Repowering of Existing Plants) were not presented for GCGW consideration because of insufficient time. Policy option ES-1 (Green Power Purchases and Marketing) was not discussed, because has been consolidated with RCI-7 discussed previously.

Summary of Comments and Responses to Questions:

ES-2 (Technology Research & Development)—This policy option is not commercially viable in the near term. The TWG will use a nonquantifiable approach, and will continue to flesh it out for the GCGW's consideration.

ES-3a (Renewable Portfolio Standard [RPS])—A GCGW member asked what percentage of Arkansas' energy supply comes from renewable energy resources, observing that if the percentage is small, the goal of 15% by 2015 is a tight time frame. Nelson responded that hydropower, biomass, landfill gas, geothermal, solar and wind energy comprise 9.7% of the state's gross generation of renewable energy. Boysen added that the TWG can change the target and the timeline in the analysis, based on the quantification results.

ES-3b (Renewable Energy Feed-In Tariff [REFIT])—A TWG member noted that they have provided a definition of renewable energy that wasn't included in this policy description because of a lack of time. During its next conference call, the TWG will discuss the proposed definition and the changes that will need to be made to support it.

A GCGW member asked what the TWG classifies as a food crop, noting that corn used in ethanol isn't food-grade corn. A member responded that this grade of corn is used for animal feed, and that increases in animal feed prices get passed on to the prices of food for human consumption. They added that the science differs on this issue, and offered to provide citations for several reports. Another GCGW member suggested that the TWG examine the effect of weather patterns and other factors on food prices, such as consumption demand in China and India.

A member noted that the most viable hydropower plants produce more than 20 megawatts (MW), with three turbines per project producing 25–75 MW. They added that these plants have no negative impacts on water flow, fish kills, etc., and that limiting them would be ignoring the best potential production of energy from renewable power. Another TWG member responded that the TWG doesn't want to subsidize large hydropower plants. If new small hydropower plants can produce the policy option's sought-after benefits that other sources of renewable energy can provide, they will be included; if not, they won't. A GCGW member requested that the TWG provide a strong justification for the 20-MWcap, or eliminate it. The TWG will examine scale and feasibility issues and report back to the GCGW.

ES-4 (Grid-Based Renewable Energy Incentives and/or Barrier Removal)—Boysen explained that the TWG needs to work on quantifying the low-interest loan goal's potential for GHG reductions and its costs or cost savings.

A GCGW member asked whether the tax credits suggest that utilities or other energy suppliers aren't eligible under this policy option, and a member asked whether the second bullet under the Goals section covers sources of renewable energy. Another GCGW member recommended changing "grid-based" to consumer-based," and revising the last bullet in the Goal section for clarification.

A third GCGW member asked how the TWG defines a qualifying facility. A TWG member responded that the facility must comply with the state's process for demonstrating its qualifications. Another member added that this policy option was

designed for very small-scale residential and commercial producers of renewable energy. The TWG will work on "how small is small," and will identify how other states are approaching providing similar incentives.

ES-5 (Approaches Benefiting From Regional Application)—This is a nonquantifiable option for preparing the state to participate in a regional or national cap-and-trade program. The TWG is still working on developing this option. Nelson added that the TWG is looking at other regional approaches, such as the Western Climate Initiative, the Midwest Governors' Climate Initiative, and the northeastern Regional Greenhouse Gas Initiative. Co-chair Webb suggested that the GCGW consider getting involved in the Southern Governors' Conference, which will take place at the end of June 2008.

A member suggested adding language to the Policy Description section that instructs or encourages Arkansas to be prepared for a federally implemented cap-and-trade system. They explained that, at a minimum, the intent of this option is to put in place a program to prepare Arkansas for a national cap-and-trade system so it is well versed on a range of issues, including the potential impacts of a national program on the state, and is ready to reap the benefits when the system is implemented, rather than being 2 years behind and dealing with it reactively. A representative from the Arkansas Energy Office offered to provide the TWG useful data to for further developing this policy option. A member suggested that future evaluation of regional approaches be given to the Arkansas Climate Institute (being proposed for establishment under CC-9) to act as a clearinghouse for coordinating efforts to establish a regional cap-and-trade system.

A discussion ensued about whether this option should be combined with ES-10. A member explained that the options were initially combined, but the GCGW decided to separate them. Another member wants to keep them separate for reasons beyond national issues.

A GCGW member suggested that the GCGW as a whole consider the experience of the European Union with a cap-and-trade system, suggesting that there is an initial transfer of wealth when the system is first initiated, but there is very little growth in welfare overall. A TWG member responded that there was a lot of doubt about the benefits of an acid rain cap-and-trade program in the 1990s; the program was an enormous success and removed sulfur dioxide at low cost.

The GCGW agreed that this policy option needs wordsmithing; the TWG should present recommendations for enabling Arkansas to be best prepared for a national cap-and-trade system.

ES-6 (Combined Heat and Power)—Nelson explained that most commercial facilities with large thermal demand, such as hotels and laundromats) have significant potential for combined heat and power. Boysen reported that the TWG has begun to quantify the GHG reduction potential and cost impacts of this option, and the initial numbers have generated good discussion about capital costs. A TWG member noted that the combined capacity of 126 MW stated in the Policy Design section could be expanded to 10,000 MW if industries relocate to take advantage of recovering the wasted heat.

Voting on Draft ES Policy Options:

ES-2 (Technology Research & Development)—No objections to moving forward for further analysis.

ES-3a (Renewable Portfolio Standard [RPS])—No objections to moving forward for further analysis.

ES-3b (Renewable Energy Feed-In Tariff [REFIT])— No objections to moving forward for further analysis.

ES-4 (Grid-Based Renewable Energy Incentives and/or Barrier Removal)—No objections to moving forward for further analysis.

ES-5 (Approaches Benefiting From Regional Application)—No objections to moving forward for further analysis.

ES-6 (Combined Heat and Power)—No objections to moving forward for further analysis.

AGRICULTURE, FORESTRY, AND WASTE MANAGEMENT (AFW)

Joe Pryor (CCS) provided a brief overview of the AFW options, and AFW TWG members and Brad Strode (CCS) provided additional information in responding to the GCGW's questions and comments.

Summary of Comments and Responses to Questions:

AFW-1 (Manure Management)—Although this policy option hasn't been quantified yet, the TWG expects that savings from poultry litter will be higher than from livestock litter. The Arkansas Natural Resources Commission has been supporting the TWG on this option. A GCGW member suggested that the TWG continue to ask the Arkansas Natural Resource Commission, and the Arkansas Department of Environmental Quality (DEQ), for support because both have expertise in this area.

AFW-2 (Promotion of Farming Practices That Achieve GHG Benefits)—Pryor explained that the preliminary quantification is focusing on state data where available, and on national data where state data are not available. In response to a question, he noted that conservation tillage is different from precision conservation tillage using global positioning system (GPS) technology, and pointed to the definition at the end of the first paragraph of the Quantification Methods section.

The quantification of the soil carbon goal could incorporate startup costs, such as the cost of retooling, purchasing appropriate equipment, or adopting best management practices. Peterson asked GCGW members if they had any suggestions for better sources of information the TWG can use for its quantification of the soil carbon goal. One member offered to forward to Pryor information from a conference that took place in August 2007.

Regarding the nutrient efficiency goal, extensive data are available at the national and regional levels. Obtaining data at the state level—which is key—is much more difficult. The TWG is currently using data used in other states. TWG members are being asked to contact their colleagues in the field for Arkansas-specific data.

Peterson advised the TWG to make sure its assumptions are correct regarding how this policy option would work in Arkansas. Pryor said the TWG has developed a quantification memo that contains the key assumptions being made across policy options and across TWGs. The assumptions will continue to be revised as the TWG progresses with its work.

AFW-3 (Improved Water Management and Use)—The TWG has completed a preliminary quantification of this goal. Arkansas-specific data were unavailable, so the TWG is using national data scaled to the state's population, which isn't ideal. An Advisory Body proxy member said that the Arkansas Natural Resources Commission produces reports with information on the amount of groundwater and surface water drawn annually.

Discussion was had on the possibility rephrasing the goal to increase surface water use and decrease groundwater use each by 10% by 2025. The TWG will determine whether the policy option should explicitly require a 10% reduction in ground water use.

A GCGW member suggested that the TWG look into the results of a joint University of Texas at Austin–Wildflower Center study (*Standards & Guidelines: Preliminary Report*) for potentially valuable information (available at: www.sustainablesites.org/SustainableSitesInitiative_PreliminaryReport_110107.pdf).

AFW-4 (Expanded Use of Agriculture and Forestry Biomass Feedstocks for Electricity, Heat, or Steam Production)—Pryor explained that the TWG needs to do additional work to quantify the potential GHG reductions and costs or cost savings of this policy option. He confirmed that the 10% figure in the Goals section is a placeholder for the time being. A GCGW member requested the third sentence of the Policy Description, be changed to note that the waste heat from cogeneration would be used for heating not electricity generation.

AFW-5 (Expanded Use of Liquid Biofuels)—This policy option overlaps with TLU-3 (Alternative Low-Carbon Fuels Development and Expansion). A TWG member suggested changing the word "maximize" in the goal to "increase." A GCGW member suggested the TWG consider inserting "non-food-based" everywhere before "biofuels," noting the relationship between higher global food prices and rising demand for biofuels and other alternative fuels. A GCGW member will provide the TWG studies that address these issues. Another member will provide the TWG information about the factors that affect food prices. A representative from the Arkansas Energy Office offered to provide the TWG a letter from U.S. Department of Energy Secretary Bodman regarding the interaction of biofuels and food.

AFW-6 (Expanded Use of Locally Produced Farm and Forest Products)—Pryor explained that the quantification of this policy option will try to calculate displaced transportation emissions by using local wood products versus out-of-state products. A GCGW member requested that the TWG define "locally grown," and suggest possibilities as to how the point of origin of products can be tracked. A member responded that certification systems have a chain of custody, and the producer is subject to third-party inspection. They suggested the TWG look into building on what already exists. Another member said for produce, they have seen a 40–150-mile radius used to define locally grown. They noted that enforcement is important, and the TWG has been

discussing recommending something codified, more standard, so that consumers can be confident that the products they're buying are locally grown. Other GCGW members suggested that the TWG look into an industry label and explore how other states are handling this issue.

A member questioned the percentages in the land use bullet of the Goals section, noting they may be excessive. Pryor explained that the baseline of farmer's markets could allow for a 20% increase above the baseline based on information from the Agriculture Department. The TWG will investigate the current portions of land that are devoted to locally based food systems and rural and urban gardens, and will determine what percentages are feasible for the land use goal.

AFW-7 (Forest Management and Establishment for Carbon Sequestration)—The first bullet in the Goals section (Implement urban tree-planting and -retention programs...) and the second-to-last bullet (Restore/establish 500,000 acres of forest by 2025) are new.

A GCGW member expressed concern about the feasibility of the last bullet of the Goals section (Sustain existing forests to ensure no net loss of existing forests), noting that areas of the state are continuing to grow. They suggested the consideration of goal no net loss of forest acres by 2025. An Advisory Body member from the Forestry Commission noted that if a geographic information system (GIS) layer today showing 18.8 million acres of forestland in Arkansas showed the same acreage in 2025, that would be a great accomplishment for the state. Peterson added that mature forests hold more carbon than young forests—e.g., existing hardwood forests may be denser and absorb more CO₂ than softwood forests. But a member noted that forests die and rot, and can become emitters of CO₂, rather than absorbers. A GCGW member recommended expanding and clarifying the text in this bullet. Peterson suggested that the TWG get baseline data on canopy cover in urban areas and report on the methods used for the data; the Advisory Body member agreed to provide the data to the TWG.

Another GCGW member noted that birds and other wildlife need diversity to support them. They suggested that sustaining existing forests could be part of the land use bullet under AFW-6.

Another GCGW member thinks the fourth and fifth bullets in the Goals section are ambiguous. They recommended deleting the fifth bullet and rewording the fourth bullet to read: "Expand the present forest coverage acreage by 500,000 acres." A member responded that the fifth bullet is important because people won't replant naturally if they don't have incentives to do so, and suggested that the TWG capture this concept. Another GCGW member concurred, noting that some land uses can't conceivably be increased, because grasslands can support only grass, prairielands only crops, and forestlands only forest plants, and concluded that the 500,000-acre forest expansion goal may be high. They suggested that the TWG consult GCGW member Cindy Sagers for the necessary data.

A member commented that the Conservation Reserve Program (CRP) has 250,000 acres, which doesn't count wetland mitigation acres. They asked whether another 500,000 acres are available in the state for CRP and wetland reserve, or whether Arkansas should create new programs. It was also noted that demand for inclusion in the CRP continues to be

higher than the number of people admitted. Another member asked CCS to provide a copy of the report that was the basis for the recommended 500,000 acres. The TWG will review the feasibility of the 500,000-acre figure.

Peterson suggested that the TWG develop a table showing total acres being utilized in Arkansas and if there is overlap between goals. He asked whether the baseline includes data from the U.S. Forest Service Forest Inventory and Analysis (FIA) and U.S. Department of Agriculture (USDA) National Resources Inventory (NRI). An Advisory Body member responded that the Forestry Commission has full-time staff collecting FIA data daily. Regarding NRI data, their staff can give the TWG data on corn planted per plot in 2008 and 2007 hardwood forests acreage. They further clarified that planted pine forests replace natural pine forests (not hardwood forests), and that hardwood forests have remained static.

A member noted that this policy option doesn't address property owners' rights, and recommended that the TWG should be mindful about what makes people behave as they do—i.e., the TWG should encourage afforestation and reforestation.

AFW-8 (Advanced Recovery and Recycling)—Pryor noted that the Arkansas DEQ has been very helpful with the TWG's formulation of this policy option. An Arkansas DEQ representative noted that DEQ will gather information on extensive recycling taking place in the state that isn't captured in its current numbers, such as Walmart and industrial recycling. DEQ tried to get numbers on residential versus nonresidential recycling and did not break down institutional or industrial recycling. They explained that a lot of Arkansas' GHG waste streams go to out-of-state recyclers, it's cheaper to landfill in Arkansas than to recycle, and most of the waste generated in Arkansas is disposed of in the state.

A TWG member asked if the goal of 2% improvement over the actual recycling rate is low. The DEQ representative thinks it's realistic, and added this number may increase once DEQ gets the industrial recycling numbers. A GCGW member suggested that 0% growth or a slight decrease in per-capita waste generation to 2025 would be similar or more aggressive.

Co-chair Webb asked the DEQ representative whether the bottle bill is having an impact on waste. They responded that DEQ doesn't have that information, but they will check with the solid waste management (SWM) districts that handle recycling in the state. Arkansas doesn't recycle glass in large quantities. However, if incentives were created to lure recycling companies to Arkansas, the state could turn the economics of recycling in the right direction.

Co-chair Webb noted that Arkansas created SWM districts in 1991. The state's priorities have shifted since then, and Arkansas now has a competitive municipal SWM goal. She added that the way the SWM districts were set up may make recycling unattractive, and suggested that having the state handle SWM, rather than the 10 districts, might incentivize recycling and make it more competitive. The DEQ representative responded that the districts have logistical and economic advantages. For example, curbside recycling may not be feasible in some areas, and DEQ can poll the districts to identify problems and help them overcome them. Co-chair Webb asked the TWG to reflect this discussion in the document for this policy option and to consider the possible need to

modify existing legislation. The TWG will look into proposing new scenarios regarding restructuring recycling in the state to make it more competitive and economically attractive.

AFW-9 (End-of-Use Waste Management Practices)—The Arkansas DEQ representative explained that 6 out of 24 landfills in the state are required to have active gas collection systems. DEQ is looking at 4 facilities that could use the collected methane. For the option's cost-effectiveness calculation, a GCGW member suggested changing the 8% interest rate to 4%–8%. The TWG will look into this.

Another GCGW member noted landfill gas-to-energy (LFGTE) and anaerobic digester projects would provide significant incentives for manufacturers to locate their plants nearby to take advantage of free energy for running their plants. Brad Strode of CCS commented that EPA has indicated that for an LFGTE project to be economically viable, 1 million tons of waste need to be emplaced. He asked the DEQ representative if the 4 plants that are flaring are connected to an LFGTE project. They responded that if the plants have already invested in a gas collection system, it would make sense. DEQ will gather additional information for the TWG to capture this discussion, and will look into how much of a dent in the increasing demand for electricity LFGTE projects will make between now and 2025. The GCGW member offered to provide answers to any of the TWG's questions on this issue.

A GCGW member thinks that the 25% goal of all landfills developing LFGTE and anaerobic digester projects by 2025 is too conservative. Strode explained that methane emissions were reduced by 12% in 2005, and the 25% goal is a little more than double that. EPA reports this is viable for the 6 landfills in the state that are required to have active gas collection systems. Pryor said the TWG wants to avoid being too prescriptive, noting that the economics don't support a more aggressive goal. The DEQ representative explained that running a landfill is very expensive, and being cost prohibitive is part of the problem. Another GCGW member suggested that the TWG look at the Johnson Controls performance contract as a good model for justification.

Voting on Draft AFW Policy Options:

AFW-1 (Manure Management)—No objections to moving forward for further analysis.

AFW-2 (Promotion of Farming Practices That Achieve GHG Benefits)—No objections to moving forward for further analysis.

AFW-3 (Improved Water Management and Use)—No objections to moving forward for further analysis.

AFW-4 (Expanded Use of Agriculture and Forestry Biomass Feedstocks for Electricity, Heat, or Steam Production)—No objections to moving forward for further analysis.

AFW-5 (Expanded Use of Liquid Biofuels)—No objections to moving forward for further analysis.

AFW-6 (Expanded Use of Locally Produced Farm and Forest Products)—No objections to moving forward for further analysis.

AFW-7 (Forest Management and Establishment for Carbon Sequestration)—No objections to moving forward for further analysis.

AFW-8 (Advanced Recovery and Recycling)—No objections to moving forward for further analysis.

AFW-9 (End-of-Use Waste Management Practices)—No objections to moving forward for further analysis.

TRANSPORTATION AND LAND USE (TLU)

Lewis Lem (CCS) provided a brief overview of the TLU options and ES TWG members provided additional information in responding to the GCGW's questions and comments. Lem explained that the order of the TLU pending policy options was changed, based on the GCGW's recommendations during Meeting #6. He noted that TLU-3 and TLU-11 present the greatest opportunities for reducing GHG emissions. TLU-1 (Study the Feasibility of Plug-In Vehicles), TLU-2 (Research and Development of Renewable Transportation Fuels), TLU-4 (Smart Growth, Pedestrian, and Bicycle Infrastructure), TLU-5 (Improve and Expand Transit Service and Infrastructure), TLU-6 (School and University Transportation Bundle), TLU-7 (Promote and Facilitate Freight Efficiency), TLU-8 (Procurement of Efficient Fleet Vehicles [Passenger and Freight]), TLU-9 (Fuel Efficiency: Clean Car Incentive), and TLU-10 (Public Education) were not presented for the GCGW's consideration because of insufficient time.

Summary of Comments and Responses to Questions:

TLU-3 (Alternative Low-Carbon Fuels Development and Expansion)—Lem explained that this policy option is looking to the development of advanced biofuels, which should be available by 2015. It emphasizes cellulose-based ethanol, reflecting the concerns expressed by TWG members about the potential relationship between demand for corn-based ethanol and rising food prices.

A member asked how the TWG arrived at the figure of low-carbon alternative fuels comprising 6% of the total fuel sold in Arkansas. Lem responded it was a judgment call that was decided by the TWG. He explained that 5% and 10% are the limits of what most heavy-duty and light-duty vehicles can currently handle, respectively; 6% falls between those values.

A GCGW member noted that the amount of ethanol required by 2015 under the federal law is greater than the amount that can be absorbed. If the amount of ethanol is greater than the gas pool, it will have to be blended with gas. They said the 10% goal is already being met in Arkansas, and that figure will be doubled by 2015. They added that national renewable fuel requirements can be met by buying credits in other states, so Arkansas wouldn't reap the benefits.

Lem reported that Florida has just set a 10% alternative fuel goal, and suggested that some coastal states could exceed that goal. He further explained that the federal renewable fuel standard is based on the volume of sales, not the percentage of sales. The national goal is to sell 9 billion gallons of alternative fuels by 2008 and 13 billion by 2010.

The GCGW members agreed, with one member objecting, that the goal of the state policy should exceed the effect of the federal standard. The GCGW directed the TLU TWG to develop language for a goal for Arkansas that surpasses the effect of the federal renewable fuels standard (RFS).

Peterson noted that under the Timing section, 2020 should be changed to 2015.

TLU-11 (Lower Speed Limits and Enforcement)—The TLU TWG proposed this new policy option because of its significant potential to reduce GHG emissions, save energy, and save lives. A member observed that the additional revenue from enforcing the lower limits could be used for electronic surveillance. They also asked why the cost-effectiveness (fuel savings) is the same for both speed reduction scenarios and both time periods. Lem responded that the numbers are a rough cut and will be refined later.

Another member commented that this policy option could increase the cost of transporting goods because of the longer transport time. They suggested that the TWG consider this in its analysis in addition to the option's potential for fuel cost savings. They pointed to the federal hours of service requirement for truck drivers to take a break after being on the road a specific number of hours. Lem noted that the analyses conducted on the policies were cost-effectiveness analyses, and did not include analysis of all issues that might be involved in a full cost-benefit analysis. Instead, additional issues not considered in the cost-effectiveness analysis could be described in qualitative terms in the policy template document.

A GCGW member recommended changing the language under the Timing section for the GCGW to make recommendations to the highway commission instead of the state legislature, since the state highway commission sets speed limits.

Peterson noted that Arkansas unanimously approved reducing speed limits for trucks for operational and financial (i.e., insurance) reasons. A GCGW member suggested that the TWG look at the feasibility of this option from a regional view. If Arkansas' speed limits are higher than those of surrounding states, lower limits may be feasible; however, if they're lower, they may not make sense.

Voting on Draft TLU Policy Options:

TLU-3 (Alternative Low-Carbon Fuels Development and Expansion)—One objection to moving forward for further analysis, as noted above.

TLU-11 (Lower Speed Limits and Enforcement)—No objections to moving forward for further analysis.

CROSS-CUTTING ISSUES (CC)

There was not sufficient time during the meeting for the GCGW to review CC Issues TWG policy options.

8. Next Steps for GCGW Meeting #8

Peterson explained that at Meeting #8 the GCGW will be asked to vote on a set of highly detailed policy options. Early consensus will be reached on some of the options, while

barriers will be confronted on others. He stressed the importance of TWG members' attendance during their scheduled calls between Meetings #7 and #8 in an attempt to keep on track with the stepwise planning process.

9. Adjourn

Co-chair Webb adjourned the meeting.

Attachment

Members of the Public Attending Arkansas GCGW Meeting #7
Little Rock, Arkansas
June 17, 2008

Name	Organization
Jenny Ahlen	Arkansas Energy Office
Mark Allison	Dover Dixon Horne
William Ball	Arkansas Renewable Energy Association and Natural Environments, Inc.
Karen Bassett	Arkansas Department of Environmental Quality
Ron Bank	Retired building contractor
Mike Callen	Arkansas Oklahoma Gas Corporation
Sammie Cox	Southwestern Electric Power Company
Julie dePreux	
Ava Franks	Mitchell Williams
Carmie Henry	Arkansas Electric Cooperatives Corporation
Mark Hicks	Zachary D. Wilson, P.A.
Allan Gates	Mitchell Williams
John Harriman	Mitchell Williams
Mark Hicks	Zachary D. Wilson, P.A.
Richard Hudson	University of Arkansas Fayetteville
Michelle Kitchens	Arkansas Farm Bureau
Eddy Moore	Arkansas Public Policy Panel
Jasmin Moore	Metroplan
Dina Nash	Sierra Club
Matthew Petty	Carbon Caps Task Force
Dharma Rajan	American Electric
Grace Ellen Rice	Arkansas Attorney General
John Rogers	Arkansas Western Gas
Ethan Schwartz	GSG
Harryette Shuc	The Nature Conservancy
Ken Smith	Audobon Arkansas
Marc Watts	Arkansas State Employees Association