

Appendix L

Public Comments

This appendix is a compilation of the comments that members of the public provided during the public comment period at each of the meetings of the Governor's Commission on Global Warming (GCGW). The GCGW started its deliberative process for developing its policy recommendations for mitigating greenhouse gas (GHG) emissions at its third meeting. The commenters appear in the order in which they spoke at the meetings.

GCGW Meeting #3, February 7, 2008

Dr. Joe Bates (Deputy Director of Health of the Arkansas Department of Health), spoke as an individual, not representing the collective views of the Department of Health. He expressed his concerns about emissions from coal-fired electricity generation plants in the state. Death rates from lung cancer, stroke, and heart disease are higher in areas where these plants are located, and mercury disseminated into the atmosphere, to the ground, to the water, and to the fish we eat can lead to brain damage. Young children cannot achieve their full intellectual capacity, because their mothers' breast milk is contaminated. Although Arkansas is a small player in the global scheme, it can do much more to improve its environment and the health of its citizens.

GCGW Meeting #4, February 28, 2008

There were no comments from members of the public.

GCGW Meeting #5, April 9, 2008

Jim Shirrell, (FTN Associates, Ltd.), was pleased to note that the Agriculture, Forestry, and Waste Management (AFW) Technical Work Group (TWG) is considering including the beneficial use of landfill methane gas in its policy options. He suggested that the Residential, Commercial, and Industrial (RCI) TWG also consider adding landfill methane gas to its RCI-1 renewable energy option.

GCGW Meeting #6, May 19, 2008

Venita McClellan-Allen (President and Chief Executive Officer of Southwestern Electric Power Company [SWEPCO]), presented a case for supporting the new Hempstead coal plant recently approved by the Arkansas Public Service Commission (APSC). Recognizing the need to balance the goals of environmental protection and affordable electricity, she contended that rejecting the state's abundant coal resources would significantly raise the cost of electricity to consumers and would be harmful to the state's economy. She proposed that Arkansas adopt a portfolio of options that includes advanced coal technology, renewable energy, demand-side management, new nuclear plants, and new transmission and distribution (T&D) infrastructure. The Hempstead plant will contain the most energy-efficient technology available, including ultra-supercritical technology.

Leah Arnold (American Coalition for Clean Coal Electricity) commented that coal is a major factor in keeping the price of electricity affordable. Farmers making less than \$50,000 spend 22% of their after-tax income on electricity, and people making less than \$10,000 a year spend

50% of their after-tax income on electricity. She contended that an advanced ultra-supercritical coal-fired power plant will be an important factor in achieving the goal of emission-free electricity generation.

Kenny Henderson (Assistant General Counsel, CenterPoint Energy, Inc.) said using natural gas for electricity generation is a cost-effective approach to reducing GHG emissions. He contended that increasing the use of natural gas for space and water heating can offset the need for new power plants. A Black & Vetch study has found that emissions from natural gas-fueled space and water heaters produce 40% less carbon dioxide (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.

Glen Schwarz (Little Rock Environmental Action) believes a carbon tax on gasoline is a simple solution to global warming. The United States has the lowest gasoline tax of all oil-importing nations. The highest GHG-producing fuels—fossil fuels, such as diesel and coal—could be taxed the highest; followed by a mid-level tax on less polluting fuels, such as natural gas; and perhaps no tax on very low-GHG-emitting fuels. The United States must prepare for a world without oil. The tax money could be used toward smart growth, mass transit, and other GHG-reducing initiatives.

Glen Hooks (Sierra Club) commended the GCGW on its work. He noted the Sierra Club's concern about coal-fired power plants and its support for carbon sequestration recommended under policy option ES-7, citing the technology's potential to trap pollutants and prevent them from entering the air and water.

Van Warren (WOV, formerly of the National Aeronautic and Space Administration's Jet Propulsion Laboratory) believes the state's "addiction to dirty coal" is not serving Arkansans well. He supports the GCGW's recommendations for wind, photovoltaic, and solar cell technologies. He added that natural gas could be used as a transition fuel, solar concentrators are being overlooked, and the potential for biodiesel fuel technologies is untapped. He pointed to the need to educate Arkansas students on climate forces and issues, and suggested that the University of Arkansas at Little Rock's Energy Institute could provide support toward this effort.

Eddy Moore (Arkansas Public Policy Panel) also commended the GCGW on its work, particularly regarding the feed-in tariff recommended under policy option RCI-2, which places Arkansas in a leadership position by taking this initiative. However, he noted that energy efficiency experts recommend a 6% per year reduction in natural gas use, rather than the 1% target under RCI-2. Also, he believes the target addresses only a small part of the problem, and recommended broadening its focus to include reductions in total sales.

William Ball (Arkansas Renewable Energy Office) recommended that Arkansas adopt a feed-in tariff for electricity use. As opposed to net metering, a feed-in tariff would enable the state to pay farmers above-market rates. The more electricity consumed, the more it would cost. The revenue generated could help the state finance its energy efficiency targets.

Doug Barton (Arkansas Coalition for Peace and Justice) expressed the urgency of the need to address global warming, and recommended that Arkansas aggressively increase its energy efficiency through improvements in building design and increased use of renewable energy technologies. He noted that while a healthy economy is dependent on a healthy environment, the reverse doesn't apply. He concluded that if the world continues to burn fossil fuels at the current rates, we won't have a world to worry about the economy.

GCGW Meeting #7, June 17, 2008

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.

GCGW Meeting #8, June 31, 2008

Ludwik J. Kozlowski, Jr. (Arkansas Community Action Agencies Association) pointed to the need to expand the federal Weatherization Assistance Program to provide funding for no-cost green loans to low-income households to heat their homes.

Ken Smith (Audobon Arkansas) commented that each of the four planned power plants will cost \$1.5-\$2 billion, and together they will contribute 32% of the carbon emitted in the state. He recommended investing in energy conservation, energy efficiency, and renewable energy as aggressively as possible before constructing the new plants. He also commended the seven utilities that are participating in APSC's energy efficiency programs, and recommended that they be rewarded with perhaps performance-based incentives. He concluded, however, that these energy efficiency initiatives may not be sufficient to meet the state's future energy demand, and suggested that the GCGW consider providing a source of revenue to fund a reinvigorated Arkansas Energy Office to make the necessary energy efficiency improvements.

Bill Lord (Program Director, Northwest Arkansas Regional Solid Waste Management District, and President, Arkansas Association of Regional Solid Waste Management Districts) suggested that the GCGW look into providing carbon credits to assist landfills with collecting methane. He also recommended providing incentives to companies to convert high energy-consuming diesel solid waste collection vehicles to energy-efficient vehicles that run on biofuels. He believes that Arkansas can substantially improve its recycling rates, noting that more than 60% of all solid waste generated can be recycled or composted. He recommended the state pass container deposit legislation, noting that some states with "bottle bills" are recycling 70%–95% of all plastic, glass, and aluminum containers. Increased recycling of containers would create many green jobs in Arkansas, save landfill space, provide a giant step toward recycling goals, and significantly reduce GHG emissions and use of electricity, oil, and gasoline.

Reagan Sutterfield (business consultant and farmer) suggested that the GCGW look at the positive and negative economic development impacts and macroeconomic effects of the four planned coal plants. He pointed to the state's brain drain of younger people who are leaving the state for technology centers, and suspects the plants won't cause them to stay in or return to Arkansas.

Danny Traylor informed the GCGW that 100 stakeholders in the Anthracite Coal Company are developing the Scranton Coal Company close to Morrison Bluff and Scranton. He said that semi-anthracite coal is a good candidate for integrated gasification combined cycle (IGCC) technology. The economics appear promising for dusting off the old River Mountain hydroelectric project and developing an underground gasification facility. The critical enabling technology is CO₂ storage. Arkansas is blessed with good opportunities for enhanced natural gas recovery, sitting at the top of natural gas-producing reservoirs and coal seams (enhanced coalbed methane). Deep-well injection has the potential to sequester 3–6 million tCO₂/year. He suggested that the GCGW look at the Massachusetts Institute of Technology study *The Future of Coal* (http://web.mit.edu/coal/The_Future_of_Coal.pdf). The stakeholders are going to try to develop a 21st-century project on a scale that hasn't been achieved. All the infrastructure is in place in the Arkansas River Valley.

Andrew Endicott (Social Sustenance Organization) supports four items for addressing global warming that could create thousands of green jobs and reduce GHG emissions: (1) demand-side management can align the interests of utilities and the environment with energy-efficient devices and appliances; (2) stricter building codes for new construction can reduce the energy use of and CO₂ emissions from future buildings; (3) implementation of commercial-scale renewable energy feed-in tariffs can reduce risk and increase returns on investment in renewable energy; and (4) a carbon capture and storage requirement in the state can preclude future investment in dirty coal toward renewable energy and environmentally friendly energy options. He concluded that avoiding the catastrophic impacts of climate change will require tremendous investment and work.

GCGW Meeting #9, September 9, 2008

Randy Eminger (American Coalition for Clean Coal Electricity)

In 2001, average Arkansans spent 11% of their income on energy costs; in 2008, that figure rose to 19%. About 123,000 families in Arkansas are living below the poverty level, and spend 34% of their income on energy costs. While there may be a global warming trend, that trend is not evident in Arkansas.

J.D. Harper (Arkansas Manufactured Housing Association)

The GCGW should amend RCI-1 to acknowledge ongoing efforts by the manufactured housing industry to enhance the energy efficiency of manufactured homes.

Tommy Foltz (Arkansas Biofuels Alliance)

The GCGW should support the production of cellulosic biofuels. AFW-5 precludes first-generation biofuel technology. Arkansas should simultaneously be using the technology that's available today while working toward advanced biofuels. Foltz offered to share with the GCGW the language that he is recommending be added to AFW-5.

Nathan Pittman (Arkansas Soy Energy Group)

The GCGW should expand the program for strengthening the Arkansas biodiesel industry because biodiesel burns clean and significantly reduces GHG emissions, local biodiesel feedstocks are abundant, biodiesel is cost competitive compared to fossil fuels, and the state has several existing biodiesel producers. Non-food feedstock should be evaluated as they become available.

Eddy Moore (Arkansas Public Policy Panel)

Under the Energy Supply policy options, the GCGW should account for some range of carbon pricing. Power companies have considered carbon pricing in modeling future opportunities, and private-sector markets and public service commissions take it into account as well.

J.P. Bell (Physician, Fort Smith, Arkansas)

Arkansas' air is becoming dirtier primarily due to emissions from coal-fired power plants. The GCGW should recommend that the state put a moratorium on building new capacity for coal-generated power plants, whose emissions are impairing the health of Arkansans.

Gladys Tiffany (Omni Center for Peace, Justice & Ecology and Clean Air Arkansas Coalition)

The GCGW should limit coal-fired electricity generation as much as possible.

Shelly Buonaeto (Omni Center for Peace, Justice & Ecology and Clean Air Arkansas Coalition)

Arkansans should limit the energy they use. The GCGW should recommend that the state provide tax credits to citizens who install solar, wind, and other renewable energy technology.

Michael Buonaeto (Omni Center for Peace, Justice & Ecology and Clean Air Arkansas Coalition)

The GCGW should limit coal-fired electricity generation as much as possible.

Joe Bender (Clean Air Arkansas Coalition)

A 600-MW coal plant will result in significant emissions of CO₂, SO₂, particulate matter, and mercury, threatening health and ecosystems. Arkansans need to use energy more efficiently, and the electrical grid needs to be decentralized. RCI-7 is a significant step toward reducing the state's emissions and boosting its economy.

Amos (Little Rock)

Northeastern and northwestern Arkansas have good wind resources. Potential producers of wind energy in the state are poised to start production as soon as Arkansas enacts legislation that offers producers of renewable energy financial incentives similar to those that other states offer.

Robert Huston (Clean Air Arkansas Coalition)

Building a coal-fired plant will have significant negative impacts on Arkansas' environment and economy.

Jack Sundale (Citizen)

There is no such thing as clean coal. Coal already accounts for a major share of Arkansas' GHG emissions. The state should place a higher tax on coal-fired electricity to discourage its use, and should encourage energy efficiency and the production of renewable energy.

Joe Sundale (Citizen)

The GCGW should recommend that the state make coal-fired electricity production the most expensive form of electricity to purchase, while maximizing economic incentives to citizens who install solar power and to local governments that provide the best available public transportation.

GCGW Meeting #10, September 25, 2008

Sammie Cox (AEP–Southwestern Electric Power Company (SWEPCO))

The Turk (Hempstead County) plant should be built. The Arkansas Public Service Commission has approved the ultra-supercritical plant, which will be one of the most efficient coal plants in North America and will be retrofitted for carbon capture and storage technology when it becomes available.

David "Bubba" Powers (Arkansas House of Representatives)

The majority of citizens of Hempstead County support construction of the Turk plant and are confident that SWEPCO will be a good steward of the environment.

Jim Kirchhoff (Hope Water and Light Corp.)

The Turk (Hempstead County) plant should be built. SWEPCO has been a long-time provider of low-cost power and energy for Arkansans. Replacing coal with natural gas-fired electrical generation will significantly increase the cost of electricity.

Wes Woodward (Hempstead County Economic Development Corporation)

Portions of southwestern Arkansas have experienced surges in energy costs caused by replacement of coal with natural gas-fired electrical generation, which have significantly hurt businesses in the area. Arkansas' demand for electricity will continue to grow. Arkansas needs to rely on a broad range of reliable, cost-efficient energy resources to maintain and grow its economy.

Matthew Petty (Omni Center for Peace, Justice & Ecology /Social Sustenance Organization)

The Turk (Hempstead County) plant should not be built. With the implementation of a tax on carbon, energy efficiency measures will be far more cost effective than electricity production from fossil fuels, will create permanent jobs in the state, and will reduce GHG emissions.

Kelly Mulhollan (Citizen)

The Turk (Hempstead County) plant should not be built. It's folly to be working to reduce global warming and at the same time allow more coal plants to be built.

Larry Brown (Citizen)

The Turk (Hempstead County) plant should not be built. Geothermal energy should be considered as an alternative source of energy. Arkansas has some hot areas that show promise. Smaller units could be built close to substations.

Malcolm Cleaveland (Professor Emeritus, University of Arkansas, Fayetteville)

The Turk (Hempstead County) plant should not be built. There's substantial evidence that global warming is occurring, and catastrophic changes are inevitable. (See written comments below.)

James Burke (Ecological Conservation Organization)

Mr. Burke read a quote from Al Gore stating why the Turk (Hempstead County) plant should not be built.

Joanna Pollock (Omni Center for Peace, Justice & Ecology)

Building the Turk (Hempstead County) plant will harm Arkansas' ecology, and the costs will far exceed the benefits. The state should invest in renewable energy, which will protect the environment and create lasting employment for Arkansans.

Barbara Horn (Arkansas State Senate)

Southwestern Arkansas residents support building the Turk (Hempstead County) plant.

Eddy Moore (Arkansas Public Policy Panel)

The Turk (Hempstead County) plant should not be built. The Arkansas Public Policy Panel hired an independent expert who found that the cheapest source of energy in the state will be natural gas-fired generation and energy efficiency measures.

Steve Copley (The Interfaith Alliance of Arkansas)

In its recommendations to the Governor, the GCGW should keep in mind the value of creation and the need and responsibility to protect the planet.

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To the Governor's Commission:

I wish to discuss some reasonably complex concepts and apologize for expression of my frustration when limited to two minutes in the public comment session. I will try to be succinct here.

I would like to inject some urgency into what some seem to see as just an attempt to put a useless restraint on industry. Unfortunately, the issues are much more serious than that. Today the scientific evidence is clear, despite a well-funded disinformation program that would do credit to the CIA. Global warming is occurring, and humans are responsible.

But some will say, "We have hundreds of years to solve this problem and why should we make any effort now, when there is still at least some scientific uncertainty about our vulnerability and we are still developing key technologies to mitigate the problem?"

Wrong! We may not have much time and we could see catastrophic changes in the lifetimes of many people on the Commission. The paleo-climatic record shows that step changes in climate may occur in decades, perhaps even years in some cases.

How could this happen? Changes are often:

1. Nonlinear-some are exponential functions, like rabbit populations when there are no predators.
2. The result of positive feedbacks in the climate system. What is a positive feedback? Think of an explosion that starts with a spark but quickly escalates. An example of a positive feedback is warming of the Arctic tundra, which releases large quantities of frozen methane. Methane itself is a potent greenhouse gas, and as methane concentrations increase, temperature will increase, releasing more methane in a vicious cycle.
3. Threshold effects or tipping points. Past a certain points, positive feedbacks take over and catastrophic change becomes inevitable. We could be very close to a threshold for revolutionary climate changes.

What are possible consequences? How severe could they be? An example is the deglaciation of the polar regions. Deglaciation is proceeding at a phenomenal rate and it appears to be accelerating. The Greenland ice cap is shrinking; if it were to go completely, sea level would rise at least 20 feet, submerging trillions of dollars of infrastructure and displacing hundreds of millions of people. The West Antarctic Ice Sheet (WAIS) is also losing mass and could easily

become destabilized. That would raise sea levels 10 to 20 feet. In addition to the huge human costs, critical coastal ecosystems would be destroyed.

Other impacts of global warming are already being felt widely. For example, the ongoing loss of mountain glaciers and snowpacks that provide water supplies and hydroelectric power to over a billion people and the extension of fire seasons, resulting in catastrophic fires.

Are we sure that bad things will happen if we continue business as usual? Bad things are already happening, but we cannot say with complete certainty that catastrophic changes will follow, and will follow quickly. Do we want to gamble with huge chunks of our civilization? If change will be catastrophic, prudent people make those preparations necessary to avoid that outcome.

Ask the Chinese - they gambled that a big earthquake would not occur during school, so they did not quakeproof their schools in a known high risk seismic zone. The results? More than 10,000 children dead and many more injured and psychologically traumatized.

We are in a known climate change hazard zone. In the face of uncertainty, but with horrific consequences for inaction, prudent people act. Reduction of greenhouse gases (GHGs) is critical. We should at least take "no regrets" actions toward that goal, such as increasing economic efficiency. It is my understanding that new coal fired power is much more expensive than conservation efforts to reduce demand. And improvement of the national transmission grid would move existing excess power where it is needed.

In a way it is unfair that Arkansas should have to undertake to limit GHGs without leadership from the Federal level. Unfortunately, there has been no semblance of guidance from the feds, so the states have been taking the lead. It is time that Arkansas joined them and showed a little leadership of our own.

-- Malcolm Cleaveland