

## **Addendum to Summary for GCGW Meeting #10 GCGW Member Comments**

This addendum includes comments that four GCGW members submitted to the full Commission prior to the GCGW's meeting on September 25, 2008. These comments are incorporated as submitted without any changes. The comments are ordered alphabetically by last name.

September 24, 2008

To: Members of the Governor's Commission on Global Warming and Jillian Hicks of the Governor's office and representatives of CCS  
From: Nick Brown, member of the Commission and President & CEO of Southwest Power Pool, Inc.  
Subject: The Commissions Product and Process to Date

Hello –

This memo is to serve as my second letter of record regarding the Governor's Commission on Global Warming. We are at our last scheduled meeting of the group and while our efforts have produced a great deal of learning, I'm not satisfied that we've completed even the most fundamental charge, particularly as it relates to certain policy options under consideration. Per HB2460, "The commission shall conduct an in-depth examination and evaluation of the issues related to global warming and the potential impacts of global warming on the state, its citizens, its natural resources, and its economy, ..." Then "Based on the commission's evaluation of the *current* global warming data ... set forth: (1) A global warming pollutant goal; and (2) A comprehensive strategic plan for implementation ... of the goal." CCS's February 7, 2008 memo to the Commission stated under Task 1 – Preliminary Evaluations, "By assessing climate change impacts in Arkansas, CCS will help the Commission determine *whether* the development of a state climate adaptation strategy *is necessary*." I've been told during three separate meetings that the question of whether the earth is warming due to human action is "not on the table" or "not before the commission," our charge is simply to determine how to reduce human carbon dioxide discharge into the atmosphere. I disagree - again.

Public policy should be driven by the economics of societal impact, which are driven by costs and available capabilities, which are driven by urgency, which are driven by risks, which are driven by science. Get the science wrong and you'll most likely get the policy wrong. It always takes the scientific research community time to digest information but we must be aware of the significant new research contradicting the latest IPCC report. Contradicting new information is entirely consistent with the normal course of scientific development, and in this case particularly, should be viewed as good news! The earth may even be in a cooling phase as we unexplainably are here in Arkansas and the southeastern U.S.! It makes me particularly nervous and suspicious when healthy skepticism and honest questions are ignored or attacked and maligned.

I am always skeptical of fear-based science and political policies and as such I've been skeptical of IPCC conclusions of cause and effect. This physicist, engineer and business person is simply not convinced carbon dioxide, which occupies only 1/10,000 part more of the atmosphere than it did in 1750, is chiefly responsible for warming when the impact of the most common greenhouse gas - water vapor - which accounts for about 94% of the natural greenhouse effect, is complex and not well understood. As a business person, the real kicker here is that even the most drastic proposals to mitigate future climate change by reducing emissions of carbon dioxide would make very little difference to the climate.

However, please make no mistake in understanding my position on carbon reduction based on my understanding of current science and in balance with world macro economics. I support large

amounts of renewables, specifically central station wind and solar. I support continued research on global warming. I support research, development and demonstration of viable carbon reducing technologies, including sequestration. I support smart-grid initiatives, including efficiency and demand response. I particularly support public education and will work to ensure it is balanced and fairly presented. Most of our policy options are consistent with these positions and I'll be proud to support them. A few are not, and based on the discussion above and in my first memo, I'll respectfully be voting in opposition. I truly wish we had spent less time on editing and analyzing the detailed policy options and more time discussing the bigger picture. It is apparent we still don't understand some of the policy option descriptions in our attempt to include so many options and "get'er done."

It has been a new and rewarding experience to have worked with each of you on this project and I look forward to our final report being delivered to Governor Beebe.

September 23, 2008

Co-chairs Ms. Webb and Mr. Smith and fellow commissioners of the  
Arkansas Governors Commission on Global Warming

Dear Colleagues,

As we approach the end of the commission's work I would respectfully like to express some of my concerns about the process for the record. First let me express my gratitude for the experience you have allowed me to participate in, which was quite illuminating. I began this task with expectations that my economic knowledge and experience working in the academic realm of environmental economics would be useful to the commission. Throughout the process I have endeavored to keep the wellbeing of the citizens of Arkansas foremost in my mind as to whom we are trying to serve. I can honestly say that I have not had any other agenda during this process, and it is from that perspective that I write this letter.

Overall, and for the record, I take issue with the process because it did not employ a benefit-cost analysis approach while formulating recommendations for public policies. Although some would argue that benefit-cost analysis is not the only approach to consider while crafting public policies, few would argue that such an approach should be altogether ignored, especially when dealing with resource allocation issues. I have attempted to bring this to the commission's attention, suggesting that the marginal benefits for Arkansans of reducing CO2 emissions should exceed the states marginal costs if sound economic logic is to be employed. To date no discussion of the benefits which might result from reducing CO2 has occurred, much less an attempt to quantify and estimate their value.

Ignoring the benefit side of an economic approach to public policy as in this situation is distressing since the issues (i.e., benefits) are global while the policies (i.e., costs) being considered effect only a tiny subset of the globe. However, more than an error of scale exists; also errors of both priorities and risk assessments are involved. Arkansas is not only a small subset of the world, but it is also similar, in that, of all the problems facing it citizens, global warming may be some distance down a prioritized list. In short, expending resources on this issue should also be compared to the benefits received of directing those resources to other more pressing problems. Bjorn Lomborg's book Cool It (2007) clearly makes this point on a global scale, and such a discussion on a state level would, I believe, have been appropriate for the commission. The commission also did not engage in a deliberation of the likelihood of the risks faced by Arkansas associated with global warming. It has been implicitly assumed that the total effect of a warmer climate for Arkansans is negative, which may or not be the case. It is interesting to note that some have even suggested that throughout history human progress seems to have accelerated during warm periods and slowed during cooler periods.

In my view, I do not believe that the commission has fulfilled its obligations as specified by Act 696 which reads in part:

“Section 5. Purpose and duties. (a) The commission shall conduct an in-depth examination and evaluation of the issues related to global warming and the

potential impacts of global warming on the state, its citizens, its natural resources, its economy, .... and economic growth and development.”

and,

“Section 11. Emergency Clause. It is found and determined by the general Assembly of the State of Arkansas that it is imperative that Arkansas study the scientific data, literature, and research on global warming to determine ...”

It is entirely possible that my interpretation of these words is different from others. However I believe that we should have discussed, among other things, the science behind the issue of global warming. If such a discussion had taken place, some of the points that might have been made, but not necessarily agreed to by the commission, might have included:

“The real significance [of NASA scientists correcting the record and replacing 1934 for 1998 as the warmest year on record] is that such a small correction can make such a big difference. The reason is that the much touted warming of the last three decades is merely a return to earlier warm times, after an equally long period of cooling...There is no way this pattern constitutes a warming trend...In short, there is no evidence for human-induced global warming in the U.S. temperature record.” David Wojick (2007)

“In short, if [green house gases] play a role, it is minor in the 0.26% warming since 1880. The sun is responsible for the primary change, and political fixes such as envisaged in the Kyoto Treaty sill do not change global temperatures measurably but will mean a drastic decrease in worldwide output of goods, ... [and] immense decreases in their standards of living.“ John Zyrkowski (2008)

“It is very difficult to confidently attribute the current warming to a specific cause or causes. And that is what makes the claim that global warming is due to humans more of a belief system than a scientific observation. Attributing most or all of the current warmth we are experiencing to mankind is a statement of faith, because it assumes something we don't know: how much natural climate variability there has during the same period of time.” Roy W. Spencer (2008)

“It is frequently claimed by those who wish to stifle discussion, that the science of global warming is ‘settled’. Even if it were, for the reasons I have already indicated – economic, political, and also ethical reasons – that would not be the end of the matter. But in fact, the science of global warming is far from settled.” Nigel Lawson (2008)

I would also like to go on record to point out that, in my view, the Center for Climate Strategies (CCS) is more of an advocacy group than a consulting group. In several instances the shortcoming of their work in estimating costs associated with various proposals was pointed out, but they failed to address them. Specifically, by ignoring costs associated with various proposals,

they presented some options as having “negative-cost” when in fact if normal economic accounting procedures were employed the opposite would be the case. Apparently I am not the first to point out such problems:

“Unfortunately for North Carolina and other states using CCS estimates, the cost-benefit methodology is seriously flawed,” concludes the Beacon Hill Institute, the 16-year-old research arm of the Department of Economics at Boston’s Suffolk, University. “First, CCS fails to quantify benefits in a way that can be meaningfully compared to costs. Second, when estimating economic impacts, CCS often misinterprets costs to be benefits. Third, the estimates of costs leave out important factors, causing CCS to understate the true costs of its recommendations.” (Carolina Journal Online website)

Another concern I have deals with the confusion of pollution from non-CO2 emissions as opposed to the release of CO2 into the atmosphere. This is of particular importance when considering coal fired electrical generating plants, either those currently operating in the state or those proposed for the future. To my knowledge, within the relevant ranges being considered, CO2 does not have any *direct* adverse effects on human health. Non-CO2 emissions (i.e., particulate matter) from coal fired plants can adversely affect human health. It seems to me that this commission did not distinguish between these forms of pollution. The commission should have concentrated on only global warming issues (such as CO2 emissions), which was what this commission was empowered to address. *If*, as a commission, we were to be concerned about particulate matter as a form of pollution, we should have informed ourselves of the science and regulatory matters concerning it which we did not. Such confusion distresses me because I sense that decisions concerning coal fired electrical generating plants were made on the basis of particulate matter pollution rather on levels of CO2 release.

Finally, and again with all due respect, I would like to inquire whether there will be an opportunity for a minority opinion report from those members of the commission that are similarly concerned about various aspects of the process employed during the past year.

Respectively,

Richard K. Ford, Ph.D.  
Professor of Economics

September 24, 2008

To: Members of the Governor's Commission on Global Warming, Jillian Hicks of the Governor's office, the Center for Climate Strategies, and the people of Arkansas  
From: Art Hobson, member of the GCGW and Emeritus Professor of Physics, University of Arkansas, Fayetteville.  
Subject: Evaluation of the Commission's process.

Participating in this Commission has been quite an experience. I've learned a lot, it's been fascinating, and we've done an amazing amount of useful work. I really do thank ALL the Commissioners for participating, including especially those with whom I disagree on some of the issues. I also thank the many members of the Commission's advisory body, Governor Beebe and his staff, the people of Arkansas, and especially the Center for Climate Strategies.

According to the title of the Act establishing our Commission, our purpose was "to study issues related to global warming and the emerging carbon market" and "to establish a global warming pollutant reduction goal and comprehensive strategic plan." The bottom line here, and the main purpose of the Commission, has always been to establish "a comprehensive strategic plan" to achieve emissions reductions. We were wise to focus on this assignment, because our strategic plan never would have been completed if we hadn't.

Some Commissioners may have preferred to begin by considering the validity of the science of global warming, and the validity of the scientific conclusion that global warming is happening and is primarily caused by humans. Rather than going through all the many arguments supporting the scientific conclusion, I'll just direct you to a paper that I've cited before: "The Scientific Consensus on Climate Change" by Naomi Oreskes, published in the journal *Science*, 3 Dec 2004, p. 1686. You can read it at <http://www.sciencemag.org/cgi/content/full/306/5702/1686>. It's a study of 928 widely-chosen peer-reviewed published scientific papers. It establishes beyond the shadow of a doubt that "there is no substantive disagreement in the scientific community about the reality of anthropogenic climate change." It concludes that "remarkably, none of the papers disagreed with the consensus position" (that global warming is happening and is primarily caused by humans).

The gold standard for scientific conclusions is the peer-reviewed published scientific literature. There are still dissenters from the scientific conclusion on global warming out there, writing books and opinion pieces disputing the consensus. But in my opinion it's a foolish waste of valuable time for commissions such as ours to devote effort to debating an issue for which the scientific consensus is so clear and unequivocal.

It's a minor miracle that we were able to develop some 50 suggested policy options to reduce emissions; I thank Tom Peterson and the Center for Climate Strategies for guiding us through the process. Their management of our work has really been phenomenal. Without CCS, our commission would have had trouble developing even a handful of good proposals. CCS's experience in developing similar plans in 29 other states has served us well. There's no need to re-invent the wheel in Arkansas when 29 other states are developing similar plans. We have appropriately fashioned our wheel to fit Arkansas, but the reality is that a plan should have been developed at the federal level years ago. Given

this federal dereliction of duty, states such as Arkansas with socially conscious leaders such as Governor Mike Beebe must now play catch-up by fashioning many individual wheels.

So our process has necessarily had something of a mass production character. With 50 policy options, it's difficult for us to keep track of everything. But a large number of suggestions in diverse areas (energy supply, transportation, agriculture, land use, residences, commercial, plus various overarching issues) is required in order to address the complex and broad issue of global warming. Although this made the process a little helter-skelter, our focus was maintained admirably by the experience and hard work of the Center for Climate Strategies. CCS's experienced staff and the way they conducted our commission meetings and committee (working group) telephone calls kept us moving along productively.

All 21 of our Commissioners are concerned not only about the environment but also about the welfare, including the economic welfare, of Arkansans. The welfare of Arkansas utility ratepayers, for example, is always in my thoughts as I help structure our suggested policy options. In my opinion, the economic future of Arkansas and the nation is hitched to the sustainability of our state and national policies. Those cities and states that follow sustainable policies are going to prosper economically and others will be left behind. Global warming is the ultimate sustainability issue. Both the present reality and the scientific prognosis point to widespread environmental disruption and economic loss for Arkansans and everybody else if we don't get this issue right. Ultimately, this disruption will become so severe that we will be forced to deal with it in any way we can, leading to catastrophic economic losses and the very real possibility of a radically altered planet.

I became aware and concerned about global warming in the 1970s when I first saw the time graph of global atmospheric carbon dioxide concentrations as measured on Mount Mauna Loa in Hawaii. In the late 1970s I began including this topic in my newly-created Physics and Human Affairs course on the University of Arkansas campus. My concern, interest, and involvement grew through the years; my work with this Commission has been a highpoint in all of this.

I hope that our global warming plan will find its way into Arkansas' policies and daily citizen actions. What Arkansans choose to do about this issue matters a lot.

## **The Debate is Over!**

Fellow commissioners, the Governor's staff, CCS staff and members of the public.

For the past year I have had the honor to serve on this Commission and work with some of the most committed people in the state to address the goal of Governor Beebe's Global Warming Commission to:

*...conduct an in-depth examination and evaluation of the issues related to global warming and the potential impacts of global warming on the state, its citizens, its natural resources, and its economy, including without limitation, agriculture, travel and tourism, recreation, insurance, and economic growth and development.*<sup>1</sup>

Despite ramblings and protestations to the contrary by opponents of comprehensive global warming legislation the science is in: ***global warming is occurring and is the result of human activities***. A major contributor to this anthropogenic warming is the burning of fossil fuels and particularly coal for electrical power generation. To refute global warming opponents have used misleading and garbled information: confusing weather for climate and even winter for summer. No scientifically credible, peer reviewed studies have been submitted to refute the reports of the IPCC, National Academy of Science, the Environmental Protection Agency and thousands of peer reviewed articles. These campaigns of disinformation employs the same unethical practices as the tobacco industry has and is using to confuse the issue of cigarette smoking and lung cancer: don't ever let the facts and truth get in the way of advancing the goal.<sup>2</sup>

I would like to briefly address four points:

1. The adoption of the policies and recommendations from the Governor's Commission on Global Warming will not hurt those lower income Arkansans. Green jobs resulting comprehensive global warming / climate change adaptation legislation is a fact. States (and other nations) which have such forward looking policies are already reaping the benefits of a world moving from outdated, 19<sup>th</sup> century technology for energy production to leading the way in energy from renewable, clean energy sources. If we in Arkansas want to truly reap the benefits of the 21<sup>st</sup> century we must be prepared to embrace the green economy. As Governor Beebe has stated:

*We can make Arkansas the envy of the nation, and we must roll up our sleeves to begin our work with optimism and determination. It is imperative for the future of Arkansas and our nation that we work together to find common-sense solutions to address global warming. This is a crisis that can be prevented. Now is the time to act.*<sup>3</sup>

Much of the work to green our economy involves transforming the places that we live and work, and the way we travel. From installing solar panels to planting trees, many green jobs are difficult or impossible to outsource. These jobs build on the capacities of existing local businesses and workers and can be increased by expanding and retooling existing training programs to meet the new demands of a greener economy. Green economic development strategies can drive reinvestment in these areas while benefiting local residents. From new transit spending and energy audits in inner cities to windmills and biomass in our nation's rural regions, green jobs represent a reinvestment in America's people and communities. Right now, we have the scientific knowledge and cutting-edge technologies we need to cut global warming pollution and build a cleaner, greener energy future. All we lack is the political will.

2. The lights will not go out if the Hempstead Coal Plant is not built. The work of this Commission has come up with a number of options which can bring about greater demand reduction, energy efficiency, renewable energy alternatives and other methods to reduce the need to construct coal fired power plants. Arkansas is ranked in the lowest tier of the states in terms of spending on energy efficiency, whether measured on a per capita basis (46th state), on the basis of our total retail energy sales (43rd), or on the basis of percentage of total utility revenues (47th).<sup>4</sup>

There is no excuse for permitting a major new source of greenhouse gas pollution in Arkansas without in-depth consideration of the other alternatives. No Arkansas state agency has evaluated the environmental benefits of requiring SWEPCO to meet its projected power demand by building a new natural gas power plant and implementing energy efficiency programs. This alternative was recommended in independent expert testimony at the Arkansas Public Service Commission in 2007. It was found to be superior from a cost point of view and would likely create more jobs. Also, no Arkansas state agency has evaluated the environmental benefits of meeting SWEPCO's power demand by using the very large excess capacity in existing Arkansas gas-fired power plants.

3. Cost – benefit analysis is economic hocus pocus. Opponents of the scientific facts of global warming and subsequent regulatory policies to combat it often use cost benefit analysis arguments to state that there really is no serious problem, so we should not bother. However there are a number of reasons it should not be utilized:

*First, cost-benefit analysis cannot produce more efficient decisions because the process of reducing life, health, and the natural world to monetary values is inherently flawed. Second, the use of discounting systematically and improperly downgrades the importance of environmental regulation. While discounting makes sense in comparing alternative financial investments, it cannot reasonably be used to make a choice between preventing harms to present generations and preventing similar harms to future generations. Third, cost-benefit analysis ignores the question of who suffers as a result of environmental problems and, therefore, threatens to reinforce existing patterns of economic and social inequality.*

*Finally, cost-benefit analysis fails to produce the greater objectivity and transparency promised by its proponents.*

*Real-world examples of cost-benefit analysis demonstrate the strange lengths to which this flawed method can be taken. For example, the consulting group Arthur D. Little, in a study for the Czech Republic, concluded that encouraging smoking among Czech citizens was beneficial to the government because it caused citizens to die earlier and thus reduced government expenditures on pensions, housing, and health care. In another study, analysts calculated the value of children's lives saved by car seats by estimating the amount of time required to fasten the seats correctly and then assigning a value to the time based on the mothers' actual or imputed hourly wage. These studies are not the work of some lunatic fringe; on the contrary, they apply methodologies that are perfectly conventional within the cost benefit framework. Fortunately, there are many good alternatives to the use of cost-benefit analysis. In fact, virtually all of the environmental protections adopted in the United States over the last several*

*decades were developed without the use of cost-benefit analysis. Technology-based regulation, market-based regulation such as pollution trading, and environmental right-to-know programs all have reduced pollution and protected the environment without relying on the problematic method of cost benefit analysis. Given the deep and varied flaws in cost benefit analysis, given the fact that a lot of time and money are required to generate cost-benefit studies, and given that superior, time-tested regulatory alternatives are available, cost-benefit analysis should be rejected as a tool for evaluating environmentally protective regulation.*<sup>5</sup>

4. The work of CCS has allowed the Commission to examine and explore much more data, options and results than would have been possible. The members of the Commission selected the Center for Climate Strategies to provide the support to conduct our meetings and technical work groups. However, those opposed would not accept this and at every meeting continued to repeat the same tired arguments. The innuendo leveled by some that the work of the CCS has not been objective is totally unfounded. The staff has been more than willing to attempt to accommodate all concerns and views.

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1. ACT 696, State of Arkansas, 86<sup>th</sup> General Assembly, An Act to Establish the Governor's Commission on Global Warming. 2007.

2. Smoke and Mirrors. How ExxonMobil Uses Big Tobacco's Tactics to Manufacture Uncertainty on Climate Science. 2007. Union of Concerned Scientists.

3. Governor Mike Beebe on Global Warming

[http://www.governor.arkansas.gov/initiatives\\_environment.html](http://www.governor.arkansas.gov/initiatives_environment.html)

*Whether I am signing legislation or promoting public policy, I work hard to balance Arkansas's conservation needs with our goal of expanding the state's economy. This week, the goal of reaching that balance took center stage as I convened the first meeting of the [Arkansas Global Warming Commission](#).*

*During the legislative session earlier this year, I established this commission to explore the issue of climate change and its effects on Arkansas. The 21 commissioners chosen to serve represent a variety of backgrounds and viewpoints, bringing together some of Arkansas's best minds from the scientific, agricultural, business, and conservation communities. I appreciate their willingness to serve the common good.*

*This was Arkansas's hottest summer on record, and the evidence that our Earth is warming cannot be ignored. The majority of the world's top scientists believe that global warming is caused by emissions of carbon dioxide and other gases emitted, primarily, by the burning of fossil fuels. These gases remain in our atmosphere, trapping heat and causing temperatures to rise.*

*We see this in the profound impact rising temperatures have had in the Arctic, providing a window into a future very different from the one we want our children and grandchildren to inherit. With continued warming, we can expect more extreme heat and drought, rising sea levels, and higher-intensity tropical storms. This places our low-lying property and resources at risk, calls into question the livability of our cities in summer, and the productivity of our farms, forests, and fisheries.*

*I do not believe that environmental concerns and business interests can exist on opposing sides of an issue that has such a global impact. We must come together to find common ground to guide us forward. We have an obligation to provide our children and grandchildren a State that remains rich in natural resources with a healthy, sustainable environment. At the same time, we are obliged to build an economy that will provide prosperity to those future generations. I believe we can do both.*

*In fact, improving Arkansas's environment can expand our economy. Looking across the State, we find dozens of construction firms and architects providing sustainable design using environmentally friendly building materials in response to the demands of their clients. Earlier this year, I welcomed LM Glasfiber of Denmark to Arkansas. Their new plant in Little Rock will produce blades for turbines that harness wind power to create electricity without harmful emissions. That plant will provide as many as 1,000 new jobs to the State in the next five years. This is clean-energy technology combined with job opportunity, progress with economic growth.*

*Arkansas can and will compete in the new alternative-energy economy in the global marketplace.*

*We can make Arkansas the envy of the nation, and we must roll up our sleeves to begin our work with optimism and determination. It is imperative for the future of Arkansas and our nation that we work together to find common-sense solutions to address global warming. This is a crisis that can be prevented. Now is the time to act.*

4. ARKANSAS PUBLIC SERVICE COMMISSION IN THE MATTER OF THE APPLICATION OF SOUTHWESTERN ELECTRIC POWER COMPANY FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND OPERATION AND MAINTENANCE OF A IN HEMPSTEAD COUNTY, ARKANSAS PUBLIC NEED FOR THE CONSTRUCTION, DOCKET NO. 06-154-U.

5. PRICING THE PRICELESS: Cost-Benefit Analysis of Environmental Protection, Lisa Heinzerling & Frank Ackerman. 2002. Georgetown Environmental Law and Policy Institute. Georgetown University Law Center.

Robert McAfee