

The Anti-Energy Manifesto of the State Attorneys General

A Competitive Enterprise Institute Commentary

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Summary of Key Points

- In a joint letter of July 17, 2002, the attorneys general (AGs) of eleven states lambasted President Bush's energy policies and urged him to adopt mandatory controls on carbon dioxide (CO₂), the principal greenhouse gas targeted by the Kyoto Protocol, the non-ratified UN global warming treaty.
- CO₂ is the inescapable byproduct of the hydrocarbon fuels that supply 70 percent of U.S. electricity and 84 percent of all U.S. energy. Thus, like the Kyoto Protocol, the AGs demand, in effect, that the United States institute a regime of energy rationing.
- That these particular AGs should scold Bush and advocate CO₂ controls is hardly surprising. Ten of the eleven are Democrats, and none is a Republican. On average, the AGs' eleven states generate only 16 percent of their electricity from coal, compared to 59 percent for the rest of the country. CO₂ controls would make coal-fired electricity less (or non-) competitive.
- The AGs build their case on Chapter 6 of the Bush Administration's *Climate Action Report 2002* (CAR), which projects dramatic temperature increases and climate shifts in the United States. The AGs claim the President's refusal to regulate CO₂ is "inconsistent" with the Report's "dire findings and conclusions."
- The Administration, however, should not have approved Chapter 6 in the first place. Like the Clinton-Gore Administration's "U.S. National Assessment" (USNA), which it summarizes, Chapter 6 relies on two "worst-case" calculators, the Canadian Climate Centre Model and the British Hadley Centre Model.
- The Canadian model is the world's "hottest," projecting the largest temperature increases from rising greenhouse gas concentrations. The UK model is the world's "wettest," projecting the largest increases in rainfall.
- The Canadian model overestimates U.S. warming during the 20th century by 300 percent. In subsequent re-analysis, the two models could not reproduce past U.S. temperatures better than a table of random numbers.
- Forecasting climate change impacts on specific states is beyond the capacity of current science, so Chapter 6 would be science fiction even if it relied on better models.

- The AGs erroneously assert that climate change is the “most pressing environmental challenge of the 21st century.” Indoor air pollution and waterborne diseases in poor countries kill millions of women and children each year. Can the AGs identify a single death due to climate change over the past century?
- The CO₂ control measures the AGs urge President Bush to adopt would have no effect on global climate, and produce more cost than benefit. A Kyoto that “worked” would be economically devastating and, therefore, politically unsustainable. Adaptation to climate change, whether natural or anthropogenic, is not a cop-out but the only practical approach.
- The AGs threaten to balkanize energy markets at a time when California faces electricity shortages, gasoline prices are high, and equity values are plummeting.
- The AGs raise the old specter of a collapsing West Antarctic ice sheet, but Antarctic ice is thickening and large areas of Antarctica have been cooling for 35 years.
- Contrary to the AGs’ assertion, the 1 degree Fahrenheit (F) warming of the past 100 years is evidence against, not for, the CAR/USNA’s scary prediction of a 5-9 degree F warming in the next 100 years.
- The AGs conveniently ignore passages in the CAR that describe the potential benefits of CO₂ emissions and global warming, the caveats in a recent *Science* article they cite, and the conflicting evidence in a *New York Times* article to which they allude.
- Contrary to the AGs’ opinion, malaria and other insect-borne illnesses are diseases of poverty, not of climate.
- The AGs reflexively assume that all climate change must be bad – for example, warming can only lead to more floods *and* droughts, not moister dry places or drier wet places.
- The AGs misleadingly characterize the Bush Energy Department’s 20-percent increase in air conditioner energy efficiency standards as regulatory “roll back.”
- The AGs claim CO₂ controls on power plants could be implemented “at modest cost.” Yet the Energy Information Administration study they cite estimates that, by 2020, such controls would increase electricity prices 33 percent, add \$177 billion to producers’ costs, and eliminate 55 percent of electricity generation from coal.
- The AGs warn that more states will adopt CO₂ controls as long as Bush opposes regulation at the national level. This is exactly backwards. Federal controls would unleash a regulatory feeding frenzy in the states. Only by unequivocally rejecting regulation can Bush discourage states from establishing mini-Kyoto regimes.

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Introduction

In a joint letter of July 17, 2002, the attorneys general (AGs) of Alaska, California, Connecticut, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont urged President Bush to adopt mandatory controls on emissions of carbon dioxide (CO₂), the principal greenhouse gas targeted by the Kyoto Protocol, the non-ratified UN global warming treaty. CO₂ is the inescapable byproduct of the hydrocarbon fuels that supply 70 percent of U.S. electricity and 84 percent of all U.S. energy. Like the Kyoto Protocol, the AGs demand, in effect, that the United States institute a regime of energy rationing.

That these particular AGs should lambaste Bush's energy policies and call for CO₂ controls is hardly surprising. The AGs are politicians, and nothing is more ordinary than a politician pursuing partisan advantage. Also quite common is the attempt to use tax and regulatory policy to reward home-state interests and penalize out-of-state competitors. Ten of the eleven AGs are Democrats, and none is a Republican.¹ Ten are from states where all or most electricity comes from energy sources other than coal. On average, the AG's eleven states generate only 16 percent of their electricity from coal, compared to 59 percent for the rest of the country.² CO₂ regulation would make coal-generated electricity less (or non-) competitive.

The AGs build their case for energy rationing on Chapter 6 of the Bush Administration's *Climate Action Report 2002* (CAR). That chapter presents scary projections of U.S. temperature increases and climate impacts over the next century. The AGs claim the President's refusal to regulate CO₂ is "inconsistent" with the Report's "dire findings and conclusions."

There is a massive problem with this line of argument. Chapter 6 of the CAR is a summary of the Clinton-Gore Administration's "U.S. National Assessment on Climate Change" (USNA). Out of 26 available computer models, the USNA picked the Canadian Climate Centre Model and the British Hadley Centre Model. Both are "worst-case" calculators. The Canadian model is the "hottest" or most "sensitive" to "forcing" by greenhouse gases. The UK model is the "wettest," projecting the largest increases in rainfall.

When Virginia State Climatologist Patrick Michaels analyzed those models, he found they are no better at replicating U.S. temperature trends over the past century than a table of random numbers. The climate scenarios on which the AGs build their case for energy rationing are computer-aided storytelling – science fiction, not science.

The Bush Administration has stated that the USNA climate scenarios "do not represent government policy" and "are not policy positions or statements of the U.S. Government."³ Yet

the CAR – an official statement of the U.S. Government – incorporates the USNA scenarios.

Rather than embrace energy rationing, the Bush Administration should withdraw the CAR from the UN Intergovernmental Panel on Climate Change (IPCC), and redact it from the public record. Otherwise, it will continue to lend the color of legitimacy to those, like the eleven AGs, who advocate economy-chilling restrictions on energy use.

Commentary

This paper provides a running commentary on the AGs' July 17, 2002 letter to President Bush. It will show that the AGs build their case for CO₂ regulation on:

- science fiction,
- selective presentation of evidence,
- misinterpretation of texts, and
- denial of the decisive importance of energy abundance to human welfare.

The AG's letter consists of three sections and nine paragraphs. Each paragraph is reproduced below in Arial font. Portions on which I comment are repeated in italics. My comments are indented.⁴

Paragraph 1: Climate change presents the most pressing environmental challenge of the 21st century. We applaud the efforts of your Administration in the release this May of a formal, comprehensive report that details the seriousness of this problem. *U.S. Climate Action Report 2002*, U.S. Dept. of State, Washington, D.C., May 2002 ("*Report*"). Unfortunately, however, the Administration's current policy is inconsistent with the import of the *Report's* findings by failing to mandate reductions of greenhouse gas emissions. To fill this regulatory void, states and others are being forced to rely on their available legal mechanisms. The resulting combination of state-by-state regulations and litigation will necessarily lessen regulatory certainty and increase the ultimate costs of addressing climate change, thereby making the purported goals of the Administration's current policy illusory. For these reasons, we write today to urge you to reconsider your position on the regulation of greenhouse gases and to adopt a comprehensive policy that will protect both our citizens and our economy.

Climate change presents the most pressing environmental challenge of the 21st century.

Comment 1: Not so. Unsafe drinking water and indoor air pollution in developing countries cost far more lives *today* than human-induced global warming *might* imperil in *50 to 100 years*, even in the most "sensitive" climate model projections. These environmental challenges are truly "pressing."

About 3.5 billion people in poor countries depend on firewood, charcoal, crop residues,

coal stoves, and dried animal wastes to cook and heat their homes. Daily indoor air pollution for these people is 3-37 times dirtier than outdoor air in the most polluted cities such as Beijing, New Delhi and Mexico City. Indoor air pollution kills about 2.8 million people each year, most of them women and children.⁵

Similarly, notes a scholar with the U.S. Department of Interior, “An estimated 2.9 billion people lack adequate sanitation, and 1.1 billion have no access to safe drinking water in developing countries. These deficiencies are largely responsible for about 2.5 million deaths due to diarrheal diseases (in 1996).”⁶

In the World Health Organization’s ranking of 11 risk factors contributing to disease and premature death in developing countries, outdoor air pollution ranks last – well behind malnutrition, waterborne diseases, unsafe sex, tobacco, alcoholism, and indoor air pollution. Climate change does not even make the list.⁷

To save the millions who are now perishing from malnutrition, indoor air pollution, and waterborne diseases, energy-poor countries need to become energy-rich. For many, this will require using coal to generate electric power. Questions for the AGs:

- Since Kyoto cannot “work” without developing country participation, at what point in the future would you limit poor nations’ access to coal and other hydrocarbon fuels?
- Can you identify a single human death due to climate change over the past century?

We applaud the efforts of your Administration in the release this May of a formal, comprehensive report that details the seriousness of this problem. U.S. Climate Action Report 2002, U.S. Dept. of State, Washington, D.C., May 2002 (“Report”).

Comment 2: Chapter 6 of the Bush Administration’s *Climate Action Report 2002* (CAR) come straight out of the Clinton-Gore Administration’s National Assessment report, *Climate Change Impacts on the United States* (USNA). Anti-energy activists celebrate these reports, which project huge temperature increases and dramatic climate shifts in the United States. However, the climate change forecasts and impact assessments in both reports are science fiction, not science.

Although some 26 climate models were available to the USNA team, including several funded by U.S. taxpayers, and although the National Research Council advised against using foreign models,⁸ USNA/CAR relied principally on the Canadian Climate Centre and British Hadley Centre models. Both are “worst-case” calculators. The Canadian model is the world’s “hottest” – the only one in which warming increases exponentially rather than at a constant rate. The U.K. model is the world’s “wettest,” projecting the biggest

increases in rainfall.

State Climatologists – scientists employed by state agencies or state-supported universities – work directly with users of climate information at the local, state, and regional levels, and thus are uniquely qualified to review reports, like the USNA/CAR, that purport to analyze climate at regional and local scales. Three state climatologists testified on the USNA at the July 25, 2002 House Energy and Commerce Oversight and Investigations Subcommittee hearing.⁹ Here are excerpts from their testimonies:

Dr. Patrick J. Michaels, Virginia State Climatologist

- “The two climate models that serve as the basis for the U.S. National Climate Change Assessment were not representative of the consensus of climate models, but rather represent extreme predictions for temperature and precipitation changes over the United States.”
- “The two climate models that serve as the basis for this assessment performed worse than a table of random numbers when asked to simulate U.S. temperature changes as the atmosphere has changed. Under the ethics of science, they should have been abandoned or modified, rather than used as input to a document with substantial policy implications.”
- “In using GCMs [general circulation models] to project future climate at regional scales, the USNA clearly placed itself squarely against the consensus of world climate science.” [As the IPCC’s 2001 report states: “Despite recent improvements and developments, regionalisation research is still a maturing process and the related uncertainties are still rather poorly known.... Therefore, a coherent picture of regional climate change via available regionalisation techniques cannot yet be drawn.”¹⁰]
- “[The Canadian model] predicts that temperatures in the United States at the end of the 20th century should be about 2.7 degrees F warmer than they were at the beginning, but the observed warming during this time, according to the most recent analysis from the National Climatic Data Center is 0.9 degrees F. [The Canadian model] is making a 300 percent error in its estimation of U.S. temperature changes in the last 100 years.”

Dr. James J. O’Brien, Florida State Climatologist (and Co-Chair for the Southeast Regional Assessment)

- “In my opinion, the Hadley model is a state-of-the-art model with poor resolution, inadequate physics – particularly, the ocean component.”

- “The Canadian model is flawed, and, in my opinion, should never have been used. My efforts to capture the attention of the leaders to recognize this were rejected outright.”
- “I discovered that we could not find ENSO [El Nino – Southern Oscillation] variability in the ocean model of the Canadian model...Mr. Chairman, the variability of climate over most of the United States is primarily controlled by ENSO and other ocean-related phenomena (North Atlantic Oscillation, and the Pacific Decadal Oscillation) and land use changes. I cannot accept a 100 year climate run as useful if it doesn’t also include the observed variability of the climate system.”

Dr. Roger A. Pielke, Sr., Colorado State Climatologist

- “To test the hypothesis that GCMs can accurately project climate, it is possible to compare model performances with observed data for the period 1979-2000. One test is the ability of the model to predict the averaged temperatures of the Earth’s atmosphere over this 20-year period....During this period, for example, at around 18,000 feet above sea level, the Canadian GCM projects a 0.7 degrees C warming of the global averaged temperature. The Hadley Centre model also has atmosphere warming for this time period. The observations, in contrast, have no statistically significant change in these averaged atmospheric temperatures.”
- “Thus, using the results of these models as the basis for assessments, much less for particular [policy] decisions, for the next several decades is not justified.”

Another reason USNA/CAR should not be used to guide policy is that the underlying climate models generate conflicting results. A report commissioned by the Pew Center on Global Climate Change used the two models to assess global warming impacts on U.S. water resources. The report concluded that, “estimates based on the U.K. model indicate that flooding could increase in much of the country, while those based on the Canadian model indicate increased water scarcity could pervade much of the country.”¹¹ Such conflicting forecasts render the USNA/CAR useless to policymakers – although ideal for scaring the public with predictions of floods *and* droughts.

Unfortunately, however, the Administration’s current policy is inconsistent with the import of the Report’s findings by failing to mandate reductions of greenhouse gas emissions.

Comment 3: The AGs assume that Kyoto-style energy rationing is a reasonable (cost-effective) response to global warming. But Kyoto would have almost no impact on global temperatures (avoiding only 0.14 degrees C of warming by 2100, according to the most advanced U.S. climate model),¹² and would produce far more cost than benefit.

Based on OECD analysis, Danish statistician Bjorn Lomborg calculates that continuing compliance with Kyoto's emissions reduction target would cost industrialized countries more than \$900 billion annually by 2050. He explains: "...since the CO₂ emissions of the OECD countries would otherwise have continuously increased, keeping the Kyoto promise and staying 5.2 percent below 1990 levels will really mean making deeper and deeper cuts, such that in 2050 the entire OECD must have cut its 'natural' emissions by more than 50 percent." And yet, all the cumulative trillions of dollars spent would only postpone by six years the arrival of a 2-degree C global warming.¹³ Those trillions could not be used to meet other more pressing consumer and environmental priorities.

To such criticism, supporters often reply that Kyoto is just a "first step." But that only compounds the error. The Kyoto targets represent the low-hanging fruit of greenhouse gas reductions – the technologically easiest and economically cheapest emission cuts. The marginal costs of additional emission reductions increase exponentially yet the marginal benefits increase linearly.¹⁴ The benefit-cost ratio of greenhouse gas regulation deteriorates with each mandatory reduction beyond the Kyoto targets.

To fill this regulatory void, states and others are being forced to rely on their available legal mechanisms.

Comment 4: There is no regulatory "void," because there is no clear or impending threat such as might warrant government intervention, and because available regulatory tools would be useless or do more harm than good even if there were such a threat (see previous Comment).

Here are a few reasons why interceptive regulation is unwarranted at this time:

- **The whole subject of climate change is fraught with uncertainty.** Scientists, for example, are totally in the dark as to how energy will be produced and consumed in the latter decades of the 21st century. The IPCC's use in its latest report of 40 emission scenarios, all considered "plausible," with no probabilities assigned,¹⁵ is a confession of ignorance about the key variable allegedly driving climate change.
- **History suggests the climate has a low "sensitivity" to "forcing" by greenhouse gas emissions.** The global warming potential of greenhouse gases in the atmosphere is now 60 percent higher than the pre-industrial (1750) level – more than half way towards the dreaded "doubling" of CO₂-equivalent concentrations.¹⁶ Nearly all of this increase occurred in the last 100 years. Yet in the 20th century, the atmosphere warmed only 1 degree F – and much of that modest increase may be natural (see Comment 19).

- **Satellite observations cast doubt on model assumptions of strong positive water vapor feedback effects.** Water vapor is the main atmospheric greenhouse gas. According to the models, the direct warming effect of a doubling of greenhouse gas concentrations from industrial emissions is only about 1 degree C. Predictions of greater warming are based on the assumption that the CO₂-induced warming increases evaporation, moistening the troposphere and expanding cirrus cloud cover. Satellite data show that the tropical troposphere is much dryer than climate modelers had assumed.¹⁷ Consistent with this, satellites show virtually no warming in the troposphere over the past 22 years. Recent satellite data suggest that cirrus cloud cover shrinks as ocean surface temperature warms, allowing more heat to escape into space. This “negative” water vapor feedback “would more than cancel all the positive feedbacks in the more sensitive climate models,” and “cancel [positive] water vapor feedback in almost all models.”¹⁸

The resulting combination of state-by-state regulations and litigation will necessarily lessen regulatory certainty and increase the ultimate costs of addressing climate change, thereby making the purported goals of the Administration’s current policy illusory.

Comment 5: This statement is a threat: If Bush does not adopt national energy suppression regulations, then states will adopt a crazy quilt of partially conflicting regulations. In other words, if Bush refuses to harm the economy, then the AGs and their allies will mess it up even worse. Citizens take note: the AGs propose to balkanize energy markets at a time when California is facing electricity shortages, gasoline prices are high, and equity values are plummeting.

SECTION 1: The Existing Administration Proposal is Inadequate and Increases Uncertainty

Paragraph 2: The *Report* documents ongoing climate change that will cause significant impacts on virtually every aspect of our planet and way of life. We already see the signs of such change everywhere. Some are dramatic, such as the recent collapse of a portion of the Antarctic ice shelf the size of Rhode Island, the open water at the North Pole, or millions of acres of spruce trees in Alaska killed by insects. Others are less overt, but are also powerful statements of the enormity and pervasiveness of the problem. The *Report* is replete with examples. For instance, the *Report* documents that average temperatures have already increased 1 degree Fahrenheit over the past century, and it projects that over the next century, average temperatures will likely increase 5-9 degrees Fahrenheit. Increased temperatures will dramatically change climates in every state and destroy some fragile ecosystems. The *Report* also documents that sea levels have already risen 4-8 inches over the last century, and it projects that they will likely rise another 4-35 inches over the next. Rising sea levels will cause more flooding along the coast and it will obliterate vital

estuaries, coastal wetlands and barrier islands. While some areas will face increased storms and storm damage, other areas – such as California and other parts of the West – will face dwindling supplies of water. Of perhaps the most concern, the *Report* documents potential health-related impacts of climate change, and a just-published study in the journal *Science* warns of increased risks from insect-borne diseases such as malaria and yellow fever.

The Report documents ongoing climate change that will cause significant impacts on virtually every aspect of our planet and way of life.

Comment 6: It would be surprising if the CAR did not document “ongoing climate change.” As NASA’s James Hansen notes, “Climate is always changing. Climate would fluctuate without any change of [man-made] climate forcing. The chaotic aspect of climate is an innate characteristic.”¹⁹ None of the examples the AGs cite portends “significant impacts” on our “way of life” (whatever that means).

We already see the signs of such change everywhere. Some are dramatic, such as the recent collapse of a portion of the Antarctic ice shelf the size of Rhode Island,

Comment 7: The AGs use apocalyptic language (“partial collapse of a portion of the Antarctic ice shelf”) to characterize a natural phenomenon (the “calving” of icebergs). Describing the iceberg as Rhode Island-sized makes it sound monstrous. But it can also be described as “one-eighty-ninth the size of Texas.”²⁰

The West Antarctic ice sheet appears to be thickening rather than thinning,²¹ and recent research shows a 35-year cooling trend in most of Antarctica.²² According to the IPCC, “It is now widely agreed that major loss of grounded ice [in the West Antarctic ice sheet] and accelerated sea level rise are very unlikely during the 21st century.”²³

the open water at the North Pole,

Comment 8: The AGs give the impression that “open water” at the North Pole is unprecedented and, therefore, a portent of disaster. The North Pole appears to be at its warmest since 1969, but not warmer than it was in the 1930s and 1940s,²⁴ before the major increase in greenhouse gas concentrations. “Open water” has probably appeared many times during the past century.

The AGs assume that all Arctic ice melt is due to industrial greenhouse gas emissions. According to the IPCC, however, “Some of this pattern [of warmer temperatures and melting Arctic ice] has been attributed to recent trends in the atmospheric circulation of the North Atlantic Oscillation and its Arctic-wide manifestation, the Arctic Oscillation.”²⁵

Since Arctic ice is floating, it already fully displaces an equivalent amount of water. Arctic

ice melt thus has no effect on sea levels. Neither the calving of Antarctic glaciers nor “open water” at the North Pole portends “significant impacts” on our “way of life.”

or millions of acres of spruce trees in Alaska killed by insects.

Comment 9: The CAR makes no mention of this.²⁶ The AGs apparently refer to a recent *New York Times* article about an ongoing spruce bark beetle infestation in the Kenai National Wildlife Refuge.²⁷ Dr. Edward Berg, who works at the Refuge, attributes the infestation to “an unprecedented run of warm summers” since 1987, which he in turn attributes to greenhouse gas emissions. Yet, the article reports, “Dr. Berg found a similar pattern in the Kluane area of Canada’s Yukon Territory, where it is much colder.”

In the same article we find that Dr. Ed Holsten of the U.S. Forest Service thinks Berg is “only partially correct” in linking the infestation to warmer temperatures. “The trees on the Kenai are old, and ripe for beetle outbreaks. If they had been logged, or burned in fire, it might have kept the bugs down,” Holsten said.

Berg’s hypothesis is problematic for two other reasons. First, according to the climate models, the most pronounced warming in mid-latitude Northern countries is supposed to occur in winter, not summer.²⁸ Second, temperature records from the Kenai weather station show a cooling trend of 0.37 degrees C per decade since 1978.²⁹

The AGs report as scientific fact what is actually one individual’s hypothesis, as reported in a single newspaper article. Question for the AGs:

- Is this how you marshal evidence when prosecuting a case?

Others are less overt, but are also powerful statements of the enormity and pervasiveness of the problem. The Report is replete with examples. For instance, the Report documents that average temperatures have already increased 1 degree Fahrenheit over the past century, and it projects that over the next century, average temperatures will likely increase 5-9 degrees Fahrenheit.

Comment 10: The past century’s 1 degree F warming is evidence *against* a warming projection of 5-9 degrees F. The global warming potential of atmospheric greenhouse gases is already 60 percent over pre-industrial levels. The models underpinning the Kyoto Protocol project a 20th century warming of 1.8 to 2.9 degrees F.³⁰ Yet the actual warming was almost one-half to two-thirds less. History suggests the climate has a relatively low “sensitivity” to “forcing” by greenhouse gas emissions.

Increased temperatures will dramatically change climates in every state

Comment 11: Forecasting climate change at regional scales is beyond the capacity of current science (see Comment 2). The AGs imply that all state-level impacts must be bad.

Yet the CAR acknowledges that some impacts from greenhouse gas emissions are likely to be positive:

- “For example, due to increased carbon dioxide (CO₂) in the atmosphere and an extended growing season, crop and forest productivities are likely to increase where water and nutrients are sufficient, at least for the next few decades...Increases in crop production in fertile areas could cause prices to fall, benefiting consumers.”³¹
- “Analyses indicate that, for a range of climate scenarios, forest productivity gains are very likely to increase timber inventories over the next 100 years...Under these scenarios, the increased wood supply leads to reductions in log prices, helping consumers, but decreasing producers’ profits.³² The projected net effect on the economic welfare of participants in timber markets increases by about 1 percent above current values.”³³
- “Other potential benefits include extended seasons for construction and warm-weather recreation, and reduced heating requirements and cold-weather mortality.”³⁴

and destroy some fragile ecosystems.

Comment 12: Humanity probably destroys more ecosystems via housing construction, road building, factory sitings, and farming *each year* than climate change has in an entire century. Again, global warming is among the *less pressing* environmental challenges. Questions for the AGs:

- Would you support legislation requiring your respective states to reduce housing stock, highway mileage, factory space, and farming acreage to 5 percent below 1990 levels by 2008-2012? If not, why?
- Since hydrocarbon fuels supply most of the energy required to build and use houses, roads, factories, and farms, are CO₂ controls an indirect method for limiting people’s access to housing, transportation, manufactured goods, and food?

Unsurprisingly, the AGs ignore any science showing how rising CO₂ concentrations enhance plant health and biodiversity.³⁵

The Report also documents that sea levels have already risen 4-8 inches over the last century, and it projects that they will likely rise another 4-35 inches over the next. Rising sea levels will cause more flooding along the coast and it will obliterate vital estuaries, coastal wetlands and barrier islands.

Comment 13: Sea level rise is a “pressing” challenge if it is accelerating rapidly. But according to the IPCC, “There is no evidence for any acceleration of sea level rise in data from the 20th century data alone.”³⁶ Sea levels rise in the “interglacial” periods between ice ages. At the end of the previous interglacial (about 125,000 years ago), sea level was about 16 feet higher than it is today.³⁷ In all likelihood, sea levels will keep rising until the next ice age.

Note that the CAR projects sea level rise as low as 4 inches over the next 100 years – a change so small and gradual people in coastal areas would not even notice. The 35-inch projection has no more credibility than the “hot” Canadian model from which it derives.

As the world becomes wealthier, even developing nations will be able to do what the Dutch have done for centuries – protect their citizens and resources from encroaching seas. Such protection would cost less than Kyoto, which would have no detectable impact on sea levels anyway.³⁸

While some areas will face increased storms and storm damage,

Comment 14: Some areas might enjoy calmer weather, because warming would decrease the temperature differential between the Poles and the Equator.³⁹ The AGs, however, reflexively assume that all climate change is bad – for example, warming can only produce more droughts *and* floods, never drier wet areas or moister dry areas. Warmer-is-stormier remains an unverified hypothesis. As the IPCC states:⁴⁰

- “No systematic changes in the frequency of tornadoes, thunder days, or hail events are evident in the limited areas analyzed.”
- “There is no compelling evidence to indicate that the characteristics of tropical and extra-tropical cyclones and severe storms have changed.”
- “Based on limited data, the observed variations in the intensity and frequency of tropical and extra-tropical cyclones and severe local storms show no clear trends in the last half of the 20th century, although multi-decadal fluctuations are sometimes apparent.”

other areas – such as California and other parts of the West – will face dwindling supplies of water.

Comment 15: Once more, the AGs see only the hypothetical mote of climate change, not the solid beam of other “anthropogenic” impacts. Suppose California snow pack decreases by 10 percent or even 20 percent over the next century. Suppose also that California’s population doubles. Which of these changes would have a greater impact on Western

water supplies? Whether or not global warming occurs, California's population will increase, and Westerners will have to build more aqueducts and reservoirs to meet future needs. That will be expensive, and require a lot of energy. It will be even more expensive if the United States regulates CO₂.

Potential water shortages are a reason to reject Kyoto and other energy rationing schemes. As Julian Simon observed, "The cost of energy is the prime reason that water desalination now is too expensive for general use; reduction in energy cost would make water desalination feasible, and irrigated farming would follow in many areas that are now deserts. And if energy costs were much cheaper, it would be feasible to transport sweet water from areas of surplus to arid areas far away."⁴¹

Of perhaps the most concern, the Report documents potential health-related impacts of climate change, and a just-published study in the journal Science warns of increased risks from insect-borne diseases such as malaria and yellow fever.

Comment 16: The AGs apparently missed a study published in the February 21 issue of *Nature*. The study's authors, led by Simon Hay at Oxford University, investigated long-term meteorological trends in four high-altitude sites in East Africa, where a resurgence of malaria over the past two decades has been widely reported. The authors found that, "temperature, rainfall, vapor pressure, and the number of months suitable for *P. falciparum* [malaria] transmission have not changed significantly during the past century or during the period of reported malaria resurgence." Factors contributing to the resurgence include anti-malarial drug resistance, population migration, and breakdowns in public health and insect control operations. The authors conclude: "Economic, social, and political factors can therefore explain recent resurgences in malaria and other mosquito-borne diseases with no need to invoke climate change."⁴²

Malaria is a disease of poverty, not of climate. Malaria was epidemic in the 19th and first half of the 20th centuries, when the world was colder than it is today. Malaria was widespread in several northern U.S. states including Idaho, Montana, North Dakota, Minnesota, Wisconsin, Iowa, and Michigan, as well as in Finland, Poland, Russia, and parts of the Arctic Circle.⁴³

Not climate change but lack of window screens, pesticides,⁴⁴ public health infrastructure, and modern management of standing water are what render populations vulnerable to insect-borne diseases. For example, in 1995, dengue fever (a mosquito-transmitted disease) infected 2,000 people in Reynosa, Mexico, the city bordering Hidalgo, Texas. In all of Texas, there were only seven reported cases. The climates in Reynosa and Hidalgo were identical.⁴⁵ Questions for the AGs:

- If Mexicans produced as much energy per capita as we do, would they be better able to suppress insect-borne diseases?

- If we produced as little energy per capita as Mexicans do, would we be more vulnerable to insect-borne diseases?

and a just-published study in the journal Science warns of increased risks from insect-borne diseases such as malaria and yellow fever.

Comment 17: The *Science* study says little about “insect-borne diseases.” Rather, it examines how climate warming might affect reproduction and transmission rates of parasites in terrestrial and marine flora and fauna (trees, birds, fish, etc.).⁴⁶

The article raises legitimate concerns, because many parasites breed faster, and some hosts are more susceptible to infection, as temperature rises. However, unlike the AGs’ letter, the *Science* article contains several caveats:

- “However, predicting the net impact of climate warming on these parasites is difficult because warming increases both development rates and larval mortality rates.”
- “Associations between climate and disease do not necessarily imply causation.”
- “Difficulty in separating directional climate change from short-term variation has made it challenging to associate climate warming with disease prevalence or severity.”
- “In fact, expansion of anti-malarial [drug] resistance and failed vector control programs are probably as important as climate factors in driving recent malaria expansions.”
- “We found no unequivocal examples of natural changes in severity or prevalence [of parasitic infection] resulting from directional climate warming *per se*.”

Paragraph 3: The *Report* makes it clear that the question of whether global climate change is occurring is no longer in doubt, only the precise rate of change and the specific impacts of that change. It also repeatedly acknowledges that the dominant cause of climate change is carbon dioxide produced from the combustion of fossil fuels. Notably, the *Report* projects that greenhouse gas emissions will increase by 43% by 2020. *Report* at 6. It also notes “the long lifetimes of greenhouse gases already in the atmosphere and the momentum of the climate system.” *Report* at 82. According to the *Report*, this means that impacts of climate change will continue to be felt for several centuries, “even after achieving significant limitation in emissions of CO₂ and other greenhouse gases.” See *Report* at 103. The evidence marshaled in the *Report* refutes

its own counsel of inaction and delivers a different message: an effective response to the confirmed dangers of global climate change must include immediate action to limit greenhouse gas emissions.

The Report makes it clear that the question of whether global climate change is occurring is no longer in doubt, only the precise rate of change and the specific impacts of that change.

Comment 18: It is the rate of change and the specific impacts that matter, not the mere fact of change, which is a given.

It also repeatedly acknowledges that the dominant cause of climate change is carbon dioxide produced from the combustion of fossil fuels.

Comment 19: About half of the 20th century's 0.6 degree C warming took place before 1940, whereas nearly 80 percent of the buildup in greenhouse gas concentrations occurred after 1940. This suggests that most of the pre-1940 warming was due to natural causes, such as changes in solar energy output.⁴⁷

During the past 22 years, the Earth's surface warmed about .17 degrees C per decade – close to Kyoto climate model predictions of about .22 degrees C per decade.⁴⁸ Yet according to the climate models, the troposphere – the atmospheric layer between 1 and 5 miles up – warms first and radiates heat downward, warming the surface. However, satellite and weather balloon measurements since 1979 show virtually no warming in the troposphere – somewhere between 0.03 degrees C per decade (satellites) and 0.04 degrees C per decade (balloons).⁴⁹ Hence, some of the recent surface warming may be natural.

Notably, the Report projects that [U.S.] greenhouse gas emissions will increase by 43% by 2020. Report at 6.

Comment 20: This projection should make clear that energy rationing is economically infeasible and, therefore, politically unsustainable. In the foreseeable future, carbon-based fuels will become more important, not less, in meeting the world's energy and economic needs. For example, according to the OECD-affiliated International Energy Agency, world energy demand will grow by 65 percent between 1995 and 2020, with fossil fuels expected to meet 95 percent of the additional demand.⁵⁰ The Kyoto agenda of carbon suppression and energy rationing is on a collision course with one of the broadest, deepest trends of the global economy.

It also notes “the long lifetimes of greenhouse gases already in the atmosphere and the momentum of the climate system.” Report at 82. According to the Report, this means that impacts of climate change will continue to be felt for several centuries, “even after achieving significant limitation in emissions of CO₂ and other greenhouse gases.” See Report at 103. The evidence marshaled in the Report refutes its own counsel of inaction and delivers a different

message: an effective response to the confirmed dangers of global climate change must include immediate action to limit greenhouse gas emissions.

Comment 21: The AGs draw exactly the wrong conclusion from the “long lifetimes of greenhouse gases.” As R. Glenn Hubbard, Chairman of the Council of Economic Advisors (CEA), recently explained: “As substantial changes in concentration only result from cumulative emissions over a period of decades, the future benefits of efforts to reduce emissions will be nearly the same whether the reductions, ton for ton, occur today or years in the future.”⁵¹ For example, according to three climate modelers who support Kyoto, waiting until 2020 to implement regulatory controls results in only 0.2 degrees C of additional warming in 2100.⁵²

The AGs falsely equate “action” with *regulation*. The President’s FY ’03 budget proposes plenty of non-regulatory action, including \$4.5 billion for climate science, energy technology, mitigation incentives, and technology transfer.⁵³

SECTION 2: The Existing Administration Proposal is Inadequate and Increases Uncertainty

Paragraph 4: While we are certainly heartened that the United States has now officially recognized the existence and scope of the climate change problem, the Administration has yet to propose a credible plan that is consistent with the dire findings and conclusions being reported. The Administration’s one proposal calls for a voluntary reduction of greenhouse gas “intensity” at roughly the same pace such reductions have occurred over the last 20 years. The *Report* itself strongly suggests that such voluntary reductions will be grossly overshadowed by existing atmospheric gases and, combined with ongoing and increasing emissions, will actually allow the problem to continue to worsen. In light of this, the *Report* implicitly calls this policy approach into question. See *Report*, at 50-51 (stating that there is “a need to re-evaluate existing climate change programs to ensure they effectively meet future economic, climate, and other environmental goals”).

While we are certainly heartened that the United States has now officially recognized the existence and scope of the climate change problem, the Administration has yet to propose a credible plan that is consistent with the dire findings and conclusions being reported.

Comment 22: The AGs ask for the impossible: a “credible” plan that is “consistent with the dire findings and conclusions” of a non-credible report.

The Administration’s one proposal calls for a voluntary reduction of greenhouse gas “intensity” at roughly the same pace such reductions have occurred over the last 20 years.

Comment 23: The AGs imply that Bush’s proposal merely ratifies a pre-existing trend. Not so. The Administration seeks to reduce greenhouse gas emissions intensity 18 percent

over the next decade – 30 percent faster and four and one-half percentage points more than the Energy Information Administration projects for that period. According to CEA Chairman Hubbard, achieving the 18 percent goal would produce roughly the same volume of domestic emission reductions – about 100 million metric tons carbon equivalent – as the Clinton-Gore Administration’s Kyoto implementation scenario (which, however, unrealistically assumed “key” developing country participation in a global emissions trading system).⁵⁴

The Report itself strongly suggests that such voluntary reductions will be grossly overshadowed by existing atmospheric gases and, combined with ongoing and increasing emissions, will actually allow the problem to continue to worsen.

Comment 24: The AGs unwittingly pour cold water on the green gospel of “energy efficiency” – the faux dogma that government-subsidized and -mandated increases in energy efficiency can lower total energy use, and, therefore, emissions.⁵⁵

Under current and foreseeable technology options, economic growth will increase overall emissions, notwithstanding improvements in energy efficiency and/or emissions intensity. To reduce aggregate emissions over the next 10 to 20 years, the U.S. economy would have to contract.

In light of this, the Report implicitly calls this policy approach into question. See Report, at 50-51 (stating that there is “a need to re-evaluate existing climate change programs to ensure they effectively meet future economic, climate, and other environmental goals”).

Comment 25: Nice try, but pages 50-51 are more plausibly construed as questioning the Clinton-Gore approach, which put the policy cart before the science and technology horse, pursued absolute tonnage targets with no flexibility to accommodate growth, and emphasized near-term action.

Here’s the text in full: “While many policies and measures developed in the 1990s continue to achieve their goals, recent changes in the economy and in energy markets, coupled with the introduction of new science and technology, create the need to re-evaluate existing climate change programs to ensure they effectively meet future economic, climate, and other goals. Our experience with greenhouse gas emissions highlights the importance of creating climate policy within the context of the overall economy, changing energy markets, technology development and deployment, and R&D priorities. Because global warming is a long-term problem, solutions need to be long lasting.”⁵⁶

Paragraph 5: [Despite conceding that our consumption of fossil fuels is causing serious damage and despite implying that current policy is inadequate, the Report fails to take the next step and recommend serious alternatives. Rather, it suggests that we](#)

simply need to accommodate to the coming changes. For example, reminiscent of former Interior Secretary Hodel's proposal that the government address the hole in the ozone layer by encouraging Americans to make better use of sunglasses, suntan lotion and broad-brimmed hats, the *Report* suggests that we can deal with heat-related health impacts by increased use of air-conditioning. *Report* at 82. Far from proposing solutions to the climate change problem, the Administration has been adopting energy policies that would actually *increase* greenhouse gas emissions. Notably, even as the *Report* identifies increased air conditioner use as one of the "solutions" to climate change impacts, the Department of Energy has decided to roll back energy efficiency standards for air conditioners.

Despite conceding that our consumption of fossil fuels is causing serious damage and despite implying that current policy is inadequate, the Report fails to take the next step and recommend serious alternatives.

Comment 26: It is only Chapter 6, "Impacts and Adaptation," based on two extreme climate models, that suggests "serious damage" from fossil fuel consumption. Pp. 50-51 does not mean what the AGs think it means (see previous Comment). Kyoto-style regulation is not a "serious" alternative, because it is neither effective nor affordable.

Rather, it suggests that we simply need to accommodate to the coming changes.

Comment 27: Kyoto would barely slow the increase in greenhouse gas concentrations. The "thirty Kyotos" required to stabilize concentrations⁵⁷ would be economically devastating, crippling our capacity to promote and protect health, safety, and environmental quality.⁵⁸ As a practical matter, therefore, policymakers should concentrate on building society's capacity to adapt to climate change, whether natural or anthropogenic in origin. Insofar as it counsels adaptation, the CAR is to be commended.

Nonetheless, the AGs misrepresent the CAR when they say it "simply" recommends adaptation. The CAR outlines a broad range of strategies for reducing emissions intensity in electricity generation, transportation, industry, buildings, agriculture and forestry, and the Federal Government. These are summarized on page 51 – the same page the AGs erroneously cite as "implicitly" criticizing Bush's energy policies.

For example, reminiscent of former Interior Secretary Hodel's proposal that the government address the hole in the ozone layer by encouraging Americans to make better use of sunglasses, suntan lotion and broad-brimmed hats,

Comment 28: The AGs seem to confuse *thinning* of the ozone layer, a global phenomenon, with the "hole" in the ozone layer, a phenomenon occurring over Antarctica in the Austral Spring.

It is generally agreed that man-made chlorofluorocarbons (CFCs) have thinned the ozone layer, allowing more of the Sun's harmful ultraviolet (UV-B) rays to reach ground level. But the magnitude of the risk is often overblown.

For a person living in the United States or Europe, ozone depletion has theoretically⁵⁹ increased exposure to UV-B rays about as much as would moving from Fresno to Bakersfield, Chicago to Indianapolis, Manchester to London, or Lyons to Marseilles.⁶⁰ Such location changes do increase slightly a person's risk of developing skin cancer and cataracts. Hodel's advice⁶¹ to wear protective glasses, hats, and lotion (today known as sunscreen) is just plain common sense. EPA proffers such advice to this day through its SunWise School Program.⁶²

The AGs imply that the Montreal Protocol and its successor agreements, which phased out CFCs, is a model for the Kyoto Protocol and its successor agreements, which seek to phase out hydrocarbon fuels. But it is one thing to ban a particular class of chemicals manufactured by a handful of major companies for specialized purposes. It is quite another to restrict America's access to the most affordable fuel sources and restructure the world's energy economy.

the Report suggests that we can deal with heat-related health impacts by increased use of air-conditioning. Report at 82.

Comment 29: Not exactly. Here's the text: "Increases in the heat-index (which combines temperature and humidity) and in the frequency of heat waves are very likely. At a minimum, these changes will increase discomfort, particularly in cities; however, their health impacts can be ameliorated through such measures as the increased use of air conditioning." This passage neither endorses nor opposes regulatory measures beyond adaptation. It simply acknowledges that, if heat waves become more frequent and severe, people can protect themselves through increased use of air conditioning.

The AGs' preferred policies would leave people – especially low-income households – with less protection from heat waves. If government regulates CO₂, then air conditioners will be more expensive to operate. And if government mandates tighter energy-efficiency standards, then air conditioners will be more expensive to buy (see Comment 31).

Far from proposing solutions to the climate change problem, the Administration has been adopting energy policies that would actually increase greenhouse gas emissions.

Comment 30: Any energy policy that is economically affordable, technologically feasible, and, hence, politically sustainable will allow greenhouse gas emissions to increase.

Notably, even as the Report identifies increased air conditioner use as one of the "solutions" to

climate change impacts, the Department of Energy has decided to roll back energy efficiency standards for air conditioners.

Comment 31: The energy efficiency standard to which the AGs refer was among the “midnight regulations” that the Clinton-Gore Administration rushed into publication. Clinton Energy Secretary Bill Richardson announced the new air conditioner standard – a 30 percent boost in efficiency – on January 18, 2001, only one working day before President Bush’s inauguration.⁶³

DOE estimated that the 30-percent standard, to take effect in 2006, would add \$335 to the cost of a new air conditioner. The National Association of Homebuilders and the Manufactured Housing Institute estimated larger cost increases.

According to Ben Lieberman, a policy analyst with the Competitive Enterprise Institute: “The Clinton DOE readily conceded that only a minority of homeowners could ever hope to earn back the increased upfront cost of an ultra-efficient air conditioner in the form of energy savings over the life of the system. . . . Worse yet, the agency concurred with critics that the new rule will disproportionately burden low-income households. DOE found that as many as 69 percent of such households will end up spending more to stay cool.”⁶⁴

Bush’s DOE revised the Clinton-Gore midnight regulation by adopting a 20-percent efficiency increase over the existing standard rather than a 30-percent increase. To call this “rollback” is inaccurate and misleading.

Air conditioning is among the great life-saving technologies of the modern world. Like the Kyoto Protocol that was its inspiration, the Clinton-Gore 30-percent standard would not protect people from hypothetical global warming in 2050 or 2100 but would imperil the health of real people living today.

Paragraph 6: To fill the void left by federal inaction on this issue, some states are now initiating measures, within their borders, to reduce greenhouse gas emissions. For example, Massachusetts last year adopted state regulations requiring carbon dioxide reductions by power plants, and New Hampshire recently enacted “cap and trade” legislation. California’s legislature has just passed a bill that will lead to the “maximum feasible” reductions of carbon dioxide emissions from vehicles. New York is also considering a carbon cap. Continued federal inaction will inevitably lead to a wider range of state regulatory efforts. In addition, states and others are beginning to review their litigation options.

Comment 32: The aforementioned state initiatives have nothing to do with filling a federal “void.” Every environmental regulatory agency in the world wants to regulate CO₂, because CO₂ is the most ubiquitous byproduct of industrial civilization. He who controls CO₂ can control just about everything.

Consider that the U.S. Environmental Protection Agency currently has authority to regulate about 20,000 “major” emission sources.⁶⁵ A major source is typically one that emits more than 100 metric tons per year of a designated pollutant. According to energy analyst Mark Mills, approximately one million U.S. businesses each emits at least 100 tons of CO₂ per year.⁶⁶ According to a recent study by the Pew Center on Global Climate Change, more than 186,000 U.S. businesses each emits upwards of 1,000 metric tons of CO₂ per year.⁶⁷

The U.S. EPA does not currently regulate CO₂, and has no authority to do so.⁶⁸ If federal policymakers were to ratify the Kyoto Protocol, establish CO₂ standards for cars, or control CO₂ emissions from power plants, they would unleash a regulatory feeding frenzy at the state level. Every state environmental agency would want a piece of the action. The AGs have things exactly backwards. Only by unequivocally rejecting CO₂ controls can Bush discourage states from establishing mini-Kyoto regimes.

SECTION 3: Only Mandatory Federal Carbon Caps of Appropriate Levels Can Provide Regulatory Certainty

Paragraph 7: We obviously support our states’ regulatory and litigation efforts on this issue. At the same time, however, we want to make it clear that state-by-state action is not our preferred option. We believe that such regulation or litigation will increase the uncertainty facing the business community, thus potentially making the most cost-effective solutions more difficult. Moreover, we agree that the global nature of the climate change problem would be most efficiently addressed by comprehensive regulatory action at the national level. A recent Department of Energy Report concluded that the United States could address carbon dioxide emissions issues with minimal disruption of energy supply and at modest cost, but only with fully integrated planning. See Energy Information Administration, Office of Integrated Analysis and Forecasting, US Department of Energy, “Analysis of Strategies for Reducing Multiple Emissions from Electric Power Plants with Advanced Technology Scenarios,” SR/OIAF/2001-05 (October 2001). This integrated planning can only come with regulatory certainty.

We obviously support our states’ regulatory and litigation efforts on this issue. At the same time, however, we want to make it clear that state-by-state action is not our preferred option.

Comment 33: Of course they prefer federal regulation, because that would *compel* all states to follow suit. States would play major roles in developing, monitoring, and enforcing federal regulation of CO₂ just as they do in administering federal Clean Air standards. Under this new federal-state “partnership,” any user of hydrocarbon fuels is potentially a “polluter.” The “preferred option” would dramatically expand the AGs’ prosecutorial opportunities.

A recent Department of Energy Report concluded that the United States could address carbon dioxide emissions issues with minimal disruption of energy supply and at modest cost, but only with fully integrated planning. See Energy Information Administration, Office of Integrated Analysis and Forecasting, US Department of Energy, “Analysis of Strategies for Reducing Multiple Emissions from Electric Power Plants with Advanced Technology Scenarios,” SR/OIAF/2001-05 (October 2001).

Comment 34: These guys have no shame. In the study cited, EIA analyzed the consumer and energy market impacts of the emission caps proposed in Senator James Jeffords’ (VT-I) “Clean Power Act,” S. 556. The proposed CO₂ cap would require power producers to reduce emissions to 1990 levels by 2008. According to EIA, by 2020, the Jeffords caps would: (1) increase electricity prices 33 percent, (2) increase natural gas prices 20 percent, (3) add \$177 billion to power producers’ cumulative costs, and (4) eliminate 55 percent of electricity generation from coal.⁶⁹ These impacts are not “modest.”

Paragraph 8: In particular, we believe that a market-based program that would cap greenhouse gases holds great promise. Such an approach has a proven track record as one effective tool in the regulatory toolbox, as you have noted in other contexts. We strongly believe that prompt implementation of a market-based approach that caps greenhouse gas emissions would promote significant benefits for public health, welfare and the environment in a manner that would be consistent with strong economic policies.

Comment 35: Regulating CO₂ would have no public health benefits, because CO₂ is neither an “ambient” nor a “hazardous” pollutant. Clear, odorless, and non-toxic to humans at up to 20 times ambient levels, CO₂ does not foul the air, impair visibility, or contribute to respiratory illness.

CO₂ controls would damage health and welfare. Controls aggressive enough to reduce aggregate emissions would suppress economic growth, destroying jobs and lowering living standards. Any CO₂ controls on power plants would increase consumer energy costs, forcing some low-income households to choose between heating and eating, air conditioning and medical care.⁷⁰

Conclusion.

Paragraph 9: We very much appreciate your Administration’s formally acknowledging the magnitude and nature of the climate change problem. In light of the *Report’s* findings, however, we urge you now to rethink the Administration’s policy response to the problem. While individual states are prepared to lead the way, we believe that a strong national approach will allow for more efficient solutions that will better protect the American economy in the long run. Please do not hesitate to contact

us on this critical issue.

Concluding Comment: The AGs' case for CO₂ regulation is built on science fiction, selective presentation of evidence, misinterpretation of texts, and denial of the decisive importance of energy abundance to human welfare.

Readers of this commentary may wonder why I have examined so shoddy a piece of work in such painstaking detail. It is so that others with more pressing responsibilities – state legislators, Bush Administration officials, and environmental journalists – do not have to. They can now cheerfully ignore it, and give the AGs' self-serving plea for energy rationing the raspberries it deserves.

About the Author

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¹ National Association of Attorneys General, http://naag.org/ag/full_ag_table.cfm.

² Maryland is the exception, generating 56% of its electricity from coal. Coal's share of electricity generation in the other ten states is: Massachusetts (30%), New Hampshire (27%), New York (18%), New Jersey (17%), Connecticut (12%), Alaska (9%), Maine (8%), California (1%), Rhode Island (0%), and Vermont (0%). On average, the AGs' home states get 16% of their electricity from coal, compared to 59% for the rest of the country. Author's calculation based on Energy Information Administration, *Electric Power Annual 2000* (August 2001), Table 7, Percent of Electricity Generated at U.S. Electric Plants by Energy Source and State, 2000 and 1999, p. 9, <http://www.eia.doe.gov/cneaf/electricity/epav1/epav1.pdf>.

³ Letter of Rosina Bierbaum, Acting Director of Science and Technology Policy, to Christopher C. Horner, September 6, 2001, <http://www.cei.org/gencon/003,03045.cfm>; Testimony of Thomas R. Karl, Director National Climate Data Center, before the Subcommittee on Oversight and Investigations, House Energy and Commerce Committee, July 25, 2002, p. 1.

⁴ The inspiration for this format is Sallie Baliunas and Willy Soon, *A Scientific Discussion of Climate Change: Comments on the "The Truth About 10 Leading Myths,"* 1998, George C. Marshall Institute, <http://www.marshall.org/response.htm>.

⁵ Bjorn Lomborg, *The Skeptical Environmentalist: Measuring the Real State of the World* (Cambridge, UK: Cambridge University Press, 2001), p. 182, citing WHO studies.

⁶ Indur Goklany, "Richer Is More Resilient: Dealing with Climate Change and More Urgent Environmental Problems," in Ronald Bailey, ed., *Earth Report 2000: Revisiting the True State of the Planet* (Washington, DC: McGraw Hill, 2000), p. 171.

⁷ World Bank, *World Development Indicators 2002, People*, p. 42, <http://www.worldbank.org/data/wdi2002/people.pdf>.

⁸ National Research Council, *Capacity of U.S. Climate Modeling to Support Climate Change Assessment Activities* (1999), p. 5: "...it is inappropriate for the United States to rely heavily upon foreign centers to provide high-end modeling capabilities." http://books.nap.edu/books/0309063752/html/5.html#page_middle.

⁹ Testimonies are available at <http://energycommerce.house.gov/107/hearings/07252002Hearing676/hearing.htm>.

¹⁰ John Houghton et al, *Climate Change 2001: The Scientific Basis* (Cambridge, UK: Cambridge University Press, 2001), p. 623. [Hereafter cited as IPCC, *Climate Change 2001: The Scientific Basis*.]

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- ¹¹ Kenneth D. Frederick and Peter L. Gleick, *Water and Global Climate Change: Potential Impacts on U.S. Water Resources*, September 27, 1999, p. 5, http://www.pewclimate.org/projects/clim_change.pdf.
- ¹² Thomas Wigley, "The Kyoto Protocol: CO₂, CH₄, and Climate Implications," *Geophysical Research Letter* 25 (1998): 2285-88.
- ¹³ Lomborg, *The Skeptical Environmentalist*, pp. 302-305.
- ¹⁴ Paul Georgia, "Global Warming Nonsense: An Economics Journal Publishes Junk," *National Review Online*, August 2, 2002, <http://www.cei.org/gencon/019,03155.cfm>.
- ¹⁵ John Houghton et al, *Climate Change 2001: Synthesis Report* (Cambridge, UK: Cambridge University Press, 2001), p. 26.
- ¹⁶ Author's calculation, IPCC, *Climate Change 2001: The Scientific Basis*, pp. 93, 358.
- ¹⁷ Roy W. Spencer and William D. Braswell, "How Dry is the Tropical Free Troposphere? Implications for Global Warming Theory," *Bulletin of the American Meteorological Society*, 78:1097-1106.
- ¹⁸ Richard S. Lindzen, Ming-Dah Chou, and Arthur Y. Hou, "Does the Earth Have an Adaptive Infrared Iris?" *Bulletin of the American Meteorological Society*, 82:417-32, March 2001.
- ¹⁹ James Hansen, "How Sensitive is the World's Climate?" *National Geographic Research & Exploration*, 9(2), 1993, p. 143.
- ²⁰ "Little Giant Breaks Free," *World Climate Report*, Vol. 4, No. 5, November 9, 1998, http://www.greeningearthsociety.org/climate/previous_issues/vol4/v4n5/index405.htm.
- ²¹ Ian Joughin and Slawek Tulaczky, "Positive Mass Balance of the Ross Ice Streams, West Antarctica," *Science*, 295: 451-452, January 18, 2002.
- ²² Peter T. Doran, et al, "Antarctic climate cooling and terrestrial ecosystem response," *Nature*, 415: 517-520, January 31, 2002.
- ²³ IPCC, *Climate Change 2001: The Scientific Basis*, p. 642.
- ²⁴ Serreze, M.C., et al, "Observational Evidence of Recent Change in the Northern High-Latitude Environment," *Climatic Change*, 2000, Vol. 46, 159-207; see Patrick Michaels' comment thereon, "News of arctic warming nothing more than hot air," *Climate & Environment News*, October 2002, <http://www.heartland.org/environment/oct00/hotair.htm>.
- ²⁵ IPCC, *Climate Change 2001: The Scientific Basis*, p. 125.
- ²⁶ The CAR's sole discussion of spruce trees occurs on page 98: "Habitats of alpine and sub-alpine spruce-fir in the contiguous United States are likely to be reduced and, possibly in the long term, eliminated as their mountain habitats warm." Again, this projection depends for its validity on the validity of the "hottest" climate model.
- ²⁷ Timothy Egan, "On Hot Trail of Tiny Killer in Alaska," *New York Times*, June 25, 2002.
- ²⁸ IPCC, *Climate Change 2001: The Scientific Basis*, p. 116: "In accord with the results in the [IPCC Second Assessment Report (1995)], recent warming (1976 to 2000) has been greatest over the mid-latitude North Northern Hemisphere continents in Winter."
- ²⁹ Kenai temperature data, analyzed by Willie Soon, Astrophysicist, Harvard-Smithsonian Center for Astrophysics.
- ³⁰ Robert L. Bradley, Jr., *Julian Simon and the Triumph of Energy Sustainability* (American Legislative Exchange Council, 2000), p. 96.
- ³¹ *U.S. Climate Change Action Report 2002*, p. 82 [hereafter cited as CAR.]
- ³² This is a bizarre statement. Falling prices also expand sales – as in the markets for computers, televisions, digital watches, food, etc.
- ³³ *Ibid.*, p. 98.
- ³⁴ *Ibid.*, p. 82.
- ³⁵ See, for example, <http://www.co2science.org/subject/b/summaries/biodiversity.htm>.
- ³⁶ IPCC, *Climate Change 2001: The Scientific Basis*, p. 663.
- ³⁷ John Christy, Director, Earth System Science Center University of Alabama in Huntsville, A Lead Author, Intergovernmental Panel on Climate Change 2001, Alabama State Climatologist, Letter to Attorneys General, July 23, 2002.
- ³⁸ Lomborg, *The Skeptical Environmentalist*, pp. 289-291.
- ³⁹ Robert Balling, Jr., *Calmer Weather: the Spin on Greenhouse Hurricanes*, Competitive Enterprise Institute, May 1997, <http://www.cei.org/pdf/1200.pdf>.

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- ⁴⁰ IPCC, *Climate Change 2001: The Scientific Basis*, pp. 5, 33, 34.
- ⁴¹ Julian Simon, *The Ultimate Resource 2* (Princeton, NJ: Princeton University Press, 1996), 162.
- ⁴² Simon L. Hay et al, "Climate change and the resurgence of malaria in the East African highlands, *Nature*, 21 February 2002, pp. 905-909.
- ⁴³ Paul Reiter, "From Shakespeare to Defoe: malaria in England in the Little Ice Age," *Emerging Infectious Diseases*, Centers for Disease Control, <http://www.cdc.gov/ncidod/eid/vol6no1/reiter.htm>; Lomborg, *The Skeptical Environmentalist*, p. 291.
- ⁴⁴ Green advocacy groups have sustained a 40-year crusade against DDT, the most cost-effective pesticide against the malaria-carrying mosquito. These groups bear heavy responsibility for the resurgence of malaria epidemics in developing countries. See, for example, Roger Bate and Kendra Okonski, "When Politics Kills: Malaria and the DDT Story," Competitive Enterprise Institute, March 5, 2001, <http://www.cei.org/gencon/005,01986.cfm>.
- ⁴⁵ Paul Reiter (1996), "Global warming and mosquito-borne disease in USA," *The Lancet*, Volume 348, Issue 9027, p. 662, cited in *World Climate Report*, http://www.co2andclimate.org/climate/previous_issues/vol2/v2n2/hot1.htm.
- ⁴⁶ C. Drew Harvell, et al, "Climate Warming and Disease Risks for Terrestrial and Marine Biota," *Science*, Vol. 296, 21 June 2002, pp. 2158-2162.
- ⁴⁷ Lean, J. and D. Rind, "Climate Forcing by Changing Solar Radiation," *Journal of Climate* 11 (1998): 3069-94; Sallie Baliunas, "New Scientific Advances: The Human Impact on Global Climate Change," testimony, Senate Environment and Public Works Committee, March 13, 2002, http://www.senate.gov/~epw/Baliunas_031302.htm.
- ⁴⁸ Lomborg, *The Skeptical Environmentalist*, p. 370.
- ⁴⁹ IPCC, *Climate Change 2001: The Scientific Basis*, p. 106.
- ⁵⁰ International Energy Agency, *World Energy Outlook 1998*, press release, Buenos Aires, 10 November 1998, <http://www.iaea.org/pubs/studies/files/weo/weo.htm>.
- ⁵¹ Testimony of R. Glenn Hubbard, Chairman, Council of Economic Advisors, before the Senate Committee on Commerce, Science, and Transportation, July 11, 2002, p. 3, <http://commerce.senate.gov/hearings/071102hubbard.pdf>.
- ⁵² T.M.L. Wigley, R. Richels, & J.A. Edmonds, "Economic and environmental choices in the stabilization of atmospheric CO₂ concentrations," *Nature*, Vol. 379, January 18, 1996, pp. 241-243.
- ⁵³ Statement of James L. Connaughton, Chairman, White House Council on Environmental Quality, Hearing before the Senate Committee on Commerce, Science and Transportation, on United States Global Climate Strategy, July 11, 2002, p. 3.
- ⁵⁴ Testimony of R. Glenn Hubbard, p. 6.
- ⁵⁵ For discussion of this topic, see Jerry Taylor, *Energy Efficiency: No Silver Bullet for Global Warming*, Cato Institute Policy Analysis No. 356, October 20, 1999, <http://www.cato.org/pubs/pas/pa-356es.html>.
- ⁵⁶ CAR, pp. 50-51.
- ⁵⁷ David Malokoff, "Climate Change: Thirty Kyotos Needed to Control Global Warming," *Science*, December 19, 1997.
- ⁵⁸ Indur Goklany, "Richer is Cleaner: Long-Term Trends in Global Air Quality," Bailey, ed., *The True State of the Planet* (New York: Free Press, 1995), pp. 339-377.
- ⁵⁹ Empirical evidence of increased UV-B radiation is not as robust as popular journalism might suggest: "With few exceptions, the direct detection of UV-B trends at low-and mid-latitudes remains problematic due to this high natural variability, the relatively small ozone changes, and the practical difficulties of maintaining long-term stability in networks of UV-measuring instruments. Few reliable UV-B radiation measurements are available from pre-ozone-depletion days." S. Madronich et al, "Changes in biologically active ultraviolet radiation reaching the Earth's surface," *Journal of Photochemistry and Photobiology* 46 (1998), p. 5, United Nations Environment Program, *Environmental Effects of Ozone Depletion, 1998 Assessment*.
- ⁶⁰ Lomborg, *The Skeptical Environmentalist*, p. 276.
- ⁶¹ Hodel's comment about hats, sunglasses, and lotion was not an official "proposal." Aides attributed it to him in a leak to the press, and Hodel claimed he was misquoted. See Richard Benedick, *Ozone Diplomacy: New Directions in Safeguarding the Planet* (Cambridge, MA: Harvard University Press, 1991), pp. 60-61.
- ⁶² <http://www.epa.gov/sunwise/actionsteps.html>.
- ⁶³ <http://www.energy.gov/HQPress/releases01/janpr/pr01015.htm>.
- ⁶⁴ Ben Lieberman, "The Coolest Part of a Bad Energy Bill: A Small Victory," *National Review Online*, May 1, 2002, <http://www.cei.org/gencon/019,02993.cfm>.

⁶⁵ U.S. EPA, *New Source Review: Report to the President* (June 2002), p. 7: “There are approximately 20,000 sources that would be classified as major under the Clean Air Act, and many more stationary sources that are not large enough to be called major.”

⁶⁶ Mark P. Mills, *A Stunning Regulatory Burden: The EPA Designating CO₂ as A Pollutant*, 1998, <http://www.fossilfuels.org/Climate/burden.htm>.

⁶⁷ Pew Center on Global Climate Change, *Greenhouse Gas Reporting and Disclosure: Key Elements of a Prospective U.S. Program*, In Brief Number 3 (March 2002), p. 6, http://www.pewclimate.org/policy/index_ghg.cfm.

⁶⁸ Peter Glaser, Testimony, Joint Hearing of the House Science Subcommittee on Energy and Environment and the House Government Reform Subcommittee on Regulatory Affairs, October 6, 1999, <http://www.house.gov/reform/neg/hearings/100699/glaser.pdf>.

⁶⁹ Energy Information Administration, *Strategies for Reducing Multiple Emissions from Electric Power Plants with Advanced Technology Scenarios* (October 2001), pp. xv, 19, 21, [http://www.eia.doe.gov/oiaf/servicerpt/eppats/pdf/sroiaf\(2001\)05.pdf](http://www.eia.doe.gov/oiaf/servicerpt/eppats/pdf/sroiaf(2001)05.pdf).

⁷⁰ Testimony of J. Thomas Mullen, President and CEO, Catholic Charities Health and Human Services, Cleveland Ohio, Senate Environment and Public Works Committee, June 12, 2002, http://www.senate.gov/~epw/Mullen_061202.htm.