



State of the Union's Climate

An assessment of the state of climate change in the United States
January 28, 2008

- wsb draft 1.04.08 -

As the United States begins the eighth year of the 21st century, the most dangerous and difficult challenge of our time remains largely unaddressed. Global climate change continues unabated. The United States is the nation that is most responsible for the problem and most capable of helping to solve it. Yet today, our nation stands virtually alone in the world community in refusing to accept the need for decisive action.

Consequently, we regret to report that today the state of the nation's climate policy is poor, and the climate and the ecosystems that depend upon it are showing increasing signs of disruption. Global climate change now threatens not only the environment, but also our national security, our economic stability, and public health and safety. We can no longer discuss the State of the Union without assessing the state of the nation's climate.

The growing consequences of climate change have not arrived without warning. Physicist John Tyndall first identified the greenhouse effect in the 1860s. Swedish geochemist Svante Arrhenius predicted in 1896 that the burning of fossil fuels would result in global warming.

During the last century, American scientists such as David Keeling and Roger Revelle confirmed with actual measurements that carbon dioxide concentrations were rising. Keeling, Revelle and others began expressing their concerns about global warming to U.S. presidents of both parties in the 1960s, nearly a half century ago.

Now, after 20 years of assessing evidence in the most thorough scientific undertaking in history, the Intergovernmental Panel on Climate Change (IPCC) has concluded unequivocally that climate change is underway, that it is primarily the result of our consumption of fossil fuels, and that time is growing very short if we are to avoid catastrophic consequences on a global scale. As United Nations Secretary General Ban Ki-moon and the current chair of the IPCC, Rajendra Pachauri, both have said, this is our defining moment.

In some areas, there have been positive developments during the past year.

In quick succession last November and December, the IPCC released the last of its 2007 reports; representatives of 130 nations gathered at Bali to begin discussions of how the international community will collaborate after the Kyoto Protocol expires in 2012; and Congress has passed a new energy bill with several provisions important to climate stabilization. Universities, nongovernmental organizations and research institutions have proposed new policies and programs capable of reducing U.S. greenhouse gas emissions.

Last month, a team of policy experts organized by the University of Colorado proposed a detailed climate action plan for the next President of the United States. The plan proposes more than 300 new policies and programs and urges the next President to act upon them within 100 days of taking office. It makes clear that we need nothing less than a transformation to a new national economy for the 21st century -- highly efficient; powered by clean, renewable, domestic resources; and able to give our generation and those that follow security, opportunity and stewardship. This is the standard we must set for the President, the Congress and the leaders at all levels of American society: comprehensive, prompt and transformative climate action.

As the New Year began, more than 750 of the nation's mayors, representing nearly 77 million citizens, had signed the Mayor's Climate Protection Agreement – a pledge to cut emissions by at least the amount required by the Kyoto Protocol. The majority of states have implemented or are developing climate action plans. A growing number of major corporations and investors recognize the financial liabilities of unabated climate change and are supporting action.

Today, climate change is emerging as an important issue in the 2008 presidential campaign. Several of the candidates have issued detailed climate action platforms. Those who have not, should.

Yet these positive developments are overshadowed and overwhelmed by the pace of greenhouse gas emissions. Our per capita emissions in the United States are the highest in the world, roughly twice those of Europe or Japan. Yet the people of Europe and Japan outscore the people of the United States on several key quality-of-life indicators, including life expectancy and infant mortality. Atmospheric concentrations of greenhouse gases are climbing steadily toward that critical point at which climate change tips beyond our control. The early signs of climate change are appearing much more quickly than predicted. These signs are not restricted to the Arctic and Antarctic. We are seeing troubling patterns emerging in the United States that are consistent with the predicted impacts of climate change. For example:

- Heavy downpours have increased, with less precipitation coming in light rains and more in very intense rains over much of the nation.
- Atlantic hurricane activity has increased in recent decades, correlated with rising sea surface temperatures.
- Wildfires have increased sharply in the West, and scientific studies have shown that this increase is attributable to human-induced warming. Recent research by scientists at the National Center for Atmospheric Research and the University of Colorado concludes that fires in the United States now are releasing about 290

million metric tons of carbon dioxide each year, the equivalent of 4% to 6% of the nation's total emissions from burning fossil fuels.

- The timing of animal migrations and vegetation blooming has shifted to earlier in the spring.
- Weeds including ragweed are thriving, with implications for human health, such as an increase in allergy suffering.
- Insect pests are thriving, causing infestations of bark beetles and other bugs that are destroying large expanses of America's forests.

Several critical developments must take place by the time the 44th President delivers the State of the Union address one year from now.

1. We must recognize that global climate change is an issue that transcends politics and partisanship. No responsible leader of any political persuasion wants our nation to face a future of increasing heat waves, drought, fires, disease, natural disasters, coastal inundation, and species extinction. None of our leaders wish to bequeath to our children a nation in peril, with far less security and fewer resources than we enjoy today.
2. We must accept that while climate science is complex, our choices are simple. We have three. We can act now to keep the impacts of climate change from growing much worse. We can adapt to the changes already underway. Or we can suffer. The more we reduce emissions, the less we will have to adapt, and the less we will suffer. Those are the nonpartisan realities that we must acknowledge and act upon now.
3. We must recognize that national climate policy and national energy policy are inextricably linked. The United States must make a deliberate and rapid transition away from carbon-based fuels, whether they come from the Persian Gulf or from domestic sources. We must turn with unprecedented speed to a future of energy independence, resource efficiency, renewable energy technologies and low-

- carbon fuels. Public policy must support only those technologies and resources that simultaneously stabilize the climate and enhance national energy security.
4. We must acknowledge that global climate change is much more than an environmental issue. It is a threat to national security because an unstable world is a breeding ground for extremism and terrorism. It is an urgent economic issue in which the price of action is much less than the costs of delaying, or doing nothing. It is a public health issue in which the spread of diseases in a warmer world can have devastating implications for our well-being and the costs of health care. It is a humanitarian issue, with the prospect of millions of people being displaced by drought, hunger, and coastal flooding. It is a moral issue, testing our character and our sense of responsibility to those who are least able to cope with climate change and to the generations that follow ours.
 5. We must recognize not only the threat of climate change, but the enormous opportunities that we can capture by addressing it. The urgent worldwide demand for clean energy technologies is arguably the greatest entrepreneurial opportunity the United States has ever known. As the world's leading innovator, we can and should become the world's leading supplier of the technologies and products that will help all people in all nations achieve dignity and a decent standard of living, without contributing to climate change.
 6. We must not wait for other nations to go first. Developed and developing nations both must hold greenhouse gas emissions in check. But the United States will have little influence on the actions of other nations until we implement a credible, comprehensive domestic program. Our first step in constructive engagement with the international community is concrete action at home.
 7. We must break the grip of special interests that are working to perpetuate the technologies, resources and practices that served us well in the past, but that now threaten our future. Special interests cannot be allowed to prevail any longer over

- the public interest. We must vastly increase federal support for research, development and deployment of clean energy technologies, and encourage the coal, oil and gas industries to invest in these technologies for their future, as well as the nation's.
8. We must restore federal funding for earth sciences and expand our research into the regional, local, social and economic impacts of climate change. The national Climate Change Science Program must produce the knowledge and information the American people need to anticipate, prepare for, mitigate and adapt to the adverse impacts of global warming. We must engage the talents of our best scientists and engineers and restore respect for science in the federal government.
 9. We must redefine "clean". A fuel that emits little carbon when it generates energy, but that produces significant greenhouse gas emissions during its life-cycle when it is mined, refined and transported, is not truly clean.
 10. Finally, we must recognize that global climate change is the leadership issue of our time. We cannot procrastinate any longer. This is indeed the defining moment for each of us as voters and consumers, for our generation, for our leaders, and for our world. We must not fail.

It is our hope and expectation that one year from now, when the next President of the United States reports on the state of the union, we will hear that our nation is firmly on the path to climate stability; to a new economy that has learned to prosper within the limits of the Earth's natural systems; to energy independence and security; and to renewed respect for the United States in the world community.

If this is our defining moment, then let us be known as a people of courage, morality, vision and goodwill – a people who gladly accept the responsibility of ensuring that the America of tomorrow is even better than the America of today. That commitment to the future is required of us if we wish to keep faith with those who founded our nation, with

those who have sacrificed for it and with those around the world who look to the United States of America for hope.



Presidential Climate Action Project

Brief Chronology of Climate Science and Presidential Leadership

- 1860s: Irish physicist John Tyndall becomes one of the first scientists to recognize the earth's natural greenhouse effect and to identify the relative radiative forcing values of the different greenhouse gases.
- 1896: Swedish geochemist Svante Arrhenius suggests that human activity – principally the burning of fossil fuels -- would result in global warming. “We are evaporating our coal mines into the air,” Arrhenius writes. But failing to foresee how rapidly the use of fossil energy would increase during the 20th Century, he predicts that significant climate change would not occur for 3,000 years.
- 1950s: American scientists David Keeling and Roger Revelle measure atmospheric carbon dioxide and confirm that CO₂ concentrations are rising. “Human beings are now carrying out a large-scale geophysical experiment,” Revelle concludes. Keeling, Revelle and others begin expressing their concerns about global warming to U.S. presidents of both parties.
- 1965: The President's Science Advisory Committee warns President Lyndon Johnson that human activity could produce “marked changes in climate”. In a special message to Congress, President Johnson reports that “this generation has altered the composition of the atmosphere on a global scale through...a steady increase in carbon dioxide from the burning of fossil fuels.”
- 1966: The National Academy of Sciences warns that growing concentrations of atmospheric carbon dioxide could lead to “inadvertent weather modification.”
- 1978: The first Administrator of the National Oceanic and Atmospheric Administration, Robert White, reports: “We now understand that industrial wastes, such as carbon dioxide released during the burning of fossil fuels,

can have consequences for climate that pose a considerable threat to future society.”

1979: The National Academy of Sciences advises President Carter that “if carbon dioxide continues to increase, we find no reason to doubt that climate changes will result and no reason to believe that these changes will be negligible.”

1988: The Intergovernmental Panel on Climate Change is created.

1989: In a speech at Helena, Montana, President George H.W. Bush says:

“In February, the United States will host the plenary meeting of the Intergovernmental Panel on Climate Change...I mean to keep it right there at the top of the agenda...We hold this land in trust for the generations that come after. The air and the Earth are riches we simply cannot squander.”

1992: The international community creates the United National Framework Convention on Climate Change, which calls for limiting greenhouse gas emissions to a level that avoids dangerous interference with the climate system. The framework later is signed by President George H.W. Bush and ratified unanimously by the United States Senate.

2001: During remarks in the Rose Garden, President George W. Bush says:

“The earth's well-being is also an issue important to America. And it's an issue that should be important to every nation in every part of our world. The issue of climate change respects no border. Its effects cannot be reined in by an army nor advanced by any ideology. Climate change, with its potential to impact every corner of the world, is an issue that must be addressed by the world.”

May 2006: During a speech in Glasgow, Scotland, former President Bill Clinton says:

“There has never been a nation destroyed by terrorism alone and it's not about to start now. But I think this climate change has the capacity to change the way all of us live on earth.”

April 2007 In a landmark ruling against the Bush Administration's refusal to regulate carbon emissions, the U.S. Supreme Court writes:

“The harms associated with climate change are serious and well recognized. The Government's own objective assessment of the relevant science and a strong consensus among qualified experts indicate that global warming threatens, *inter alia*, a precipitate rise in sea levels, severe and irreversible changes to natural ecosystems, a significant reduction in

winter snow pack with direct and important economic consequences, and increases in the spread of disease and the ferocity of weather events.” - United States Supreme Court

Oct. 2007: Former Vice President Al Gore and the IPCC win the Nobel Prize.

Dec. 2007: The IPCC issues its final report of 2007, concluding that the climate is changing as a result of human activity and time is growing very short if we are to avoid catastrophic worldwide consequences.

Representatives of 130 nations gather at Bali to begin discussions on how the international community will collaborate after the Kyoto Protocol expires in 2012. In a scene that is rare in diplomatic affairs, the U.S. delegation is booed loudly by representatives of other nations after declaring that it would not go along with a proposed agreement on international collaboration. The U.S. is asked either to lead the international community or to “get out of the way”. The U.S. delegation reverses position and accedes to the Bali agreement, but insists on eliminating specific goals for emissions reduction.

Later in the month, the U.S. Environmental Protection Agency denies a request by California and 16 other states to set their own more stringent restrictions on carbon dioxide emissions from vehicles.

Jan. 2008: California and 15 other states sue EPA in an effort to overturn its decision. The state’s attorney general calls EPA’s decision “illegal, unconscionable and a gross dereliction of duty.”