

Article 6. Federal and State Action Crucial to Fight Climate Change

Collapsing Glaciers, Dying Forests, Raising Sea Level

Every month brings increasing evidence of the damaging effects of man-made climate change. 220 square miles of ice collapsed in Antarctica in early April, part of a 5,571 square mile ice shelf the British Antarctic Survey described as now “hanging by a thread.” Dr. Ted Scambos, a glaciologist at the National Snow and Ice Data Center at the University of Colorado says man-made global warming is the cause and that “We are in for a lot more events like this.”

Over the past five years, average annual temperatures in the heart of the US West have risen by 2.2 degrees, or about twice as fast as the global rate. Martin Hoerling, a meteorologist at the Earth System Research Laboratory in Boulder, Colorado said he believes the West could heat up a lot more, possibly by 5 degrees by the midpoint of the century, depending on the level of global greenhouse gas (GHG) emissions. As a direct result of the heating, fewer subzero nights have occurred, letting the population of mountain pine beetles expand to devastate Colorado’s lodgepole pines trees. “The population built up rapidly and exploded. It takes out the mature trees,” said entomologist Ingrid Aguayo. Colorado State Forest Service data released in late March estimates that 60 percent of the lodgepole pines are injured and may be dying.

Climate models, refined by Stefan Rahmstorf, an oceanographer at the Potsdam Institute for Climate Impact Research, show that the expected sea level rise from carbon dioxide (CO₂) already in the atmosphere is twice as large as previous models. Rahmstorf calculates a 4.5 foot sea level rise this century is unavoidable. The German Federal Scientific Advisory Committee on Global Climate Change says “a sea level rise is part of the inescapable physical consequences of global warming.” They note that in the last warm period, the Eemian interglacial era of 120,000 years ago, although the global

temperature only reached 2.2 degrees warmer than it is today; the sea level ultimately reached six to 18 feet higher than it is today.

Fossil Fuel Emissions Must End by 2050

Every refinement of climate change science brings more accuracy to the climate models that identified human behavior as the cause of climate change. While the world's output of CO₂ from human activities steadily rises and governments argue that current GHG reduction goals are too ambitious, the ever more accurate scientific understanding of man-made climate change points to the need for even lower greenhouse gas (GHG) emissions. Pieter Tans released data from the Earth System Research Laboratory in Colorado earlier this week showing unprecedented GHG levels. He said, "With carbon dioxide emissions, we're on the wrong track, it's obvious. And I'm also fully convinced that we're in actually quite a dangerous situation for climate."

Two studies released in March predict severe reductions of worldwide fresh water sources resulting from changing precipitation patterns unless CO₂ emissions from fossil fuels begin decreasing immediately and are eliminated completely by midcentury. The author of one of these studies published in *Geophysical Research*, Carnegie Institution senior scientist Ken Caldeira, summarized his findings, "The answer [to halt climate change] implies a much more radical change to our energy system than people are thinking about."

Oregon State University professor Andreas Schmittner published results in *Global Biogeochemical Cycles*, showing the Earth will warm by 7.2 degrees by 2100 if we allow fossil fuel CO₂ emissions to continue growing at their current rate. If emissions do not drop to zero until 2300 the temperature rise at that point would be more than 15 degrees. These expected temperature rises far exceed the 4.4 degree threshold scientists agree will have devastating consequences on the world and its population. Schmittner said, "This is tremendous. I was struck by the fact that the warming continues much longer even after

emissions have declined. Our actions right now will have consequences for many, many generations. Not just for a hundred years, but thousands of years.”

States Are Trying to Respond

In the absence of federal leadership, states are taking a patchwork of actions to fight climate change. Even in the conservative Midwest climate change is emerging as an important political issue. Two proposed coal-fired power plants to generate 1,400 megawatts of electricity were killed when the Kansas Secretary of Health and the Environment denied their permits because the 11 million tons of CO₂ they would produce annually. On March 21 of this year, Kansas Governor Kathleen Sebelius vetoed a measure from the state legislature to revive the power plants, saying, “We know that greenhouse gases contribute to climate change. As an agricultural state, Kansas is particularly vulnerable. Therefore, reducing pollutants benefits our state not only in the short term but also for generations of Kansans to come.” Other coal plants have also been recently killed by state action in Florida and Washington State.

Eight years ago several states asked the US Environmental Protection Agency (EPA) to get involved to help halt climate change. The EPA declined. On April 2nd 2007 the US Supreme Court sided with 11 states and against the EPA, directing the EPA to treat CO₂ emissions as pollution endangering public health and welfare because it causes global warming. One year after that ruling, with no action taken by the EPA, on April 2nd 2008 18 states joined by two cities and 11 environmental groups sued the EPA to compel it to obey the ruling. Massachusetts Attorney General Martha Coakley said, “The EPA’s failure to act in the face of these incontestable dangers is a shameful dereliction of duty.”

Seven western US states, Arizona, California, New Mexico, Oregon, Washington, Utah, and Montana, joined by Canadian provinces British Columbia and Manitoba created the Western Climate Initiative to reduce greenhouse gas emissions and address climate change. The member states and provinces will establish a cap-and-trade system to meet their regional greenhouse gas emissions target of 15% below 2005 levels by 2020.

Certainly states and municipalities have an important role to play in solving climate change. But their actions will be most effective in the areas where states and municipalities typically function. Permitting, building efficiency codes, and utility regulation are the key areas where states traditional responsibilities align with needed climate change policy.

Federal Action Most Important

The scale of the climate problem is so vast that only a complete change in the way we use energy can prevent the worst consequences. This requires far-sighted political action starting in the capital of the world's biggest carbon emitter, Washington, DC.

Only a few years ago many of our congressional leaders denied global warming existed. In 2003 Arizona Senator Jon Kyl (R), Chairman of the Republican Policy Committee, called the Intergovernmental Panel on Climate Change (IPCC) unreasonable and said, "There is little cause for alarm." Talk today on Capital Hill is very different with no less than five bills introduced by both parties in the 110th Congress targeting GHG emissions for reduction. Although no consensus on targets or methodology is likely to emerge this session, the fact that leaders from both parties are talking about halting climate change is remarkable. The Pew Center on Global Climate Change said, "This unprecedented Congressional attention to climate change reflects a profound shift in the long debate over global warming."

The Union of Concerned Scientists (UCS) describes three essential aspects of the federal action urgently needed to combat climate change. First, federal caps on GHG emissions must insure a 15-percent reduction by 2020 and an 80-percent reduction by 2050. Second, the US EPA must be required to monitor climate change and adjust caps as appropriate to avoid dangerous warming. Third, the UCS advocates that Federal legislation should eliminate or sharply reduce the current practice of allowing polluters to

obtain free allowances. They point out that only when polluters who exceed their GHG allowances are actually charged for their emissions will we begin to control GHG.

New fuels, new transportation modes, increased efficiency, renewable generation of electricity, and much, much more—new technology will play a key role worldwide to halt climate change. Time and time again our federal government has stimulated new technology. A US government program run by the National Aeronautics and Space Administration (NASA) to put a man on the moon spurred the development of computers, avionics, and aeronautics directly resulting in 50 years of dominance by the US aviation industry. Federal programs run by Defense Advanced Research Products Agency (DARPA) resulted in more than just the development of super computers, networking equipment, and computer languages. DARPA's programs were largely responsible for 50 years of US dominance in computer and software engineering. The nations that lead the world in the second half of the 21st Century will be the nations that develop new technologies to stop climate change. Our federal government needs to aggressively stimulate domestic development of all the industries and technology that will be in demand to stop climate change.

Intergenerational Challenge

As a nation we demand our government protect our children—protect them from predators, protect them from explicit media, and protect them from childhood diseases. Steve Gardiner, University of Washington philosophy professor, points out the argument over global warming “is a classic inter-generational debate, where the short-term benefits of emitting carbon accrue mainly to us and where the dangers of them are largely put off until future generations.” If our children are to inherit a world as rich and bountiful as the world we inherited from our parents, we must take the necessary actions to halt climate change. But climate change activist Jesse Jenkins points out all the calls for individual action like changing light bulbs “rings hollow to a lot of people.” While there are many important individual actions we can take, the most effective actions we can choose to

take are collective—demanding our government take action to halt climate change to protect our children, even if they have to protect them from us.