

30-year career in the Navy, he served in a variety of operational assignments, including Fighter Squadron 32, Fighter Wing ONE, the U.S. Naval Test Pilot School in Patuxent River, MD, and as Executive Officer of USS *George Washington*, CVN 73. An inspired, confident leader, he commanded Fighter Squadron 143, USS *Trenton*, LPD 14, and the nuclear-powered aircraft carrier, USS *Carl Vinson*, CVN 70. Under his command, USS *Carl Vinson* was awarded two Meritorious Unit Commendations and the Battle Efficiency Award for 1996 following a highly successful Arabian Gulf deployment that included combat operations in support of Operation DESERT STRIKE. Following this tour, he served at the Supreme Allied Headquarters as the Assistant Chief of Staff for Plans and Policy. Rear Admiral Baucom also continuously pursued educational opportunities throughout his career being awarded a Master's Degree in Systems Management from the University of Southern California and in National Security and Strategic Studies from the Naval War College.

In his most recent assignment as the Navy's Director of Environmental Protection, Safety and Occupational Health Division, Rear Admiral Baucom worked to ensure that the Navy remains a leader of environmental stewardship and towards ensuring the safety and welfare of its Sailors, Marines and civil service employees. Whether contributing to the Department's efforts to guarantee critical training at the Atlantic Fleet Weapons Training Facility at Vieques, Puerto Rico, protecting the health and safety of shipyard workers, or addressing the encroachment issues that complicate our operational and training ranges, Rear Admiral Baucom's leadership has been vital to the readiness and success of our country's military forces.

Rear Admiral Baucom provided exceptional advice, support and guidance to the Secretary of the Navy and the Chief of Naval Operations. His keen insight, relentless dedication, and extraordinary talent have contributed significantly to building and maintaining the world's best-trained, best-equipped, and best-prepared Navy and Marine Corps. His vision has positively shaped the future readiness and capabilities of the fleet in ways that will resonate for generations.

I thank Rear Admiral Baucom for his many public service contributions and a life devoted to ensuring our national security. It is my distinct honor to wish him, and his wife Linda, much happiness and fair winds and following seas as they begin a new chapter in their lives.

CAP AND TRADE APPROACH TO CLIMATE CHANGE

Mr. McCAIN. Mr. President, I rise with my friend and colleague from Con-

necticut to express our concerns on a subject that is at the forefront of the many issues of global concern, climate change. The science surrounding this issue has come increasingly into focus, and Senator LIEBERMAN and I believe that it is time to take action.

Mr. LIEBERMAN. Mr. President, I also am pleased to rise to join my friend and colleague from Arizona, Senator MCCAIN, in making this call for consideration of the development of an economy-wide cap-and-trade system to control our emissions of greenhouse gases. Senator MCCAIN and I have been discussing the need to develop such legislation for some time, and upon our return from recess, we plan to discuss with leaders from each sector of our economy to discuss what commitments they can make to curb our growing problem of global warming without seriously harming our economy.

At this point, I invite Senator MCCAIN to comment on his views on the subject.

Mr. MCCAIN. Over the past year, the Commerce, Science, and Transportation Committee has held several hearings on the various scientific reports from the National Academy of Science and the International Panel on Climate Change, IPCC. These reports conclude that air temperatures are, in fact, rising. The IPCC report states that there is new and stronger evidence that most of the observed warming over the past 50 years is attributable to human activities. We continue to see throughout the world the melting of glaciers, the dying of coral reefs, and rising ocean temperatures.

The agreement reached last week in Bonn, Germany on the Kyoto Protocol means that the rest of the world is moving forward to address this important problem. Given the fact that the United States produces approximately 25 percent of the total greenhouse gases emissions, the United States has a responsibility to cut its emissions of greenhouse gases. The United States must realize that when it comes to the climate, there are no boundaries. Therefore, climate change is a global problem and must be resolved globally.

The current situation demands leadership from the United States. In accordance with the agreement reached last week, there is going to be a world marketplace for carbon reductions, a marketplace that rewards improvements in energy efficiency, advances in energy technologies, and improvements in land-use practices—and we are running the risk that America is not going to be part of it.

The risks that climate change poses for businesses have now increased. In addition to the risk of unpredictable impacts of global warming, and of unpredictable regulation of greenhouse gas emissions, American companies now face the risk of being left out of the global marketplace to buy and sell emission reductions.

While U.S. businesses are gaining experience with voluntary programs and are recognized as the world's experts in this area, they are increasingly recognizing that purely voluntary approaches will not be enough to meet the goal of preventing dangerous effects on the climate system. Increasingly, businesses confronting these risks see sensible regulation of carbon dioxide and other greenhouse gases as necessary and inevitable. Clearly, they prefer the cap-and-trade approach.

In a July 23 editorial in the Wall Street Journal, a cap and trade program was discussed as one of the incentive-based market strategies that has been developed as an alternative to traditional fiat-based, "nanny-sez-so" regulation. The editorial further states that "a cap and trade program will result in more abatement from those firms who can do it at relatively lower costs and less abatement from those firms who can only do it at relatively higher costs. The net will be the same amount of overall pollution reduction, but achieved at lower cost than would obtain under traditional regulation."

As usual, industry is ahead of government in this area. Many companies have already started trading programs either within their company or as members of partnerships to meet predetermined levels. Not only are these companies meeting their environmental goals, they are also realizing it on a profitable basis. We all know that improved efficiencies mean improved profitability.

The 1990 Clean Air Act's acid rain emissions trading program for limiting sulfur dioxide has shown that there can be top-down limits on pollutants and not endanger the economy. The key is unleashing the power of markets to find the most innovative, cost-effective ways of meeting those top-down limits. That's what a cap-and-trade system does best. Deploying the power of a marketplace to pursue the least expensive answers is a unique and powerful American approach to the threat of climate change.

In 1994, the Arizona Public Service (APS), an Arizona public utility, entered into an agreement with the Niagara Mohawk, a New York utility, and the US Department of Energy to swap carbon dioxide and sulfur dioxide credits. APS had reduced its sulfur dioxide emissions below levels mandated under the 1990 Clean Air Act. Niagara Mohawk had reduced its carbon dioxide emissions below the level of its voluntary commitment. APS exchanged its sulfur dioxide allowances issued under the Clean Air Act's acid rain program for Niagara Mohawk carbon dioxide emissions reductions that APS could then use to help meet its commitment to DOE to reduce greenhouse gas emissions. After receiving the sulfur dioxide allowances, Niagara Mohawk donated them to an environmental organization to be retired. The

cost savings achieved through this plan were used to fund new domestic and overseas projects designed to create additional carbon dioxide reductions.

However, we should not be deceiving ourselves. Designing a cap and trade system is not an easy task. Critical decisions will have to be made as to the design and implementation of such a system. These decisions will ultimately affect some industries more than others. I would hope that the government can work hand-in-hand with industry to make this happen should a decision be made to pursue a cap and trade program.

A comprehensive cap on America's greenhouse gas emissions, paired with an allowance trading system, can encourage innovation across the full range of opportunities for reducing emissions. That would provide businesses with the regulatory certainty and flexibility they need to confront the climate challenge successfully. Industry has repeatedly said that if Government sets the rules, they will take them from there and make it work.

Trading helps to establish a market value per unit of greenhouse gas. This can be especially helpful as corporate decisions are made on major investments in new technologies. The market value will allow them to make a real comparison by which to consider purchasing new credits for the markets or investing in technologies and capital improvements.

We also have to recognize that the international system for addressing climate change is evolving. Only a few years ago, many of America's trading partners were reluctant to accept market-based solutions. But now they have embraced them, and the global marketplace for greenhouse gas cap-and-trade is beginning. A national cap-and-trade system could give America the business valuable experience they will need to remain competitive with other companies in countries where greenhouse emissions trading is moving forward. We can expand trade opportunities through a new marketplace for the environment.

Given this developing international market, it also makes sense to ensure that what we do domestically can be integrated and recognized on the international level. Ultimately, we need to make sure that the emissions reductions our companies, our farmers, and our foresters produce are fully recognized and fully tradable in the emerging global greenhouse gas marketplace.

I think it is clear that a cap and trade program is a good idea worthy of further consideration by the U.S. Senate. I look forward to working with Senator LIEBERMAN and others who have expressed a willingness to consider this type of approach to address this problem of global climate change.

Mr. LIEBERMAN. Mr. President, I am pleased to rise to join my col-

league, Senator MCCAIN, in advocating an economy-wide cap-and-trade system to control our emissions of greenhouse gases.

I have been extremely troubled by the failure of our government to engage on this crucial issue. Last Monday, 180 nations agreed to take historic action against global warming by agreeing to the Kyoto Protocol. One did not. We are the one. I believe this failure abdicates the United States' position as a leader in environmental affairs and places U.S. industry at risk.

We now have general scientific agreement that climate change is a problem we must face. Early this year, the United Nation's Intergovernmental Panel on Climate Change released its Third Assessment Report on global warming. According to this panel of expert scientists, unless we find ways to stop global warming, the Earth's average temperature can be expected to rise between 2.5 and 10.4 degrees Fahrenheit during the next century. Such a large, rapid rise in temperature will profoundly alter the Earth's landscape in very practical terms. Sea levels could swell up to 35 feet, potentially submerging millions of homes and coastal property under our present-day oceans. Precipitation could become more erratic, leading to droughts that would aggravate the task of feeding the world's population. Diseases such as malaria and dengue fever could spread at an accelerated pace. Severe weather disturbances and storms triggered by climatic phenomena, such as El Nino, could become more routine.

As the IPCC report reminds us, this threat is being driven by our own behavior. Let me quote the scientists directly, "There is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities." There is no doubt that human-induced emissions are warming the planet.

After receiving the IPCC's dire report, the White House requested and received a second opinion from the National Academy of Sciences. The NAS confirmed the findings of the IPCC. Let me quote:

The IPCC's conclusion that most of the observed warming of the last 50 years is likely to have been due to the increase in greenhouse gas concentrations accurately reflects the current thinking of the scientific community on this issue . . . Despite the uncertainties, there is general agreement that the observed warming is real and particularly strong within the past twenty years.

By going forward with the Kyoto Protocol even without the United States, the world has taken a giant stride forward in response to this pressing problem. That agreement will create a worldwide market in greenhouse gas reductions, using market forces to drive environmental gains. Unfortunately, because the United States did not participate, U.S. interests were virtually ignored in crafting the final

deal. In the end, I believe that not just our environment but our economy will suffer as a result.

For example, let's say a multinational corporation is faced with the need to invest in new, more efficient technology, and has the choice of installing it in the United States or overseas. Under the Kyoto Protocol, the corporation will be able to receive valuable credits for making those efficiency gains—and therefore reducing its greenhouse gas emissions. Those credits will be worth cold, hard cash in the world market that will be established under the treaty. In contrast, the United States currently has no system by which the company will gain credit for the gains. The result will be that more efficient, more competitive technology will be driven overseas.

The agreement in Bonn also has probably made millions of dollars in U.S. investment worthless. A number of our large corporations have invested heavily in forest conservation on the assumption that they would receive credit for these forests' ability to pull carbon out of the atmosphere. In Bonn, however—without the U.S. at the table—credit for forest conservation was written out of the agreement.

After the agreement at Bonn, it will take a lot of work to convince the other nations of the world to reopen the negotiations to U.S. participation.

We can begin by creating a credible domestic system that can work in parallel with the Kyoto Protocol so the United States remains in tune with the remainder of the world as we move forward. Such an approach must move beyond our laudable but inadequate voluntary efforts. As we saw with the Rio Treaty, which former President Bush supported and the Senate ratified in 1992, voluntary programs unfortunately do not work. Instead, Senator MCCAIN and I believe that we need a set of standards requiring action. We need an economy-wide cap and trade approach. In contrast to the current international agreement, such a system will take the interests of the United States into account.

I also believe having such a system in place will much better enable us to negotiate an acceptable international agreement with the Kyoto participants when the U.S. does come back to the table. If we do not have our own domestic cap-and-trade system, our companies will be years behind the rest of the world in operating within the system and therefore disadvantaged when we join an international agreement.

The bona-fides of a cap and trade approach are impressive. I was involved in the drafting of the cap-and-trade program in the Clean Air Act to reduce acid rain—one of the most successful environmental programs on the books. Recent reports from the CBO and the Resources for the Future espoused such an approach. Progressive companies

such as British Petroleum have greatly reduced their greenhouse emissions by using their own internal cap-and-trade markets. And no less authority than the Wall Street Journal has endorsed such an approach to address our climate problems, stating that the Bush Administration should "propose a domestic cap-and-trade program for carbon dioxide that could, of course, be easily expanded to Canada and Mexico." It would be a giant step forward if the Bush Administration would make such a proposal to the next international meeting on climate change in Marrakesh, Morocco during October.

If we adopt a cap and trade system, we will create a market by which corporations will receive valuable credits for efficient investments. We also will create a market by which corporations can receive credit for the laudable investments they have made to date. And we will unleash the power of that market to drive the United States back into its leadership position in the international effort to avoid the worst effects of one of the most serious environmental problems the world community has ever faced.

I look forward to working with Senator McCain when we return in September as we meet with environmentalists and representatives of the various sectors of our economy who are currently generating greenhouse gases. We will ask them to help us fashion a cap and trade system that will work.

Together we can and will meet this historic test and protect our children and grandchildren, and all who follow on the Earth, from the real dangers of an overheated planet.

Mr. President, I ask unanimous consent to print the Wall Street Journal editorials in the RECORD.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

REVIEW & OUTLOOK
EMISSIONS IMPOSSIBLE?

While Genoa burned—a topic we take up at greater length in the space below—bureaucrats in Bonn continued to fiddle with a dead treaty, the Kyoto Protocol on global warming. Japan and Europe appear more determined than ever to resuscitate the treaty without the United States. At the risk of sounding flippant, we ask: Why bother?

The whole idea behind Kyoto is puzzling at best, outrageous at worst. Why require the nations of this planet to spend the hundreds of billions of dollars necessary to reduce carbon dioxide and other emissions when we don't even know if the earth's climate is getting permanently hotter or if that temperature change is caused by human activity or if that change is even dangerous?

Why, indeed. Except that if new and more sophisticated research proves that human-generated greenhouse gases are a menace to civilization as we know it, then it is better to start now to control them and far better to do so in the most cost effective fashion. And that's why we harbor a certain fondness for one part of the Kyoto treaty—emissions trading.

Emissions trading—part of a package called "cap-and-trade"—is one of the incen-

tive-based market strategies that has been developed as an alternative to traditional fiat-based, nanny-sez-so regulation. The idea is simple: a lower level of pollution is agreed upon and targeted; permits reflecting that level are issued, or even sold, to polluters; firms that produce emissions below their targets can sell their excess permits to firms that exceed their targets. Firms have a straightforward incentive to come up with emission-reducing innovations because they can keep the financial rewards of their innovation through reduced abatement costs, reduced payments for emission permits and/or selling unneeded permits.

Thus, by providing flexibility and financial incentives, cap-and-trade program will result in more abatement from those firms who can do it at relatively lower cost and less abatement from those firms who can only do it at relatively higher cost. The net will be the same amount of overall pollution reduction, but achieved at lower cost than would obtain under traditional regulation.

And cost is really mega-important. Consider the tab if—as mandated by Kyoto—the U.S. had to reduce its carbon dioxide emissions 7% below its 1990 levels by 2012. Without the ability to buy permits from other countries, compliance would have to be achieved mainly by switching from coal-fired plants to natural gas plants, resulting in the premature retirement of tens of billions of dollars of capital stock, the zooming of energy costs throughout the economy, and the loss of millions of jobs. According to the Energy Information Administration, the cost could be as much as 4% of GDP.

Now, however, consider the cost if the U.S. could meet its targets by buying permits from other countries. In a scenario offered back in 1998 by the Clinton Administration's Council of Economic Advisors, if the U.S. buys permits for its "excess" emissions—so that if doesn't have to reduce by very much its own emissions—the cost would be only 10% of GDP.

If you doubt these estimates—and we agree that the models they are based on are technically complex—then how about a real-life example? Look no further than the fabulously successful cap-and-trade program for sulfur dioxide. The program, which was started in the U.S. in 1995 as part of the effort to cut the emissions that cause acid rain, saves about \$700 million annually compared with the cost of traditional regulation and has been reducing emissions by four million tons annually. When the program is fully implemented, sometime over the next couple of years, cost savings should be as much as \$2 billion a year—that's twice as much as originally estimated by the EPA.

In fact, the idea of emissions trading to reduce pollution has proved so attractive that some firms—which are under no legal obligation to cut greenhouse gases—have begun to set up programs for internal trading of permits. For firms interested in external trading, there are already several "precompliance" markets where permits can be traded across companies and across national borders.

So, who needs Kyoto? While whatever number of government bureaucrats are filling the air in Bonn with carbon dioxide, the private sector is going ahead with its own cap-and-trade solutions. Not surprisingly, European leaders would rather bureaucrats control the ebb and flow of private sector emissions and have had mouthed cap-and-trade proposals in the past. Recently, however, even the Euros are beginning to see the light.,

President Bush got it exactly right when he dissed Kyoto. And after Kyoto is pronounced dead in Bonn, the Bush Administration should propose a domestic cap-and-trade program for carbon dioxide that could, of course, be easily expanded to Canada and Mexico. And then to Latin America. And then the world.

ARSENIC IN RURAL WATER
SUPPLIES

Mr. STEVENS. Mr. President, yesterday the Senate passed the Appropriations bill funding the Environmental Protection Agency and other departments. I have grave concerns about a provision in that bill, the amendment adopted by the Senate that directs the EPA Administrator to establish a new national primary drinking water regulation for arsenic. This is a slight modification from the House version of this bill, which requires the Administrator to establish this standard at the level set by the previous administration—10 parts per billion. While the Senate language is not that specific, I still have grave concerns over the direction Congress is heading on this issue.

I understand that 59 public water systems in Alaska, most of which are in rural villages, have naturally occurring, background levels of arsenic in their water supplies that substantially exceed the 10 parts per billion standard. If Congress imposes this standard or a similar one on these villages, they will need nearly twenty million dollars to purchase modern, high-tech water treatment facilities. This is money that will otherwise be spent on their more immediate water and sewer needs, including safe wastewater systems. We are moving many rural villages off of honey buckets, but many people on the haul system still have to cart their own untreated wastewater from their homes to local collection bins, where it lies until the city takes it to a sewage lagoon on the outskirts of town. I know of one village in rural Alaska where a young girl was playing near one of these wastewater collection bins when she scratched at a mosquito bite. She developed a bacterial infection and later died. We are making good progress towards getting her village on to a safe, centralized water and wastewater system. Congress should allow areas without reliable sanitary water supplies to address those needs before turning to the relative luxury of removing a few parts per billion of naturally-occurring arsenic. I invite any Senator who disagrees with me to join me on a trip to rural Alaska where they can see these challenges first hand.

I can foresee another unanticipated consequence of a national arsenic standard applied in rural Alaska. There are no toxic waste facilities available to process the arsenic after it is taken out of the water. We can not drive it