

to be on this bill. That means we are going to have to stay in until midnight tonight. That is up to the Republicans. That is up to the minority. But we are going to start legislating on this bill tomorrow morning. As everyone knows, the rules around here allow me to have the right of recognition, first recognition. We are going to start legislating in the morning.

I am happy if there is a need for more debate on the bill. This is an important bill. We should have all the debate; people should be able to make their statements. I am not trying to disallow anyone from making their statement, but let's at least legislate, as we should in this most serious body, the greatest debating—they say—body in the world, the Senate of the United States.

This strong bipartisan vote came, as I have indicated, after Republicans forced us to file cloture and use 2 days of Senate time, as I have already outlined. It forces us to waste 2 days for a vote they overwhelmingly supported. Now, the Republicans are forcing us to burn, as I have indicated, another 30 hours of procedural time before we can begin debate. That is two filibusters and more than 3 days of valuable Senate time wasted, all for a vote that most Republicans supported. We should have been on the bill, at the very least, last night.

Why would Republicans set these roadblocks to progress? I have outlined why. They are still in a snit because the American people surprised everyone and we are in the majority. It is a slim majority, but we are in the majority. We believe the people's business should be the issue at hand.

I have said many times Republicans have every right to vigorously debate and oppose legislation on which they have disagreements. That is how the legislative process is supposed to work. The majority introduces a bill, the two sides engage in debate and, in many cases, some type of compromise is reached. Legislation is the art of compromise. Then a vote is taken and whoever has the most votes—then we have a winner and a loser. But most of the time, if you are moving forward, there are only winners, there are no losers.

The Republicans have every opportunity to debate this bill in public and negotiate it in private. That is what we would like to do. If there is some way they think this can be compromised, condensed, made bigger, we are willing to work with them. This is a bipartisan bill. It is their legislative right and obligation—I understand that—to convince Senators who are in disagreement to join with them. But the unprecedented Republican filibustering we have seen renders the legislative process difficult—difficult. Seventy-two times, and add to this almost every time we have had to do 30 hours—sometimes twice.

So I think the American people are clearly seeing the picture. The picture is the Republicans are wanting to maintain the status quo. They are

treading water until President Bush leaves. The good news for the American people is there are only 7 months of that left. I think it is clear what has happened. You see in Louisiana, you see in Mississippi, you see in Illinois, three heavily Republican House seats went Democratic. Why? Because the American people see what is going on, just as they see that global warming is here. The American people aren't going to get lost in cap and trade. What they are concerned about is emissions, lowering emissions. They know it is a problem. They know what is going on in Congress is a problem. That is why we have seen these special elections go overwhelmingly Democratic in places where the Republicans always used to win.

On this legislation, I say to my friends, let's debate the legislation, let's try to work to pass it. Let's try to move forward on it. Stop running out the clock. Engage in the legislative process so we can continue to work toward making the American dream affordable for our country's struggling families once again.

The price of gasoline during the 7 years and 5 months President Bush has been President has gone up 250 percent—250 percent. In Nevada, you can still find a place to buy gas for less than \$4 a gallon, but it is not easy. One of my friends I went to high school with called me—Teddy Sandoval, a wonderful guy. I have known him my whole life. He called me. I thought he was having some personal problem, and he was. Do you know what it was? He said: HARRY, I bought a diesel truck because diesel fuel was so low, and now I can't afford to fill it anymore because diesel has gone way up.

Diesel. I saw over the holiday we just had, the week off we had, in California and Nevada diesel fuel was as much as \$4.50 a gallon. My friend told me he had been in New York, and it was \$5.15 a gallon for diesel fuel.

So I plead with my Republican friends: Let us move forward on this legislation. I have said I don't want to use this term "fill the tree," but we have to have some recognition from the Republicans that we are going to legislate seriously. Do you remember what happened last time when we said let's have an open amendment process? There was a rush to the floor to try to help JOHN MCCAIN on the flawed piece of legislation he had. Thinking the GI bill of rights is too generous—too generous—they rushed to the floor to support JOHN MCCAIN's flawed GI bill of rights. Now, fortunately, Democrats and Republicans saw it was flawed. It took a lot of procedural time. The Republicans, which was never done—never done previously, rarely done previously—would come with a piece of their legislation and file cloture. That was a prerogative that was left to the majority. That was the way it was around here.

So unless we have some agreement that we are going to legislate appro-

priately on this bill, then I think we are going to have to step back and see what we can do because it will appear very clearly that the Republicans are not at least willing to engage in that regard and that they are not willing to engage in serious legislation.

There have been 72 Republican filibusters, and we are going up, not down. That is not good for the country. It is not good for the Senate. I don't think it is good for my Republican colleagues.

#### RESERVATION OF LEADER TIME

The ACTING PRESIDENT pro tempore. Under the previous order, the leadership time is reserved.

#### MORNING BUSINESS

The ACTING PRESIDENT pro tempore. Under the previous order, the Senate will proceed to a period of morning business until 11 a.m., with the time equally divided and controlled between the two leaders or their designees, with the Republicans controlling the first half and the majority controlling the final half of the time.

The ACTING PRESIDENT pro tempore. The Senator from Texas is recognized.

#### ORDER OF PROCEDURE

Mr. CORNYN. Mr. President, I ask unanimous consent that our 30 minutes be allotted so that there is 15 minutes for me and 15 minutes for the Senator from Ohio following my remarks.

The ACTING PRESIDENT pro tempore. Is there objection?

Mr. REID. What is the request, Mr. President?

Mr. CORNYN. Mr. President, I will restate it. Of the 30 minutes of time for the minority, I asked that it be divided between the Senator from Ohio and me.

Mr. REID. So it is my understanding that the Senator from Texas wants an hour of morning business.

Mr. CORNYN. No, sir.

Mr. REID. So it will be 30 minutes for the Democrats and 30 for the Republicans.

Mr. CORNYN. Yes, with our 30 minutes being equally divided between the Senator from Ohio and myself.

Mr. REID. I have no objection.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered.

#### CLIMATE CHANGE

Mr. CORNYN. Mr. President, I heard the distinguished majority leader criticize the Republicans for wanting to have a debate on this piece of legislation. Frankly, I think we would be remiss in our duties if we didn't discuss this important piece of legislation, as complex and difficult a topic as it is and, frankly, ask questions that I know our constituents would ask of us were

we to vote for or against this particular legislation.

I, for one, make no apologies for doing what I consider to be my duty, and I think all of us would do well to ask questions about this legislation, which proposes a \$6.7 trillion pricetag—that is trillion; not billion, not million but trillion, \$6.7 trillion.

We talk about what Congress has been doing. Let me mention what Congress has not been doing and what the Senate has not been doing.

It has been 109 days since the Foreign Intelligence Surveillance Act was not reauthorized, which has hampered our ability to listen in on terrorist-to-terrorist communications.

We have spent 560 days since American businesses and farmers have been disadvantaged by not taking up the Colombia Free Trade Agreement. For my State alone, it is roughly \$2.3 billion a year. But my producers, farmers, and manufacturers are disadvantaged by tariffs on those goods when they are imported into Colombia, even though Colombian goods bear zero tariffs coming into the United States. We ought to fix that.

So it has been 560 days since that condition has existed. It has been 705 days since some judicial nominees have been waiting for a vote. It has been 771 days since Speaker PELOSI went campaigning before the 2006 election and said, if elected, the Democrats would deliver a commonsense solution to the price of gasoline and the pain consumers were feeling at the pump. That was 771 days ago. Yet there has been no proposal by our friends in the majority to actually come up with a commonsense solution to help ease the pain at the pump. Instead, we have a bill which—while I don't question the motivation for the bill since we are all concerned about the environment, I do think it is important that we ask questions about a bill that carries such a high pricetag and which will have the impact of actually increasing the cost of energy—gasoline and electricity—rather than reducing it.

I must say that last week, like all the rest of my colleagues, I went back home and had a chance to visit with a number of my constituents. Of course, high gasoline prices was the No. 1 issue on their minds. Even though my State is doing relatively well compared to the rest of the country, with about a 4.1-percent unemployment rate, we have seen some softening in the housing market, but generally speaking, my State is prospering. We are grateful for that. But even people who have jobs and feel as though they are doing pretty well otherwise are still feeling their paychecks shrink as a result of rising energy costs.

I am wondering why we are now on a piece of legislation that, rather than reducing the cost of their gasoline or electricity, will actually increase it. Right now, the average price of a gallon of gasoline across the country is right at \$4 per gallon.

As I talked to my constituents last week around the State, they asked me: What is Congress going to do to finally take action to lower those prices?

Well, unfortunately, I had to tell them we only got 42 votes on a provision on a bill—the Domenici amendment—which would actually have increased our use of American energy and reduced our dependency on imported oil from some of our enemies, such as Hugo Chavez from Venezuela and Ahmed Amadi Nejad from Iran, which are part of OPEC.

By our inaction in Congress, we are driving up that cost because, since 1982, we have been putting vast American reserves of energy out of bounds through a moratorium that was enacted on the Outer Continental Shelf, through our unwillingness to explore and develop oil shale in the West and our unwillingness to allow the State of Alaska to develop its own energy reserves in the Arctic National Wildlife Refuge. So it is easy for me to understand, seeing that disconnect between what my constituents are concerned about—high prices of energy, including gasoline—having to come back and debate a bill that will drive up those costs even further—it is easy to see why more and more people believe Congress is totally disconnected from reality. Congress appears to have very little relevance to the issue that concerns the American people the most, and that is the family budget.

I want to be clear about one matter though. The debate about our environment is one well worth having. Of course, we can all do better and should do better in being good stewards of the environment, conserving energy and reducing waste. Reducing dependency on foreign oil and bringing down prices at the pump are needed too. My fear is that this important issue is rapidly becoming just another tired political game.

Taking care of the environment is not a Republican versus Democrat issue. It should not be about partisan politics. Haven't we learned by now that the American people are fed up with the games in Washington and want real solutions?

Well, yesterday, the majority leader and the chairman of the Environment and Public Works Committee, Senator BOXER, were criticizing the fact that we wanted to use some of the time today to ask questions about this important legislation so that we could educate ourselves and our constituents about what is in this very complex piece of legislation. But I do have some questions I hope will be answered in this week's debate.

First of all, how much will this bill cost? I have read estimates that this bill's pricetag is somewhere in the \$6.7 trillion range. I fear that if that is correct, this is simply too costly of a burden to put on the American people. This is especially true when I believe more cost-effective solutions are available. I think we should balk at any

piece of legislation that carries a pricetag of \$6.7 trillion. Perhaps I have not been in Congress long enough to be jaded by such talk, and I hope I never am, but I still have trouble grasping the enormity of a number like \$1 trillion. Now we are talking about \$6.7 trillion. People in Congress tend to toss those numbers around like it is pocket change. But this is real money coming out of the budgets of real people—the American people.

I would like to know why \$6.7 trillion, and what is that money going to be spent for?

Why do we have to opt for a cost in that range when there are more cost-effective solutions available, such as tax credits for developing renewable energy, clean energy, like solar energy and wind energy? Why aren't we doing more to develop our nuclear energy capacity to create electricity, which is carbon free? Why aren't we doing that instead of spending \$6.7 trillion?

I want to know what the impact of this legislation would be on our economy and on the family budget. Already we have seen—as a result of the inaction of Congress over this last 771 days, since our Democratic colleagues said they had a commonsense plan to reduce the price of gasoline at the pump—the average American family lose \$1,400 in increased gasoline costs as a result of the rise in gasoline prices over that same period of time.

Now, some estimates are that Texas families—my constituents—would pay an additional \$8,000 if we pass this piece of legislation. That includes, some estimates say, a 145-percent increase in electricity costs and a 147-percent increase in gasoline costs. That is at least \$5.30 a gallon at a time when gasoline is \$3.98 a gallon.

Is it really true the proponents of this legislation want to raise that to \$5.30 a gallon? It seems to me we are going in the wrong direction, not the right direction.

At the same time, it is estimated this legislation, if passed, would actually cause more than 300,000 Texans to lose their jobs. Overall, estimates indicate this bill could cost the economy in my State—one of the States that is actually doing very well from an economic point of view—more than \$50 billion in additional costs.

Mr. President, we cannot afford another wet blanket on our economy caused by higher taxes and more expenses coming out of the family budget and more pressure on our job creators that provide people an opportunity to put food on the table.

Another question I have is, if the United States of America decides to impose this costly burden on ourselves, will China and India likewise impose the same burden on their energy industry? Of course, booming industrial giants such as China and India both have 1 billion-plus people. We know we are increasingly in a global competition and not only with India and China but the entire planet.

Why in the world would we impose a costly piece of legislation in the amount of \$6.7 trillion on the American people and raise electricity costs and gasoline costs and depress the gross domestic product of this country, putting people out of work, if our major global competitors are going to get off scot-free and not likewise constrain their economy by imposing these sorts of burdens on themselves?

Finally, Mr. President, I would like to know on what basis do the proponents of the legislation believe this bill will have its intended effect? If human beings contribute to climate change, which I will not debate—I assume we do in some way or another—why have these targets been proposed? What is the science to justify those? What if those targets are reached, albeit at a cost of \$6.7 trillion, with rising gas and electricity costs and a depression effect on our gross domestic product? How do we know, and where is the science that says, this bill will actually have its intended effect, particularly if China and India, our global competitors, don't participate?

The Wall Street Journal has dubbed this legislation "the most extensive Government reorganization of the American economy since the 1930s." It seems to me this is something we should debate and examine and we should ask questions about so that we will know what the effect of this bill will be if it is passed.

We have already seen that Congress is not exactly omniscient when it comes to the energy area, where we have subsidized corn-based ethanol as an alternative to renewable sources of energy. The fact is, we found there are unintended consequences when we use food for fuel.

How do we know this particular bill, the Boxer climate tax bill, will not have unintended consequences? I fear it may not have the intended effect of reducing carbon emissions, and it may have some of the unintended and disastrous side effects I have already outlined.

If we are certain this is the right approach to protecting the environment, where is the evidence? Yesterday, the distinguished chairman of the Environment and Public Works Committee, and today the majority leader, complained about the fact that we want to use some time today to ask these questions and get answers. We should not be asked nor should the American people be asked to accept this on faith: Don't worry, trust us. It reminds me of the most fearsome words in the English language: We are from the Government, and we are here to help. If that is true, the American people ought to see the evidence that will justify this huge expenditure of their money, the huge increase in prices of energy, and the depressing effect on the economy, why that is necessary, and whether it will actually work as intended. Where is the evidence?

Senator BOXER, the distinguished chairman of the Environment and Pub-

lic Works Committee, said the rising cost would not be a problem because of tax offsets she has included in this bill. She assured us this bill contained almost \$1 trillion of tax relief, so that if we do see some of the increases in energy costs in the early years—electricity, for example—we can offset that. It almost boggles the imagination that the primary author of this legislation, Senator BOXER, would essentially concede that there will be rising energy costs as a result of this legislation and say we ought to spend \$1 trillion more of the taxpayers' money to provide offsets for relief. This huge, complex bill deserves all the scrutiny we can give it.

Mr. President, I yield the floor.

The ACTING PRESIDENT pro tempore. The Senator from Ohio.

Mr. VOINOVICH. Mr. President, I would like to say, first of all, that I share some of the great concerns of my colleague from Texas.

Today, I rise to address the legislative proposal introduced by Senators LIEBERMAN and WARNER to address global climate change. Like many of my colleagues, I share the urgency to take proactive steps to address this challenge we have.

That said, I have serious reservations about the proposal. I think it is overly aggressive, vastly outpacing what technology can provide and thus ensuring enormous economic pain on the country, and it is overly bureaucratic and cumbersome in its implementation, representing an unprecedented expansion of Government power and a massive bureaucratic intrusion into American lives that will have a profound effect on businesses, communities, and families.

The EPA has stated in answer to a letter I sent them that this program will take between 300 and 400 people to implement, whereas the acid rain provision takes just under 30.

The major failure of this legislation is it fails to harmonize our country's economic energy and environmental objectives, and the consequences to American interests could be devastating.

The international aspect of this problem is particularly troublesome. The developing world is currently undertaking an intensive expansion of energy infrastructure and escalating industrial and commercial expansion to meet the demands of growing domestic and international markets. The developing nations' combined emissions shortly will exceed the developed nations' combined emissions.

In 2007, "[t]he International Energy Agency issued a . . . report projecting global energy demand would increase by more than one-half by 2030, and that 'Developing countries . . . contribute 74 percent of the increase in global primary energy use . . . China and India alone account for 45 percent of that increase.'"

China puts on line two coal-fired plants every week—two coal-fired

plants every week. In June, the Netherlands Environmental Assessment Agency announced that China's 2006 CO<sub>2</sub> emissions surpassed those of the United States by 8 percent. With this, China tops the list of CO<sub>2</sub>-emitting countries for the first time and, by the way, years ahead of the projections that were made a couple of years ago.

Much like China, those countries with large domestic reserves of coal—and that includes the United States—will continue to use it. It is unrealistic to assume that the world would turn its back on this abundant resource. We must take this reality into account, and this can be done by jump-starting the technology that is needed to produce the energy we need in an environmentally sound manner.

Recognizing the international dynamic of this problem, the Lieberman-Warner proposal attempts to impose a tariff-like requirement to hold carbon credits for goods entering the United States from countries that do not control their emissions. The U.S. Trade Representative has questioned the plan's efficacy, and China, Mexico, and Brazil have signaled that the policy could begin a trade war. Indeed, top officials from the European Union and the United Nations have also raised doubts about whether the U.S. trade penalties would harm the prospects of a new global warming agreement.

But even if the provision is WTO compliant, it will not address the underlying competitiveness issues the United States would face from the higher fuel, feedstock, and electricity prices the bill would impose on U.S. manufacturers.

A better approach is needed. Americans are already struggling with the increase in their cost of living due to higher prices for gasoline, home heating fuel, electricity, food, and health care, and this bill would only make things worse. I wish some of the sponsors would go back into their respective constituencies to hear the complaints from most people—middle-class people, poor, the retirees—whose standard of living is being reduced in the country today because of these costs.

We cannot tolerate policies that harm our economy and drive businesses overseas. If those businesses locate in countries that do not share our environmental objectives, then we are worse off on two counts: Fewer jobs in the United States and no benefits at all to the environment.

Over my strenuous objections, this bill was voted out of the Environment and Public Works Committee without an analysis of the economic impacts on the country from either the EPA or the Energy Information Office. Today, we have at least a dozen analyses of the bill from a wide variety of groups, and they are all about the same.

EPA's analysis predicts that by 2030, annual losses in gross domestic product could be as high as \$983 billion, and by 2050, those losses would grow to \$2.8 trillion. To put this into perspective,

CBO projects the Federal budget for this year will be \$2.9 trillion. That means the potential impact losses from this legislation in 2050 would equal that spent on everything we intend to spend this year from Social Security to national defense. Think about it.

In order to meet the caps of the bill, the analysis assumes aggressive growth in nuclear and other clean energy technologies at rates that are widely regarded as unachievable and, from my perspective, unbelievable. For example, they predict a 150-percent increase in nuclear power by 2050. Today, there are 104 operating plants, meaning that we have to build up to another 150 new plants by 2050. The Energy Information Office said, when they did the analysis, that we would have to build 220 of them by 2030 in order for these caps to be realistic. These assumptions are unrealistic and mask the true cost of implementing the bill.

In regard to nuclear power, I recently published a paper in the Nuclear News on the steps we need to take to launch a nuclear renaissance. I am going to make certain that each Member receives a copy of this paper. But bringing vast amounts of new nuclear power on line will not be a layup shot. For example, there is only one company and one plant in the world that makes the vessels and forges for plants. Recently, we anticipated new plants would cost about \$5 billion. The new cost is \$7 billion per copy. Today, we have pending at the Nuclear Regulatory Commission 9 applications for 15 new plants that, if constructed, would not come on line until 2015, 2016, and 2017. Honestly, we are going to be lucky to have 30 new nuclear powerplants by 2030.

In regard to what we call capture carbon and sequestration—the technology that is needed—no commercial experience or testing at scale has been done. DOE says it will take 10 years before the seven large-scale demonstration tests are complete to look at sequestration. DOE said that a more robust geological assessment will not be complete until 2015. Liability and critical infrastructure issues remain unanswered, and DOE says commercial CCS may not be available for 20 years.

The connection between the costs of the program and the availability of clean energy technology is clear. As EIA points out:

The . . . timing of the development, commercialization, and deployment of low-emissions electricity generating technologies such as nuclear power, coal with CCS, and dispatchable renewable power is a major detriment of the energy and economic impacts of 2191.

I want to repeat that.

The . . . timing of the development, commercialization, and deployment of low-emissions electricity generating technologies such as nuclear power, coal with [carbon capture sequestration], and dispatchable renewable power is a major detriment of the energy and economic impacts of 2191.

The Cleveland Plain Dealer, which is the largest newspaper in the State of Ohio, this Sunday editorialized on this

bill. The title is “This carbon bill isn’t the answer.” It goes on to say:

The bill, as conceived, will just bore new holes into an already battered economy. . . .

Coal-dependent states with partially deregulated energy prices—Ohio, for instance—would take a double hit in economic dislocations and electricity price spikes, with barely any financial cushions to make the disruptions more palatable. The bill also lacks the kind of consumer fairness and flexibility necessary to avoid fuel-price shocks and damage to manufacturing nationwide.

I ask unanimous consent to have this editorial printed in the RECORD.

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

[From the Plain Dealer, June 1, 2008]

THIS CARBON BILL ISN'T THE ANSWER

The latest version of a bill that would mandate a carbon emissions cap-and-trade system for utilities and others using high-carbon coal is due to come before the full U.S. Senate on Monday. It could be voted on before the end of the week.

To judge from the intensity of lobbying, you'd think it was a proposal to make it easier to exit Iraq, corral oil prices, revive the economy, spur renewable energy investments and end unemployment.

You'd be wrong on all counts.

The bill, as conceived, will just bore new holes into an already battered economy.

It also doesn't have a prayer of becoming law. There is no companion legislation in the House, and President Bush threatens a veto if one materializes.

Neither of Ohio's senators has said he supports it, and the big push by environmentalists to try to swing one of those likely nays—the one belonging to freshman Democrat Sherrod Brown—is all about symbolism over substance. In failing to compromise on issues of regional equity repeatedly highlighted by Ohio's other senator, George Voinovich, the bill's supporters evince crass disregard for the economic realities of hard-hit manufacturing states.

Neither Brown nor Voinovich denies the need to reduce carbon emissions and address global warming.

That need is increasingly urgent, given recent findings by scientists within the formerly skeptical Bush administration on how accelerating climate change is beginning to impact Americans' well-being.

Yet the hammer-and-tong approach of the Senate bill—originally sponsored by Democrat Joe Lieberman of Connecticut and Republican John Warner of Virginia and recently tweaked by Democrat Barbara Boxer of California—lacks even a semblance of balance.

Coal-dependent states with partially deregulated energy prices—Ohio, for instance—would take a double hit in economic dislocations and electricity price spikes, with barely any financial cushions to make the disruptions more palatable. The bill also lacks the kind of consumer fairness and flexibility necessary to avoid fuel-price shocks and damage to manufacturing nationwide.

Those who have watched the Europeans' cap-and-trade system deteriorate into a nightmare of bureaucratic costs, nonsensical investments in outdated factories in China and puzzling price spikes in which the utilities were the only clear winners can be excused for scratching their heads over why cap-and-trade remains the “only” idea worth pursuing.

Surely there are less cumbersome, more equitable ways of making carbon emissions more expensive, and thus spurring investment in new technologies, without breaking

the banks of both small-town and industries Ohio.

Mr. VOINOVICH. Mr. President, I ask unanimous consent to have printed in the RECORD the paper I have written on the nuclear renaissance.

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

[From the Nuclear News, March 2008]

MAKING THE NUCLEAR RENAISSANCE A REALITY

(By George V. Voinovich)

In September, for the first time in over 30 years, a license application to build a new nuclear power plant was filed with the Nuclear Regulatory Commission. Three more applications soon followed. The NRC expects to receive 18 more applications within the next two years for a total of more than 30 new reactors. Although no applicant has yet made a firm commitment to build, a number of them have made significant investments, such as ordering long-lead construction items. Internationally, the resurgence seems to be moving at a faster pace. According to the International Atomic Energy Agency, there are 34 reactors in various stages of construction in 14 countries.

The underlying political climate for nuclear power has changed over the past several years, influenced by a confluence of factors: the growing demand for electricity, sharp increases in the prices of natural gas and oil, and the increased emphasis on clean energy. Recent government policies, such as the Energy Policy Act of 2005, have certainly helped in stimulating private sector investment for new nuclear as part of a portfolio of “environmentally clean” energy projects. At the state level, legislation has passed or is being considered in Georgia, Iowa, Wisconsin, Florida, Virginia, Kansas, South Carolina, and Texas recognizing the value of a diverse energy portfolio that includes new nuclear plants. These factors have created an environment in which nuclear has once again emerged as a viable (perhaps one of only a few) energy source for baseload generating capacity.

Currently, 50 percent of our electricity comes from coal, 19 percent from nuclear, 19 percent from natural gas, 9 percent from renewable sources such as hydro, solar, and wind, and 3 percent from oil. Of these, coal and nuclear (with average capacity factor of about 90 percent) have been the backbone of baseload generating capacity, since they are capable of providing a steady flow of power to the grid at low cost and high efficiency. Solar and wind power plants produce electricity only when conditions are right; when the sun sets or the wind calms, their output drops, regardless of the demand for electricity. Natural gas power plants are too expensive to run as baseload plants due to volatility in natural gas prices.

According to the Energy Information Agency, U.S. electricity consumption is projected to grow from 3821 billion kilowatt-hours in 2005 to 5478 billion kilowatt-hours by 2030, an increase of more than 43 percent. To be sure, we must have greater efficiency, more demand-side management, and more renewable energy, but we must also have clean coal and nuclear generating capacity to sustain our \$11-trillion-a-year economy. With increasing environmental constraints, particularly the desire for caps on carbon emissions, expanding nuclear's share of baseload seems logical. The 104 nuclear power plants operating today represent over 70 percent of the nation's emission-free generation portfolio, avoiding 681 million metric tons of CO<sub>2</sub>, compared with 13.1 million tons for wind and 0.5 million tons for solar.

So it is no accident that there is a growing realization among environmentalists, scientists, the media, think tanks, and policy-makers that nuclear power must play an important role in harmonizing the country's need for energy independence, economic competitiveness, and a healthy environment. Sen. Barbara Boxer (D., Calif.), chairwoman of the Environment and Public Works Committee, recently stated: "I am a pragmatist. The vast majority of the members on my committee support nuclear power, and so do the majority in the Senate. . . . I don't think there is any question that we are going to be seeing new plants." Patrick Moore, one of the founders of Greenpeace, also caused a stir last year when he declared that "nuclear energy is the only large-scale, cost-effective energy source that can reduce emissions while continuing to satisfy a growing demand for power . . . and these days it can do so safely." They have come to a similar conclusion: If we are to meet the growing electricity needs in this country and also address global climate change, nuclear power has a crucial role to play.

Despite these positive developments, a number of formidable challenges to realizing a nuclear renaissance remain, particularly in the areas of regulatory uncertainty, financing, availability of human capital, expansion of the domestic supply chain infrastructure, and nuclear waste management. I intend to take steps, together with other stakeholders, to turn these challenges into opportunities. My hope is that these steps will serve as a road map to making the nuclear renaissance a reality.

#### REGULATORY UNCERTAINTY

Processing 22 or more new plant license applications concurrently on schedule in a thorough manner will be a monumental challenge for the NRC, which has not seen this type of major licensing action in the past 25 years or so. That is why as chairman of the Senate Environment and Public Works Committee's Subcommittee on Clean Air and Nuclear Safety between 2003 and 2006, and now as ranking member, I have focused a great deal of time and effort on making sure that the NRC is gearing up to meet this challenge and avoid a bottleneck. My management philosophy since my days as mayor of Cleveland and governor of Ohio hasn't changed: Place the right people to run the agencies and departments, provide them with the resource and tools necessary to do their jobs effectively and efficiently, and then hold them accountable for results.

Together with Sen. Tom Carper (D., Del.) and Sen. Jim Inhofe (R., Okla.), I introduced a number of bills—the Nuclear Fees Reauthorization Act of 2005 (S. 858), the Nuclear Safety and Security Act of 2005 (S. 864), and the Price-Anderson Amendments Act of 2005 (S. 865)—to provide the NRC with what it needs in terms of legislative reforms, human capital, and other resources to do its job effectively and efficiently. These pieces of legislation were enacted into law as part of the Energy Policy Act of 2005. Among other things, these bills authorized the NRC to take innovative steps to attract both young talent and retired experts to address the agency's anticipated shortages in technical capabilities.

The NRC's licensing process has been completely overhauled. All regulatory approvals are now received up front based on a completed plant design, before construction starts and significant capital is placed at risk. Under the old process, repeated construction delays and massive cost overruns were common as applicants struggled to stay ahead of evolving regulatory requirements and design changes. The old process required two separate permits—one to begin construc-

tion of the plant, and one to operate it—allowing multiple opportunities for delay. Some multibillion-dollar facilities stood idle for years while licensing proceedings ground slowly to completion. The new process requires only a single combined construction and operating license (COL) for both functions. There are opportunities for public participation in the new process, but most of those occur before construction begins, when such participation is most productive.

While the new licensing process is a significant improvement over the old process, a level of healthy skepticism remains by virtue of the fact that the new process has not yet been tested. Given the complexities involved, it is perfectly reasonable to expect some wrinkles during the NRC's review of the first few applications under the new process. In my view, the level of success and certainty in the process will depend in large part on the discipline with which the process is implemented by both the NRC and the applicants.

Finally, and perhaps most important, the composition and the stability of the commission will be more critical than ever before. Senator Carper and I will work with the administration and the Senate leadership to ensure that future appointees have a balanced and objective view regarding nuclear power and its role in harmonizing the country's need for energy independence, economic competitiveness, and a healthy environment.

#### FINANCING

The nuclear industry's major financing challenge is the cost of new baseload nuclear power plants relative to the size of the companies that must make those investments. Unregulated generating companies and regulated integrated utilities represent different business models, and those differences influence how these companies approach nuclear plant financing. Regulated companies expect to finance nuclear plants in the same way they finance all major capital projects, with state regulatory approval and reasonable assurance of investment recovery through approved rate charges. These companies must know—before construction begins—that their investment in a new nuclear plant is judged prudent and can be recovered. Unregulated companies rely on debt financing with a highly leveraged capital structure. Since the estimated cost of a new nuclear plant (\$5 billion to \$6 billion) is a significant fraction of the company's assets, it is in effect a bet-the-company decision.

To help overcome these obstacles, the Energy Policy Act of 2005 provides key incentives for investments in new nuclear plants: a production tax credit of \$18 per megawatt-hour for the first 6000 megawatts of new nuclear capacity; regulatory risk insurance against delays in commercial operation caused by licensing or litigation for up to \$500 million for the first two plants and \$250 million for the next four; and loan guarantees up to 80 percent of the cost of projects, such as nuclear plants, that reduce emissions. While the production tax credit certainly improves the financial attractiveness of a project during its commercial operation, and regulatory risk insurance provides a safety net in case of regulatory delays, it is the loan guarantee provision that makes the difference for unregulated companies in deciding whether or not to build. Properly implemented, this loan guarantee program allows unregulated companies building nuclear plants to employ a more leveraged capital structure at reduced financing costs, which then benefits consumers through lower rates for the price of electricity.

I have worked hard to make the loan guarantee program perform as Congress intended

in the Energy Policy Act of 2005—that is, to attract sufficient private capital at low cost. In addition to meeting with key administration officials, including then Office of Management and Budget Director Rob Portman and Energy Secretary Sam Bodman, in 2007, I introduced the Voinovich-Carper-Inhofe Amendment (SA-1575) to the Energy Bill (H.R. 6) to allow loan guarantees of 100 percent of the loan amount for capital-intensive projects such as nuclear and clean coal, provided that the borrower pays for the loan subsidy costs. Although this amendment did not make it into the final version of the Energy Bill, the administration recently issued a final rule that in effect adopts the intent of the Voinovich-Carper-Inhofe amendment.

I have also been working with the Senate appropriators to increase the fiscal year 2008 cap on the aggregated value of the guaranteed loans. On June 15, together with Senators Carper and Inhofe, I sent a letter to the appropriators urging them to increase the cap from \$9 billion (as called for in the president's budget) to an amount sufficient to cover all qualified and worthy energy projects, including new nuclear, clean coal, renewable energy, and energy efficiency projects. The appropriators responded by increasing the cap to \$38.5 billion, with \$18.5 billion for new nuclear, \$6 billion for clean coal-based power generation and gasification plants that incorporate carbon capture and sequestration, \$2 billion for advanced coal gasification, \$10 billion for renewable energy, and \$2 billion for a uranium enrichment facility.

Another critical factor for the successful implementation of the loan guarantee program is a transparent methodology for calculating the credit subsidy cost to be paid by project sponsors. Such costs should be reasonable and commercially viable. I will continue to work with my Senate colleagues and the administration to make sure the loan guarantee program is working the way it is intended to work. The need for government-sponsored investment incentives should be only temporary. Once it is shown that new plants can be built to schedule and budget, the sector will take care of itself. I don't want to create a ward of the state, but rather to overcome initial hurdles and nurture a sector that makes economic and policy sense on its own.

#### HUMAN CAPITAL AND JOB OPPORTUNITIES

Senator Carper and I recently held a nuclear energy roundtable with representatives from organized labor, industry, academia, professional societies, and government agencies. The roundtable was very productive as it raised an awareness of the impending shortage of the skilled workers needed to support the nuclear renaissance. Government, industry, and labor efforts in the development of a skilled workforce must be coordinated in order to align with anticipated investment in new plants. Each new nuclear plant will require 1400–1800 workers during construction, with peak employment of as many as 2300 workers. Skilled tradesmen in welding, pipefitting, masonry, carpentry, sheet metal, and heavy equipment operations—among others—all stand to benefit. If the industry were to construct the 30 reactors that are currently projected, 43,400 to 55,800 workers would be required during construction, with peak employment of up to 71,300 workers. Everyone at the roundtable agreed that the construction of more than 30 new reactors over the next 15 to 20 years could present an enormous challenge for the nuclear industry.

The roundtable resulted in a number of recommendations to turn this challenge into an opportunity, including the following: (1) use recent retirees as instructors, mentors,

and advisors; (2) provide more flexibility to a younger generation of workers; (3) invest in building a pipeline of future workers by front-loading recruitment and training—the philosophy of “just-in-time” inventory does not work with human capital; (4) identify all existing public and private-sector training programs, and then leverage and fund those that are successful (e.g., Helmets to Hardhats and the Building Construction Trade Department’s training program); and (5) provide adequate and consistent funding in science and technology for universities and colleges.

Successful follow-through on these suggestions requires a collaborative effort from the federal and state governments, industry, organized labor, and academia. Congress has demonstrated leadership in addressing some of these workforce challenges. The recently enacted America Competes Act establishes a solid policy framework for addressing the science, technology, engineering, and math workforce challenges identified in the National Academies’ report, *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future*. Sen. Jeff Bingaman (D., N.M.) and I fought to restore federal funding to support nuclear science and engineering programs at universities across the country in FY 2007 and FY 2008.

Senator Carper and I are planning a follow-up roundtable in mid-2008 to align investment and workforce development initiatives to ensure the collaboration and coordination of government, industry, and labor efforts in developing the energy-related skilled workforce, and to solicit input on legislative support.

#### EXPANDING THE DOMESTIC MANUFACTURING BASE

In the three decades since the last nuclear plant was ordered and the two decades since the bulk of the nuclear plant construction was completed in the United States, the nuclear design, manufacturing, and construction industry has significantly declined. The leading U.S. firms have either ceased operation, consolidated, or become subsidiaries of non-U.S. parent companies. The companies that remain have survived by retrofitting and maintaining existing U.S. plants.

Initially, it will not be possible to manufacture all of the major plant components required of new nuclear plants in the United States. Successfully bringing the planned 30 or more new nuclear reactors on line, however, requires the reestablishment of the construction and component supply industries, as well as the supplier network needed to support those industries—from the steam generators and reactor vessel heads to the thousands of valves, pumps, heat exchangers, and other parts used in a nuclear plant. The potential for growth in the manufacturing sector and manufacturing jobs to support the construction of 30 new nuclear plants is staggering.

I am a strong advocate for government policies that encourage private-sector investment in the manufacturing of various components and pieces of equipment for the energy sector. This includes the nuclear industry, as well as other energy technologies the nation will need, such as carbon capture and sequestration. The United States has long been a leader in innovation and advanced manufacturing. We need to promote policies that take advantage of the growth of our energy sector and of American ingenuity, productivity, and entrepreneurship by encouraging the manufacturing industries that will support future energy development to produce their products in the United States.

I introduced the Voinovich-Carper-Inhofe Amendment (SA-1683) to the Energy Bill

(H.R. 6) to make American-manufactured nuclear components, parts, and service-related jobs available to foreign markets. The support of our House colleagues—Chairman John Dingell (D., Mich.) and Ranking Member Joe Barton (R., Tex.) of the House Energy and Commerce Committee—was instrumental in getting this piece of legislation passed and signed into law. This legislation is anticipated to spur growth in U.S. manufacturing for new international commercial nuclear power plants, create highly skilled jobs across the United States, and provide American companies and workers access to foreign markets that have long been dominated by foreign competitors.

#### MANAGING NUCLEAR WASTE

The U.S. high-level radioactive waste management program under the Department of Energy has faced several challenges for many years. First, a redirection of the program has occurred with every change in administration. Second, a majority of the Nuclear Waste Fund revenues are consistently applied to support congressional budgetary priorities rather than their intended purposes. Third, the annual appropriations process provides for ongoing opportunities for those opposed to the direction of the program to interfere with its success.

At the time the Nuclear Waste Policy Act was signed into law in 1982, the direct disposal of spent fuel as a national policy was established on the premise that the existing fleet of nuclear plants would operate only through their initial 40-year license and then be retired, with no new plants being built. This was during the post-Three Mile Island accident era, when nearly 100 planned nuclear plants were canceled. Today, the story is vastly different, with most nuclear plants likely to extend their operating lives to at least 60 years. Also, there may be as many as 30 new nuclear power plants planned in the next 15 to 20 years.

I held a subcommittee hearing in September 2006 to examine both short- and long-term options for the nuclear waste issue. One of the options discussed was a program to determine whether the reprocessing of spent nuclear fuel should be adopted in some form, rather than the current policy of direct disposal. Through reprocessing, uranium and plutonium recovered from spent fuel can be recycled into new fuel. Reprocessing also serves to significantly reduce the volume of material requiring geologic disposal. Reprocessing technology has been used on a commercial scale for many years in a number of countries. The renewed interest in an expanded role for nuclear power in the climate change debate further emphasizes the importance of reexamining U.S. policies related to the nuclear fuel cycle. I believe we should not remain solely fixated on a waste solution that was designed for a different day.

Another idea presented at the hearing involves long-term interim storage perhaps complementing a spent fuel recycling program. While permanent disposal at Yucca Mountain or a similar facility remains a long-term imperative, the combination of short-term on-site storage and longer-term interim storage of spent fuel gives us time to complete the technology development needed to safely and securely recycle spent nuclear fuel.

Senator Carper and I plan to hold a roundtable to solicit input from various stakeholders to help us develop a legislative proposal with the following objectives in mind: (1) implement an accountable and sustainable governance structure to execute the federal government’s responsibilities under the Nuclear Waste Policy Act; (2) enable the investigation of recycling spent nuclear fuel with appropriate consideration of safety, nu-

clear proliferation, environmental, energy supply, and economic factors; and (3) ensure that the fees paid into the Nuclear Waste Fund are applied for their intended purpose—i.e., the disposal of radioactive wastes produced by the generation of electricity from nuclear power—in a manner insulated from political influences.

I believe that the safe and secure growth of nuclear energy is essential if we are to harmonize the country’s need for energy independence, economic competitiveness, and a healthy environment. Nuclear power is growing in the world, and our own energy needs can serve as a springboard to rebuild U.S. technology and manufacturing capabilities to something approaching the leadership the nation once enjoyed, contributing to foreign markets as well as supporting our own. I intend to work with my colleagues in the Senate to build bipartisan support and leadership for making the nuclear renaissance a reality.

Mr. VOINOVICH. Mr. President, while coal and manufacturing States pay their neighbors and the Government to stay in business, the bill establishes trillions of dollars in new entitlements, earmarks—earmarks—with money flowing to over 30 new Government spending programs, constituting, as the Wall Street Journal recently pointed out, one of the largest tax-and-spend bills in the Nation’s history.

Based on EPA’s analysis, this bill would raise over \$6 trillion from the allowance auction from owners and operators of utilities and factories that have to purchase allowances to stay in business. But the cost of purchasing these allowances would be passed on to consumers as higher prices, which will, as the CBO points out, amount to a regressive tax hitting low- and middle-income working families. In my State, they predict that by 2012, the cost of electricity will go up 50 percent, the cost of natural gas 80 percent, and the cost of gasoline will go up 30 percent. Some of my constituents say: How can the cost of gasoline go up? I point out to them that we have refineries that refine oil. With this bill, they are going to have to buy allowances, and those allowances will increase the cost of your gasoline 30 percent. Did you hear that? A 30-percent increase in gasoline costs as a result of this legislation. Give me a break.

Despite the severe economic damage Lieberman-Warner would impose on the U.S. economy, the policy would do little to address global climate change. EPA’s—this is not some conservative group out there—analysis indicates the policy will reduce global concentrations of CO<sub>2</sub> less than 5 percent by 2095.

Addressing climate change will require a technology revolution centered on the way we produce and use energy. The theory behind Lieberman-Warner is that the more painful it is on business, the faster CO<sub>2</sub> reductions will occur. I believe the solution to this problem lies in our ability to increase access to clean energy. Instead of using the power of the Government to increase energy cost, we should use it to decrease barriers to investments and clean energy solutions.



The United States took a lot of flak from countries for our not signing Kyoto, but I am pleased the Bush administration has been moving forward with some new initiatives. And while we didn't sign Kyoto, we do have a base of international activities to build on, and one of them could provide the basis for becoming a multinational effort, giving all countries a vested interest in technology advancement and deployment.

The thing we have to remember is that, above all, the developing world desires sustained economic growth. Slowing down economic development to address climate change is not an option they are willing to pursue, and we cannot force it upon them. If we are going to be successful in addressing the challenge of climate change, we have to set a realistic vision for the developing world, using what Richard Armitage and Joseph Nye referred to as smart power. When they testified before the Senate Foreign Relations Committee on April 24, 2008, they argued that the world:

... looks to the U.S. to put forward better ideas rather than just walk away from the table.

This was the perception after Kyoto, and it could be the perception again today if we do not find a way to engage the developing world.

They go on to say:

The United States needs to rediscover how to be a smart power, which matches vision with execution and accountability, and looks broadly at U.S. goals, strategies, and influence in a changing world.

And they rightly conclude that our:

... challenges can only be addressed with capable and willing allies and partners.

Without willing partners in China and India, we cannot be successful in addressing climate change. Technologies development and promotion should drive our national climate policy. It is the only rational path forward. It is the only way to deal with emissions from rapidly expanding coal-based economies such as China and India, that readily admit they have no intention of accepting binding emission targets.

The public interest and private sector communities agree that the crucial factor that will determine whether we have an effective climate policy is the extent that policy will encourage the development and deployment of needed technology. Regulation without sufficiently available technology will result in high cost for American consumers while offering little hope that developing nations will answer the call to reduce their emissions.

In conclusion, I agree that we need to act quickly to address climate change, but we must be smart about how we proceed. I am hoping after this year's debate, we can come together—come together—on a bipartisan basis, to draft a bill that doesn't impose unilateral actions that hurt our economy and drive jobs overseas but rather jumpstarts technology, engages our inter-

national partners through collaborative multinational efforts to develop and deploy the clean energy technologies that everyone recognizes are necessary to solve this global environmental problem.

I appreciate the Chair giving me an extra minute.

The ACTING PRESIDENT pro tempore. The Senator's time has expired.

The Senator from Florida.

#### HIGH COST OF ENERGY

Mr. NELSON of Florida. Mr. President, I wanted Sara Sanders to come over here and be on the floor while I am speaking, because this photograph is of her hometown, Madison, FL, in Madison County, which is in north Florida. If you examine this photograph of downtown Madison, here is the old courthouse, and across U.S. 90 is this Shell gasoline station.

This photograph is from a couple of days ago, and you can see that regular is \$4.09.9 a gallon, and premium is \$4.33.9 a gallon. This is certainly a record for Florida, and it is especially a record for the rural parts of Florida, which Madison County, part of north Florida, is a part of.

Last week, when we were in recess, I did 18 townhall meetings all over the State of Florida, and I can tell you our people are hurting. They are hurting because they are having difficulty making financial ends meet. Our people are hurting and are having difficulty making their paycheck go far enough. Our people, particularly those who have to drive long distances and don't have any alternative of mass transit to get to work, are having difficulty being able to afford getting to work. That is symbolized by this photograph of a couple of days ago in Madison, FL—\$4.10 for a gallon of regular gas.

Where is it going to go? Well, I wish to have you look at this particular chart. Now, this indicates to us what has happened to the price of gas over the last 8 years. In January of 2001, the price of gas was at \$1.47. Seven and one-half years later, the price at the end of May was \$3.94 a gallon. This is a national average. As that photograph reflected, it has exceeded, even in rural parts of America, \$4 a gallon.

It rocked along here at less than \$1.50 for a couple of years. Then, in 2003, it jumped above \$1.50 and started to gradually climb. Then, in 2005, it spiked up right after Katrina. As a matter of fact, overnight, when Katrina hit, it went from about \$2.65 to up over \$3. It gyrated back and forth, exceeding that \$3 limit, and look what has happened in the last month or 2 months. It has gone from less than \$3 a gallon all the way up to \$4 a gallon.

There is something that is going on, and people are sick and tired because they are frustrated they can't afford this. By the way, Florida is a microcosm of America. A lot of America has moved to Florida and, therefore, when

you look at a representative sampling of this country, our State is a microcosm. And having been all over the State for all of these townhall meetings this past week, I can tell you that people's frustrations are turning to anger. They do not know what to do, but they want their Government to act.

Now, what do we do? Well, I must say it is very interesting that we hear coming from parts of the energy sector the same old story: We have to drill more. If you could drill more and you could get it to market immediately, that would certainly bring some relief. But when that is said, the full story isn't told. Because when the oil companies say they want to drill more, and that supply and demand will take care of the problem, what they fail to say—and they fail purposely to say this—is that there are 33 million acres under lease that are submerged lands—33 million acres—of which they haven't drilled. It is there. They have not drilled.

Of course, a side issue here is the constant pressure to come in and drill off of our coast, off of the east coast of the United States and off of the west coast. But there are 33 million acres under lease, submerged, that are already available. Plus, there are another 34 million acres that are either owned or leased on lands that have not been drilled. Now, you don't hear that, but that is a fact. Of those 33 million acres that are submerged, and that are under lease and ready to be drilled, or to go through the process of leasing, they ignore the fact that we worked out a compromise 2 or 3 years ago where we would add an additional 8.3 million acres of submerged lands in the Gulf of Mexico that could be leased. We kept that away from the military training area, which is most of the Gulf of Mexico off of the State of Florida.

All that submerged land is there for drilling, but of course we hear the same old refrain from over the years: Well, let's drill. Let's drill our way out of the problem. The fact is that is a red herring to get us off of the ultimate solution to this problem. The answer is not just drill, the answer is alternative energy sources.

Now, let me put it another way. The United States has only 3 percent of the world's oil reserves, but the United States consumes 25 percent of the world's oil production. If you only have 3 percent of the world's oil reserves but you are consuming every day 25 percent of the world's oil production, doesn't that suggest to you that you can't drill your way out of the problem; that you ought to be looking to different solutions?

I am going to suggest a few. But first I want to go back in history. What has happened in America? First, we had a wake-up call. Remember, it was back in the early 1970s. The OPEC cartel was formed and they decided to have an oil embargo, and so the price of oil jumped per barrel something like from the \$2 or \$3 a barrel price to suddenly \$10 and