

deficit, we want it each year, every year, for the next 10 years. It is the budget on page 4. People don't see that.

I can see the Presiding Officer is going to call my time. He has been very courteous. I will be glad to yield him time when he can take the floor and answer these things because I have not been able to find a good answer.

I am trying to sober them up. Let's put the Government on a pay-as-you-go basis. Let's start getting competitive in industry and manufacturing and create real jobs. Let's start rebuilding—not Bosnia, not Afghanistan, not Iraq—but rebuilding the United States of America. That is the need of the hour.

I yield the floor and suggest the absence of a quorum.

The PRESIDING OFFICER. The clerk will call the roll.

The assistant legislative clerk proceeded to call the roll.

Mr. CRAIG. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. CRAIG. Mr. President, are we in morning business at this time?

The PRESIDING OFFICER. Yes, that is correct, until 12 noon.

Mr. CRAIG. I thank the Chair.

ENERGY POLICY

Mr. CRAIG. Mr. President, I am here this morning to speak to the bill that is now before us, S. 14, brought to the floor yesterday by Senator PETE DOMENICI, the chairman of the Energy and Natural Resources Committee of our Senate. It is a work product that a good many of us have been involved in for well over 3 years, in looking at the issue prior to the Bush administration coming to town and certainly with the initiative of the Bush administration to recognize the need for a national energy policy and to produce for us an outline of their vision of a national policy and asking the Congress to work its will over the last good number of years to produce that policy.

Of course, that came in the backdrop of brownouts and blackouts in California, of a jigsaw or certainly unprecedented ties or ups and downs in the gas markets of our country and a real recognition that over the last good number of decades the Congress of the United States and our Government had not minded the energy store of our country very well.

We were resting on the laurels of a relatively substantial surplus in electrical energy—the ability to produce hydrocarbons here at home; be less dependent upon foreign oil; and, to watch all of that change with the growth of our economy and some of the other government regulations that denied or limited the ability to produce energy for our country.

We know during the decade of the 1990s we went into a mode of deregulating the electrical industry all in the name of spreading that surplus out

around the countryside but all based on the premise that you could lower the cost to the consumer because, in fact, there was a surplus.

Of course, during the decade of the 1990s we saw that surplus rapidly disappear with the phenomenal growth we went through with the country and the fact we were not adding to the energy base of our country. I believe while consumers in the short term experienced some relief—and ratepayers in the end—we saw price spikes, instability, brownouts, and a greater concern about a constant, stable flow of energy—the high-quality kind that is critical to fuel an industry and making sure that it was available upon call and when necessary, something that in the late 1990s and certainly at the turn of the decade was all in question.

That is one of the reasons we are here on the floor debating energy, and will be for the next several weeks in our effort to pass a comprehensive energy policy that will promote the kind of production that will advance conservation, and that will certainly promote the protection of the environment and the production of clean energy. In all of that context, what is most significant is, in fact, the production area. We now know with our capabilities and our technologies that we can produce it cleanly in a nonpolluting way, or certainly in a less impacting way to enhance the availability of supply.

One of the areas I have spent a good deal of time on over the last number of years is the issue of nuclear energy. Certainly during the decades of the 1970s and the 1980s and into the 1990s there was a concerted effort on the part of a variety of interests to argue that somehow nuclear energy was not a safe form of energy; that it was one that we ought to take out of our energy portfolio. What they failed to recognize was that about 20 percent of our generating capacity is based on nuclear energy. It really was a scare tactic to panic an uninformed public, on the safety and the stability of nuclear energy, into a sense of urgency as related to eliminating nuclear energy. During that period of time as knowledge began to grow, another fact began to emerge out of all of these issues. That was that nuclear energy was rapidly becoming a least cost part of our total energy package—that the cost of production was stable, that the reactors had operated very effectively, and that in retrofitting them, modernizing them, relicensing them, we were extending their life and getting greater efficiency.

In the last spike in our electrical costs, the nuclear energy industry—the electrical side of it—became the least cost producer of electrical energy.

At the same time, we have not brought any new reactors on line. The public and/or the interest groups have driven the costs by their concern over the siting of them and the building of them. And the constant demand of retrofitting them and building into them

comprehensive and redundant systems has driven the costs and the ability to build one beyond the reach of the consumer and the ratepayer, and, of course, therefore, the utilities.

Understanding that we continue to push forward not only to develop a waste repository system to take the high-level waste out of the interim storage facilities at these reactors, as we have promised the public we would do, and move them to a permanent repository that is now sited and in the process of being licensed in Yucca Mountain in the deserts of Nevada, but we also have opened up another geological repository at Carlsbad, NM, known as a waste isolation pilot plant that handles transuranic waste—what I call “garbage waste”, such as the tools and smocks of nuclear workers. The WIPP facility takes waste from our defense facilities, but the point is this facility has been operating for a number of years and we have demonstrated that we can deal with this type of waste safely.

This government has worked hard to keep good on its promise while there are many who would deter it and try to deny those promises to the consuming public, arguing that somehow we couldn't handle waste; therefore, we shouldn't have new reactors, and, certainly, therefore, we shouldn't build them if we couldn't manage the waste stream.

While all of that was going on, another issue began to emerge in the context of global concern. It was the issue of climate change. I will be speaking to that in a few moments. But the issue of climate change began to be argued by many as a product of greenhouse gas emissions, and in part certainly produced by the emission of greenhouse gases from the production of energy, and mostly electrical energy. While that grew, it allowed many of us to argue that the ability to produce electricity through a nuclear reactor was nonemitting, or an emission-free system. That has clearly become recognized. I think many of our experts now in the field of energy worldwide, as we see the need for energy constantly growing, will admit that over the course of the decades to come 20 percent of the electrical production, which is nuclear in this country, probably has to grow into 30 or maybe 40 percent of the total package to work to keep our air clean.

In France, I believe now nearly 80 percent of their electrical capacity is nuclear. Many other countries are following that route. They are managing their waste effectively and responsibly. It is also true in Japan. Here is a nation that not very long ago was most antinuclear for obvious reasons. But they came to recognize also that the ability to produce electricity for a growing economy in their country could be produced safely by nuclear energy.

All of that realization and all of that work in part came together with the

coming to town of President George W. Bush, Vice President DICK CHENEY, and the selection of Spencer Abraham as our Secretary of Energy—all recognizing that in the course of this we were going to have to get a new reactor design and new concepts that would allow us to advance the cause of electrical generation through the nuclear industry.

As a result of that growing interest and as a result of all of the changes that occurred in the world over the last several decades, and the clear understanding that the energy we produce for today's market and future markets needs to be clean, there is a much better understanding of the role that can be played by the nuclear industry if certain kinds of things are allowed to happen. I believe those certain kinds of things are new reactor designs—what we call new passive designs, those systems that are designed to shut themselves down automatically if problems occur instead of to be activated manually by human operators. We believe—and the industry certainly believes—that all of that is highly possible today. There are models out there that demonstrate that capability.

There are many in the scientific and engineering community who recognize the validity of being able to do that. It is with that, and the concept of new generations of reactor systems, that we began to look at the potential of this country's building that kind of prototype—a generation IV, passive reactor system that is clean, that burns its fuel more efficiently, that is extremely robust in its capabilities as it relates to safety and shutdown and, of course, in the end, because of its efficiencies and fuel utilization, leaves less waste compared to the old reactors.

Let me depart for a moment and tell you a story that I think most Americans do not know about today. It occurred in my State of Idaho, at a site now called the Idaho National Engineering and Environmental Laboratory. At the beginning of Admiral Hyman Rickover's desire to create a nuclear Navy a good number of years ago, activities began to be undertaken in the deserts of Idaho. Those activities related to the development of the prototype reactors to be put into the Nautilus submarine—a reactor that was small but efficient and powerful and safe for operation and safe to live by, to live right beside.

Of course, we have seen the phenomenal growth of that capability over the last good number of decades. We have become so good at building and engineering the reactors for our nuclear Navy today that a reactor that once had to be fueled every few years now need not be fueled for the design life of the hull of the vessel itself. That is almost a hard concept to imagine: that for a new nuclear Navy vessel today, when launched, and when its reactor is activated, that reactor will operate for the life of the vessel—but that is what is going on today.

That engineering, that capability, that efficiency was developed in the laboratories in Idaho. Of course, it is one of the great stories of energy efficiency, of safety, and of the effective management of the atom itself. It is that kind of technology that should be, and we hope can be, applied to the commercial side of the atom today, that we can, in fact, build smaller, modular, flexible, passive reactors that, when fueled, continue to operate long term for the production of electricity; and, of course, in doing that, to be immune from the price spikes in the marketplace that are based on the supply of fuel itself, because when that reactor is fueled and activated, it then continues to operate, at a flat cost, nearly for the lifetime of that fueling, which could go on for a good number of years. That is a uniqueness that we think we are now capable of producing in new reactor designs and new reactor concepts.

As all of this was developing, and this new interest was growing—and certainly brought to the forefront by the Bush administration, as they came to town and began to openly talk about the development of passive reactor concepts versus an administration that had just left town that worked actively trying to stop, to turn off, or to shut down the nuclear industry—other dynamics began to occur.

This is another unique dynamic that now fits into the whole concept of building a new nuclear reactor today: It is hydrogen, hydrogen fuel cells, and the ability to build clean hydrogen fuel cells that generate electricity to operate our automobiles.

I have driven a hydrogen fuel cell automobile, as many of my colleagues have, and they drive most effectively, except the prototype that I was driving up in Dearborn, MI, costs about \$6 million. Well, we know that is out of the reach of the average citizen. However, we also understand that if this technology is applied to the transportation market as a whole, that there could come a day when my children and my grandchildren will view it normal to go to the local car dealer and buy a hydrogen fuel cell electric automobile at a competitive price in the market. That electric automobile will drive very efficiently, long term, at low cost, and have zero emission.

This administration, once again, in pushing the envelope of energy and energy technology, has argued that this ought to be the transportation fuel of the future, and we ought to begin to invest, increasingly so, in this concept.

In S. 14, these concepts come full circle, and we begin to authorize the investment substantially in the development of the hydrogen fuel cell—now, not just for the automobile, but the idea that there could come a day when you could develop small, modular fuel cells for the individual home, and they could run safely and easily and emission free for long periods of time to generate electricity for a home site or a small business or a rural dwelling is

very feasible with the development of that technology.

Here rests the problem: Most have said we will gain this hydrogen through natural gas, that natural gas can become the producer of hydrogen. The problem is, you are using one energy source to produce another energy source. The efficiency of doing that makes it, in fact, a very poor use of natural gas.

We have also seen the unwillingness of this Congress or some interest groups to allow the exploration for natural gas and the expanded capability of that production.

I spoke yesterday on the floor about the pumping back into the ground of billions of cubic feet of natural gas in Alaska. Why? Because there is no way of getting it to the lower 48 States without the development of a pipeline, a pipeline that is proposed and embodied in S. 14, for the necessary purpose of supplying natural gas to the lower 48 states.

But the reality of the use of natural gas is that it ought not be used to produce hydrogen, and it ought not be used to fire gas turbines to generate electricity. Efficiency-wise, that is a poor use of natural gas. Natural gas ought to be used for the purposes of space heating. That is where it is the most efficient, and in an industry where it can be used for certain processing purposes. That is where natural gas finds its highest efficiencies.

If we want to develop a hydrogen transportation fuel industry—and natural gas is not necessarily the best source of hydrogen—how do we get it? How do we push that envelope to supply an abundant source of hydrogen to a marketplace that may well grow to fuel the fuel cells that will generate the electricity that will propel the modern car 20 or 30 years or 40 years from now? You can do it through using electricity to split water into oxygen and hydrogen—a process known as electrolysis. You can do it through the use of electricity in a much more efficient way than you can with the use of natural gas.

What do you use in electrolysis? You use water. So not only do you have an abundant resource that can be converted, but it can be converted in a very clean way into a gas that, when utilized, produces no emissions into the atmosphere.

Is this a dream? No, not at all. It is a reality, and we know that. It is a reality within the engineering capabilities of this country and the industries embodied in the energy field. We know that is a capability.

How do I jump from nuclear to hydrogen? I want to bring both of those together this morning because what we believe is that a generation IV passive reactor of the kind we are proposing be built as an experimental prototype by our Government, and one that is proposed and authorized in this S. 14 comprehensive energy policy for our country, also has built in it a system to

produce hydrogen. The idea is that we can, in fact, get two for one, and we can design safe nuclear reactors today, or passive nuclear reactors today, that are capable of having within them a system that splits water to produce hydrogen for the future transportation market of our country. This concept is something that is so exciting to me and ought to be exciting for our country.

To think that we have the capability of moving ourselves that much further forward is an opportunity. I liken this uniqueness, this application of science and engineering and technology, to something almost as important as the space program was decades ago. It is what Government ought to be doing, ought to be using its resources for—to push the envelope of technology forward and to allow the kinds of developments in technology that the private sector can then take and effectively use—because the private sector cannot afford to invest the hundreds of millions of dollars that it ultimately will require to develop this kind of technology. This long term technology development does not have the immediate payback return on it and so if we leave it all to industry it simply will not happen for a long period of time.

Embodied in S. 14 are the provisions that would authorize exactly what I am talking about today, a new reactor design for our country, a design that has within it the capability of the production of hydrogen through electrolysis, and to me that is a tremendously exciting concept. That is why I believe S. 14 is important legislation. A press person stopped me the other day and asked: How is President Bush doing on his domestic agenda? One of this President's No. 1 items, or top two or three, in his domestic agenda is a national energy policy. A lot has taken that issue off the headlines the last number of years—from the issue of 9/11 to terrorism to the war in Iraq. But underlying all of that and always important for the productivity of an economy, for the future of a Nation, is an abundant energy supply.

Through all of that, we have found just how fragile our energy supplies are. We are now nearly 60 percent dependent for our oil supply on foreign countries. We have in our infrastructure of electrical production aging facilities and transmission that is not effectively being replaced to sustain the quality of electricity we have.

As soon as this country begins to get back into the 3, 4, 5 percent growth rates we hope to see in the near future, we will find once again a lack of supply because we are not producing it or, if we are trying to produce it, we are trying to use gas through electrical turbines. The pricing of that is yet to be determined because of our inability to produce a more abundant supply of natural gas.

All of those issues fit together, and the American public, I hope, will be allowed to focus on that with us as we

debate these issues embodied within S. 14.

S. 14 is a bill that was written the right way. It was written by the authorizing committee on Energy and Natural Resources, a combination of ideas that have worked their way through the process, that came to that committee to be crafted into legislation in a bipartisan way. Amendments were offered. Some were voted up; some were voted down. Most importantly, the process the American people respect and ask for was allowed to effectively work.

The energy bill we had on the floor a year and a half ago was not written by committee, but by a couple of individuals in the majority leader's office. The bill we have on the floor today was in fact crafted by the responsible committee of the Senate. I hope we can debate it thoroughly, amend it, if necessary, and ultimately get it into a conference with the legislation the House has passed so we can put it on our President's desk for his signature as a national energy policy for the country.

I have talked about a few provisions of the policy I believe are tremendously important. Let me speak to one other I believe is important as we work our way toward the development of a comprehensive policy.

Many of us have been through what is known as the Kyoto debate, a debate on climate change, an argument that the production of greenhouse gases is in fact creating a greenhouse effect that has created global warming. There are some who believe that emphatically. Others say the science simply does not bear that out today, that while our world may be getting warmer, it is not necessarily believed it is the greenhouse gases or the emission of those that is causing it. The obvious reason for that argument is clear. Historically, over the millions and millions of years of our timetable for the world, we have seen this globe get cold, get warm, and go through a variety of changes. There will be some who argue the changes we are experiencing today are in fact a product of that magnitude of geological change. I am one who has argued on the side of science.

Others found this to be a rather nifty political idea and have generated the politics of it, arguing that, my goodness, the world was going to come to an end and the ice cap on the Antarctic was going to melt and shorelines were going to move inland hundreds of feet, if all of this ice melted in the world today, and that could all be stopped if we would simply stop emitting the greenhouse gases produced by the burning of fossil fuels.

If we were to do that, because that is what would be required, if we knew in fact our globe was warming and we knew it was warming because of the emission of greenhouse gases, that is something this country would rush to do. However, it would also rush to convince the rest of the world to do it with

them and in a way that would find alternative sources of energy. We would want to do that based on the very best science available, to use the modeling that could be produced by the supercomputers to bring about those kinds of judgments. We really would be talking about turning the light switches of our country off, unless we were willing to shift dramatically to new sources of energy in a relatively short time.

I am one who believes the science is not yet there to argue those kinds of changes. In fact, the Clean Air Act has produced a much cleaner environment, and we have on board current policies today that are continually reducing the amount of greenhouse gas produced per capita individual in our country as compared with other countries. We are contributing in a major way today to the improvement of the world environment. But we are a big country. We are big in the sense of the use of energy. We are the largest country in the world when it comes to the use of energy, and it is because of our wealth and because of the size of our economy. So when you examine the amount of greenhouse gas produced per capita individual, we still remain high, at the top of the list.

There are other countries today who have demonstrated little concern about the emission of greenhouse gas in their building of an economy. China, India, other countries, Third World emerging nations working hard to produce an economy to put their people to work. They have paid little regard to the environment. In fact, in the debate at the Kyoto climate change conference, the interests driving the conference said: We can just exclude developing countries because they can't comply. They are not advanced enough, and we couldn't get them to comply, anyway. Yet they have become major producers of greenhouse gases.

If you believe that in fact emissions of greenhouse gases are creating the kind of climate change some would argue is going on, then certainly the developing countries ought to be included. Why should we shut ourselves down and allow other countries to increasingly become polluters, allow them to be extremely competitive in the economic marketplace, when we have denied ourselves that kind of competitiveness because we have driven our cost of production up dramatically by new energy sources?

That is all part of a fairly general summary of the debate that has gone on here in the Senate and across the country and the world for the last number of years. I have attended a conference of the parties at The Hague related to climate change. That was the attitude of the rest of the world, that the United States economy was the bad actor producing all of the greenhouse gases, and we should just shut the United States' economy down or we should demand that the United States change its ways dramatically.

What they were not saying was: We also will consider making a similar

change in our country, as long as our cost of production remains relatively low.

The reason they will not say this is that they want their competitiveness in the world economy to rapidly increase compared to that of the United States. That became part of all of that debate. I, along with Senator BYRD and Senator HAGEL, some years ago developed a resolution that got 95 votes in the Senate suggesting that this country ought not go it alone when it came to climate change, and it certainly ought not proceed without good science; and we ought to build the systems that produce the science that allow those of us who shape public policy to make decisions based on the best science—I am talking lab science, not political science.

The climate change debate has been a good deal about the politics of the environment rather than the reality of the change itself, or what is producing the change and the science involved. This administration has said: Let's err on the side of science. Let's make sure we have an ambitious effort to get where we need to get, relating to climate change. We are not going to ignore it. We are going to be sensitive to it, but we are going to make sure that what we do is done right.

It just so happens that the nuclear initiative I have just talked about fits nicely into that equation of beginning to produce more and more of our electrical power from a nonemitting fuel source. The hydrogen fuel cell vehicle concept that I am talking about is, again, another clean technology. So while we are pushing the envelope of technology, we clearly ought to be building the scientific base to be able to make the decision as to how much further our economy and our country ought to go towards zero emissions into the environment in the name of climate change.

Those are awfully important issues, and they are some this country cannot deny or sidestep. But until we have the best science available, until we are using our own modeling, based on our own supercomputers, and we are not using the modeling with the Canadian bias, or a German bias, the kind of modeling that is producing the science that we are looking at today because we don't have our own, then shame on us for not developing it, for not using our own science and our own scientists to make sure that the science from which we base our decision is the right science. As I have said, the consequence is to produce an economy in which the American worker is no longer competitive or productive as it relates to other workers around the world. If that becomes the case, we slowly put our economy and our country at a tremendous disadvantage.

The great advantage we have always had as a country is the availability of an abundant energy supply. It is from that energy supply, which in most instances costs less than a comparable

form anywhere else in the world, that we have built the greatest economy the world has ever seen, that we have put more people to work, that we have generated more wealth, and we have created a standard of living that all of us are proud of, and that we have provided for ourselves and our citizens truly the American dream.

Was it all based on energy? It all was based on the availability of energy as a major component of that industrial base, that economic base. It was certainly also based on the free market system and the competitive character of that and the innovation that occurred through that. But along the way, Government effectively used itself and the resources of the American taxpayer to push the technology, lift the horizons of experimentation that, in a way, ultimately brought that to the ground for use by the consuming public and to be generated in the private sector.

That is what S. 14, in large part, is about. It is about the grand, new designs of new concepts that deal with large production. It is about the grand, new utilization of wind turbines and photovoltaics, and certainly the type of energy that is extremely clean and can provide a portion of energy to our energy basket. It is about making our current forms of energy even cleaner by advancing the technologies available, to give the tax incentives to effectively use the regulatory device to do so, and also not to deny ourselves the continued production of energy from our public lands and resources, and to do so in clean, environmentally sound ways that we now have the technology to utilize, because we pioneered it.

The world uses our technology today to produce clean energy. We are denying ourselves the use of our own talent. This very comprehensive energy bill will advance our cause as a country in the world, and in the area of energy technology dramatically. That which we produce for ourselves is also available to the rest of the world. It is not nor should it ever be ignored that even in China today, as it works to build new energy technologies, it is using the technology that we developed to produce energy for itself. Now we are wanting to push that envelope of technology even further, in a more aggressive approach that is environmentally benign and clean and productive for our general economy.

So a good deal of work has gone into the legislation. Now we will work our will on the floor of the Senate with different amendments that compete with some of the concepts I have talked about and, in some instances, would like to deny them altogether. We will vote it, I hope, up or down within the next few weeks. I believe it will pass and we will move it to a conference with the House and then ultimately to the President's desk. All of that happens when the President signs this into law and public policy.

I think the Senate and the Congress of the 108th can be proud of the work it has done on this energy bill. We can look forward into the future for generations of Americans and say we have redesigned the foundation, reshaped the context of a national energy strategy for our country. As this policy is implemented, it will allow that continuation of an abundant supply of a variety of forms of energy that in the past, today, and in the future will feed an ever-growing economy that continues to grant the average American citizen access to the American dream. That is what we are about. That is what good public policy ought to be about.

I believe S. 14 embodies a great deal of that.

I yield the floor and I suggest the absence of a quorum.

The PRESIDING OFFICER. The clerk will call the roll.

The legislative clerk proceeded to call the roll.

Mr. CRAIG. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

PROTOCOL FOR NATO

Mr. CRAIG. Mr. President, we are still in morning business. I note that no other colleagues are yet on the floor. I will speak again in morning business, but only briefly this time, as it relates to the issue before us and the protocol for the North Atlantic Treaty Organization and the ascendancy to that organization of Bulgaria, Estonia, Latvia, Lithuania, Romania, Slovakia, and Slovenia.

As we began to expand NATO a good number of years ago, I had voted against some of the early expansions because I did not think we had yet effectively designed our role in a post-cold-war era and a post-Soviet Union era and about the North Atlantic Treaty Organization as it relates to what it would be doing in the future. As we have seen that role adjust and change over the last several years, certainly the activity in the Balkans and the ability of NATO to participate there in bringing stability to that region has played an increasing role.

I have also been concerned that as NATO grew, we effectively changed our posture there and, in fact, even reduced some of our presence there.

I had the opportunity during the Easter break to travel to Romania. Romania, in a few years, will be eligible for and will make application for entry into the North Atlantic Treaty Organization. With the growth and development of the European Union and, of course, NATO itself, it is important, I believe, that we continue to expand its role and reshape its presence on the European Continent.

We will have before us Executive Calendar No. 6, Treaty Document 108-04, bringing these countries in to NATO