To help honor the life and work of Paul Coverdell, I am drafting bipartisan legislation authorizing two new initiatives—the Paul Coverdell Stroke Disease Registry and the Paul Coverdell Health Care Corps. The untimely death of our friend points to the need to provide more comprehensive stroke care and to learn more about providing a better quality of care to the more than 700,000 people who suffer a stroke each year. Our first step in doing so is introducing the STOP Stroke Act, which requires the Department of Health and Human Services to develop a national disease registry.

The Paul Coverdell Health Care Corps is a tribute to the values incorporated into the Peace Corps while he was Director and further demonstrates our dedication to providing American expertise to developing nations. This new Corps would provide skilled health care professionals for countries dealing with the crises of HIV/AIDS, tuberculosis and malaria. The Paul Coverdell Corps would be an extension of the changes made in 2000 in which all Peace Corps volunteers serving in Africa must be trained as educators of HIV/AIDS prevention and care.

I believe both of these pieces of legislation are a fitting tribute to the late Paul Coverdell. It is my hope that these two bills will reflect the compassion and commitment that he demonstrated time and time again in his service to our Nation and indeed, to the world. Senator Paul Coverdell was a champion of liberty and freedom, and with his wife, Nancy, he knew instinctively that love and freedom are the greatest gifts God has planted in the human heart. His legacy charges all of us with the task of doing everything we can to preserve our freedoms and to demonstrate in every way the indomitable American spirit.

Mr. THOMPSON. Mr. President, one year ago today, Senator LOTT had the sad duty of coming to the floor of the Senate to announce to this body that Paul Coverdell, Senator from Georgia, had suddenly and unexpectedly died. While his absence was felt immediately and deeply, only now with the benefit of time can we develop a full sense of the contributions and legacy of this quiet statesman.

Few Americans these days take to heart so completely the notion of public service as Paul Coverdell did. From the Peace Corps to his years in the Georgia Legislature to his time in the Senate, he was a model of dedication and sincerity, unwilling to substitute style for substance. He was a serious student of policy and a consistent advocate of deeds over words. Paul was a tireless leader in the effort to reform our education system and I am proud to support legislation renaming education IRAs as Coverdell education savings accounts. His concern for the young people of this country was also demonstrated by his commitment to the fight against the trafficking of illegal drugs. But perhaps above all, he was a great champion of civility. Each time I hear of the need to ''change the tone in Washington,'' I think of Paul Coverdell.

It is fitting that Congress has now sent legislation to the President that will rename the Washington headquarters of the Peace Corps for Paul Coverdell. I was honored to support that legislation, and I was honored to serve alongside Senator Paul Coverdell of Georgia. He is still deeply missed.

Mr. DEWINE. Mr. President, I rise today to pay tribute to my dear friend and beloved colleague, Senator Paul D. Coverdell, who, as we all know, passed away a year ago today.

Paul was a dear friend, who meant so much to each and every one of us here in the Senate. He was our friend, and we loved him very much. Paul was a kind man—a gentle man—a sweet man. The Senate is not the same without him. It is not the same because we miss his kindness, his spirit, and his unbelievable energy—energy that he brought to every task he undertook.

Whatever it was, Paul would do it and do it effectively. He was one of the key people running this Senate. Candidly, he was that person not because of his leadership position, which was significant, but because of the fact that he just got things done. His effectiveness came because of his energy, because of his drive, because of his determination. It also came because he could get along with people on both sides of the aisle. He knew people. He understood them. He liked people, and people liked him back. That is what made Paul Coverdell effective.

All of us have different stories and remember different things about our friend Paul. I worked with him on Central American issues, Caribbean issues, and Latin American issues. He cared passionately about the safety, security, and prosperity of our hemisphere. He paid particular attention to this hemisphere, because he understood that what happens here in America's backyard affects the people of Georgia, and it affects the people of this country. He brought this kind of thought and passion to all of the issues he tackled.

On the first anniversary of Paul's death, we honor what he stood for, what he believed in, and what he accomplished here in this Senate. As a public servant, Paul touched the lives of his family, his friends and colleagues in the Senate, his constituents in his home State of Georgia, and the lives of millions of people throughout the United States and abroad. He is deeply missed and will always—always be remembered.

CONCLUSION OF MORNING BUSINESS

The PRESIDING OFFICER. Under the previous order, morning business is now closed.

Mr. REID. I 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. THOMAS. Mr. President, I ask unanimous consent the order for the quorum call be dispensed with.

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

Mr. THOMAS. Mr. President, I appreciate very much of all the contributions, the great statements that have been made about my friend Paul Coverdell. I think now we are ready to move forward to some other topics.

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS ACT, 2002—Resumed

The PRESIDING OFFICER. The clerk will report the pending business.

The assistant legislative clerk read as follows:

A bill (H.R. 2311) making appropriations for energy and water development for the fiscal year ending September 30, 2002, and for other purposes.

Mr. THOMAS. Mr. President, I would like to talk a little about energy. Of course, the appropriation before us is on energy and water, but the broader topic I think we are going to talk about here in the next couple of days as well is the whole notion of an energy policy and the implementation of a policy for this country.

We have, as you know, gone now for a number of years without an energy policy. It has resulted in some things that we have felt recently. Frankly, I think we are very likely to feel them some more in the future. We felt it in California, of course, and continue to feel it, although it is a little less pressing now. We felt it in the price of gasoline and continue to feel it, although the price is down. But if we do not do something about the causes of this crisis, we will have it again.

I come from a State, Wyoming, of course, where we are big in the production of energy. We are the No. 1 producer of coal. We are producing natural gas, methane gas—a grand, new operation there. So we also feel the up and down, in and out, of energy. Frankly, selfishly, I hope we can level things out a bit and get away from this boom-and-bust kind of economy that seems to be inherent in energy.

To do that, it seems to me, we need to really take seriously this idea of having a national energy policy. I am very pleased the President and the Vice President have put forth an energy policy, as I said, for the first time, really, in a very long time. Now it is up to us

in the Congress to take up the portions of that policy that have been laid out that need to have congressional action. Not all of it does, but a great part of it does, and we need to do so.

The results of the lack of a policy over the years are pretty apparent in a couple of areas. One, obviously, is our dependence on overseas production. I suspect we will continue to have a good deal of overseas production, but we have allowed ourselves to become nearly 55-percent dependent on OPEC and other countries to fill our needs here, so we find ourselves in a position where, if the OPEC countries make a decision with regard to production, make a decision with regard to pricing, we are simply the victims of that.

What is the solution? I suspect at least one of the solutions we need to consider seriously is an increase in domestic production. We have an opportunity to do that. There is a great deal of reserve energy here. There is a great deal of reserve in coal, for example, that we can depend on for a very long time.

One of the impediments to that, of course, in the West particularly, has been access to public lands. In a State such as Wyoming, and even much more so in Nevada and some of the others, half of our State belongs to the Federal Government. In order to have production on those lands where minerals are available, you have to have reasonable access to those lands.

I am not talking about wilderness. I am not talking about national parks. I am not talking about those lands that have been set aside for particular things—even in many cases parts of the forest reserve. I am talking more about Bureau of Land Management lands, the multiple-use lands.

You have to understand how those lands became what they are before you can really have an idea of how they might be used. Parklands, obviously, were set aside. Forest reserves were set aside. BLM lands were simply the lands that remained there after the goals of the Homestead Act and so on were accomplished, and they remained in Federal hands. So they were never set aside for any particular reason, and therefore they are common land and should be available.

Unfortunately, the access to those lands is much less available than it was just a small number of years ago. Some of the environmental groups have said: Oh, my goodness, they are 85 percent available. The fact is they might be, in terms of their designation, but when you get down to specific requirements that have been placed on the lands, the available lands are much less than they were just 10 years ago.

I don't want to get into the ANWR thing, where we have been wrestling over that. There are lots of lands that we have shown and will continue to show can be explored, where minerals can be produced and those lands can be replaced and put back just as they were.

Another problem we have had, that continues to be there and we will feel again, is the lack of infrastructure—the lack of refineries, for instance, for gasoline. We have not produced new refineries for years. Part of the reason for that is the indecision, where we are. Part of it has been the regulations that were there—14 or 15 different kinds of gasoline that had to be prepared for different areas, which makes it much more difficult.

One of the more pressing problems is the transportation of available energy, whether it be through transmission lines for electricity or whether it be through lines for gas and oil. We have to get the energy from where it is produced to where it is used in the marketplace. We have not done that. These are some of the things that need to be considered.

In addition, we have to take a long look at what we can do on renewables—continue to do more research so wind and solar and hydro become more and more a part of our future in energy. That can very easily happen. One of the things that has to be done, of course, is research. We have to do more of those kinds of things. The other is conservation. Conservation is much a part of where we are. I do not think we can solve the problem in the future with conservation, but that is one of the approaches that must be taken.

I hope we continue to press to get the leadership of the Senate and leadership of the Congress to come to an accord on taking up the specifics of energy and not letting ourselves be fooled into thinking, because of this little pullback from the so-called crisis, that the problem has been solved; it has not. In order to avoid that happening again, really in any sort of project, we need to look ahead at what our needs are going to be, what kind of energy do we want available to us, and what do we need to have. Then we need to move to implement those things. I hope we hear more about that.

I yield to my friend from Alaska, who is the ranking member and has been chairman of the Energy Committee and is probably one of the most knowledgeable of all of our Senators on this area.

The PRESIDING OFFICER (Mrs. CARNAHAN). The Senator from Alaska.

Mr. MURKOWSKI. Madam President, I am here today to begin the discussion on the 2002 energy and water appropriations bill. I want to recognize the hard work of professional staff members on the Committee on Energy and Natural Resources, both the majority and the minority, and the hard work of the Members of this body as we address this difficult and often contentious issue associated with nuclear waste and the issue at hand, which is a substantial reduction in funding for the nuclear waste program.

We have seen lots of good projects funded in this legislation, the energy and water appropriations bill: Flood control, reclamation projects, Indian water settlements such as Animas and Rocky Boys and others. But we also have a very significant obligation at this time, and that is the matter of disposing of our high-level nuclear waste that is generated as a consequence of the operation of nuclear powerplants that contribute about 20 percent of the power generated for electricity in the United States.

I also want to recognize Senator DOMENICI for his tireless efforts in this area.

What we have before us is the current measure which proposes a major reduction in funding to allow the Federal Government to select the site for storage of spent nuclear fuel and high-level radioactive waste.

This is kind of a two-headed major environmental issue. We talk a lot and express our concerns about global warming. One of the answers to global warming, of course, is nuclear energy. On the other hand, we have a problem with nuclear waste, and currently the industry is clearly choking on its own waste because of our inability to address and resolve what to do with that.

So on the one hand, we have the positive aspects of the nuclear industry inasmuch as it answers many questions associated with global warming, but the reality is that this industry can never move into its full development capability unless we do something about the waste issue.

I have been critical of the previous administration for playing politics with the issue, sacrificing the environment and health and safety of the American people for short-term political gain. Here we are again with an obligation of what to do about the problem because we have seen a substantial cut in funding in this area. The Appropriations Committee has proposed to make cuts in the Yucca Mountain Waste Disposal Program. Specifically, the administration requested $445 million for the Office of Civilian Radioactive Waste Management, the office that oversees the Yucca Mountain projects. The House energy and water bill funded the program at $443 million. While not the administration's full request, it is about $48 million more than last year's funding.

Unfortunately, we have before us in the Senate a committee recommendation to provide a total of $275 million to continue the scientific and characterization studies already underway at Yucca Mountain. So we are looking at a cut from $443 million in the House, the administration's request of $445 million, and the committee recommendation to fund at $275 million. There is a question of whether or not we are going to offer an amendment at some time to reinstate full funding,

but before we address that, I want to discuss this matter in depth because it creates, if you will, an obligation for the American people and the Congress to face up to reality. I want to outline what the reality is, and I could probably best do it by having a chart and pointer with which we will attempt to explain just where we are on the issue of Yucca Mountain and the proposed scheduling.

I am going to ask Colleen to go over here with the pointer and help me out.

What we have, first of all, is a bottom line that will catch the attention of virtually everyone who is watching, which is the investment the American taxpayer has in trying to address what to do with the high-level nuclear waste and what we have expended at Yucca Mountain because that is the bottom line, and we are going to work backwards from there. We have spent about $8 billion of the taxpayers' money developing Yucca as a permanent repository. Do we have a picture of Yucca?

We don't have it with us today. We have it somewhere. It shows the tunnel. It is the repository out in Nevada in the proving grounds where we have had some 25 years of extensive nuclear tests—over 800 nuclear tests—both above and below ground. It is a pretty hot area in the sense of the testing that has taken place in the area, but in any event, it was one of the proposed sites and the site that was finally approved for a process. This process is overwhelmingly complex, but the bottom line is not overwhelming.

The cost to the taxpayer at Yucca Mountain so far is $8 billion. That is only part of the story, Madam President, because the other part of the story is what happened in 1998. In 1998, the Federal Government had a contract with the industry, the nuclear industry, to take the waste that year.

The Federal Government has always acknowledged a responsibility to deal with spent fuel and other waste from civilian reactors as well as our nuclear weapons program. As a consequence of the obligation to take civilian spent fuel, the Federal Government signed a contract saying it would take the waste in 1998. You might wonder, well, what is the point of this conversation because you have to get the bottom line of what happened.

Since 1987, utility ratepayers, the nuclear ratepayers of this country have been paying a premium to the Federal Government so that the Federal Government could take the waste in 1998. That Fund, the Nuclear Waste Fund, currently has $19 billion—$19 billion in it. All to help the Federal Government meet its contractual obligation.

Madam President, 1998 came and went. The Federal Government did not have the proper repository ready, and as a consequence the Federal Government was in breach of its contract.

Nineteen billion dollars is a lot of money. I am not going to stop there because the costs don't stop there. It gets more complex because, as you know, any time you breach a contract you expose yourself to litigation. So we have already spent $8 billion on examining Yucca Mountain.

The claims filed by the nuclear industry against the Federal Government total somewhere between $60 and $80 billion for nonperformance of the contractual commitments. That is about $90 billion to $100 billion. That is what we are looking at. We are looking at the $19 billion that ratepayers have paid into the Nuclear Waste Fund, $8 billion of which we have spent and then we are looking at $60 to $80 billion in litigation associated with the breach of contract. And here we sit.

The point I want to make now with this chart is to show you the steps. Back in 1978, we had the first Yucca Mountain bore hole, the testing. Then in 1982, we went with the Nuclear Waste Policy Act. Then in 1984, we had the draft environmental assessment. Then in 1986, we had the three candidate sites-selected areas. Well, the one that was selected and approved in 1987 was Yucca. We had final environmental assessment in 1986. Then in 1988, we had consultation, we had draft site characterization and then in 1989, and so forth, we had site characterization. Then in 1993, we begin the actual construction. That was the bore hole test. Then in 1998, we had the viability assessments. And then we had the draft EIS.

Now we are in 2001 in the buff-colored area, and we have funding for the science and the engineering report. That is basically funded this year in the 2000 appropriation supplemental, draft EIS, NAS report, and then we have the site recommendations.

Moving over in the next year we have suitability evaluation and the final EIS. Notice the significant portion where we are at risk is the site selection review, and that is proposed in the funding that is in the current water bill at $445 to $443 million. If you cut that to what the committee has proposed, $275 million, you are setting this whole program back a number of years. How many years? Heaven knows.

But let us look at the next scenario because it suggests the significance of the result of this action.

As I indicated, the amendment that might be discussed at a later time would increase the funding to the level that is felt that can keep the program on schedule. Why do you want to keep the program on schedule? Well, for the following reasons: According to the Department of Energy, the cuts would have a significant impact on the program: immediate reduction—in other words, layoffs—of about 650 Federal and contract personnel; indefinite delay in license application; renders the 2010 spent fuel receipt date unachievable—so basically, at the end of this thing, which is out here in 2010 when we are supposed to take the waste, that makes that date unachievable—the loss of 75 percent of Federal staff performing oversight, the loss of most quality assurance oversight; loss of ability to conduct independent technical reviews; termination of the Nye County Early Warning Drilling Program; eliminates any of the universities that are involved in this process; loss of repository surface design support for license application; loss of modeling ability; loss of license application design and analysis capability.

All these activities that are underway—and have been—are necessary to achieve this 2010 date, at which time this repository would be licensed and capable of taking the high-level nuclear waste. So this is necessary funding to keep this on a reasonable schedule.

That is under the assumption that science will determine that Yucca is suitable. I believe it will. If so, then licensing activities are key to getting the repository back on track.

There is no question that the Federal Government has the obligation to take the waste. There was a contract in 1998 to take the waste. As I indicated, the ratepayers have paid in $19 billion. The Federal Government has breached its contract. And the Federal Government is subject to lawsuits, litigation, somewhere in the area of $60 billion to $80 billion. This is serious business. This is serious accounting to the American taxpayers for performance. They expect the Congress of the United States to perform. We have an obligation to perform; that is, to structure this so it can achieve its purpose as designated by the Congress.

I can understand the opposition of my friends from Nevada to the Yucca Mountain issue. They do not want it in their State. They are working very hard to assure that it does not go in their State.

On the other hand, if you are not going to put it in Nevada, where are you going to put it? You are not going to put it in the other 49 States for obvious reasons. There is another alternative. We could pursue reprocessing.

However, today at the Energy hearing, we asked the Deputy Secretary, Mr. Francis Blake, if we pursue reprocessing, will we need Yucca Mountain as a permanent repository? He said yes. And if you don't depend on experts, on whom are you going to depend? Are you going to hold a public hearing and make a decision on emotion rather than science? These are scientists speaking.

I personally believe there is a place for reprocessing. Perhaps we should have started on that a long time ago. But that was killed under the Carter administration. We had an opportunity. So here we are. We have nearly

$100 billion of taxpayers' money at risk. We are hung up right on the pinnacle of what to do, and the proposal now is to cut funding—to cut funding without coming up with an alternative of how we are going to do this.

A lot of people say we are never going to be able to move the waste anyway. We have moved military waste all over the country. We have moved high-level waste to South Carolina, to the State of Washington. It is moved by military means. And it is moved safely. We have been very fortunate in the manner in which we handle this waste. I think we have the scientific capability to reduce the risks to a minimum. We have to get this thing off center.

My appeal to my colleagues and the staffs who are watching this debate is that we have a responsibility to the taxpayers. I hope everybody who is listening recognizes that we have spent $100 billion of taxpayers' money on this project. If we reduce the funding, we are going to put it off indefinitely, or we certainly are going to put it off after the watch of my good friend, Senator REID, and others, and simply pass the problem on to others who may come into this body from Nevada.

I do not have a constituency on this in Alaska, but I have a responsibility, as former chairman of the Energy Committee, and the ranking member, to address the obligation that this body has to address this problem with some finality. We are either going to fund it, keep it going, or we should come to grips with the other alternative. And I am not conversant necessarily on what that might be.

But we have the waste. The nuclear industry produces 20 percent of the power in this Nation, and we can't agree on how to solve it. Not only is the selection of a repository critical in dealing with our present spent fuel problem, but it is essential if we are to build an energy-secure future. I talked a little bit about that in my opening remarks.

There is the realization, as we look at global warming, there is definitely a place, a strong place for nuclear energy. Our future energy security depends on nuclear power if we are ever to meet our environmental goals. I would say to my colleagues, who are very sensitive to the environmental point of view, that those environmentalists who oppose the advancement of nuclear energy are really sticking their heads in the sand and unrealistically failing to recognize that energy has to be produced from some source, and, as a consequence of that, whether it be coal or oil or gas, we have concerns about global warming and emissions. We do not have that particular concern with nuclear, but we have the concern of what to do with the waste. We have to address that. But the contribution that nuclear energy is making is significant to reducing global warming.

We have had hearings on nuclear energy in the Energy and Natural Resources Committee. We have looked at the future of the industry. We have discussed the reauthorization of Price-Anderson.

Nuclear energy, as I have indicated, is 20 percent of our energy mix and must continue to play an even greater role in the future if we want to meet our energy demands and protect our air quality. The production of electricity from nuclear energy, as I have indicated, emits no greenhouse gases, no CO_2, no SO_X, no NO_X. It is a baseload power which provides our grid stability and reliability.

Nuclear energy supplies California with about 16 percent of its electricity supply. Without that in the past year, the California grid would have simply collapsed. High natural gas prices and low uranium prices have helped to make electricity produced from nuclear some of the cheapest in the country and some of the most efficient.

Safe and efficient U.S. plants are operating today at record efficiencies. In 1999, U.S. nuclear reactors achieved close to 90-percent efficiency. Total efficiency increases during the 1990s at existing plants was the equivalent—this is just the efficiency—of adding approximately 23 1,000-megawatt powerplants. So that gives you some idea of the sophistication of the industry. Keep in mind, it is all clean, nonemitting generation.

Now we are seeing more acceptance, that the nuclear energy industry is on the upswing. Four or five years ago, who would have thought we would have heard about buying plants, selling plants, and, yes, even building new plants. That discussion is happening today.

The U.S. industry is actually putting its money where its mouth is. By the end of 2001, the Chicago-based Exelon Corporation will have invested $15 million in a South African venture to build a pebble bed modular reactor, new technology, technology that reduces the risk associated with the operation of nuclear reactors and a very exciting development.

It is fair to say that we are seeing the public becoming more accepting in recognizing the role of nuclear energy. This past April the Associated Press commissioned a poll that suggests that half of those polled, nearly half, support using nuclear powerplants to produce electric energy, and 56 percent said they wouldn't mind a nuclear plant within 10 miles of their home.

The problem we still have is what to do with the waste. I believe there has been more of a political problem than a technical one. I understand the politics of Nevada, and I respect it. Now a funding cut, however, that impacts the technical program for reasons that we can conjecture simply is not acceptable. It is not acceptable for the American taxpayer in light of the exposure to that taxpayer already.

Again, I cite that exposure in dollars because I think we have a tendency to generalize around here. But when we get specific, we have spent $8 billion of the taxpayers' money in Yucca Mountain, that hole in the Nevada mountain, we have collected $19 billion that we have collected from the ratepayers to have the Federal Government take the waste in 1998, with the realization that the Federal Government broke the contract and now with litigation totaling some $60, $80 billion, you can see the significance of the obligation we have.

For those of us who support the Yucca Mountain program, at last count there were 66 Members of this Chamber who indicated support of using Yucca Mountain as a repository for the storage of spent nuclear fuel—66 Members. I don't know how many Members we have today in this body who are willing to support this effort. It suggests that if an amendment is taken to a vote and the amendment would fund at the appropriate level necessary to continue the program, that if that amendment failed—and there may be a good deal of loyalty on the other side in reference to the amendment—then those responsible would have to bear the brunt of recognizing the significance of this in basically killing the nuclear program in this country associated with Yucca Mountain and the disposal of the waste.

On the other hand, if some assurances can be made that there will be funding at a level to keep this at a reasonable level, to continue the schedule that I have outlined behind me, then, obviously, we could work together to recognize the necessity of maintaining this program as it has been developed. We can't simply accept this kind of a cut that would set this program back that many years.

I don't know where the votes are, but I will let others who are responsible make a determination of where the votes are on this issue.

I remind each and every Member, as they reflect on how they might vote on an amendment to restore the funding to the appropriate level, again, the taxpayers of this country may be questioning each Member on the validity of basically putting this program off and potentially abandoning the program after nearly $8 billion has been expended.

I find it ironic, the one hook that the opponents of the site have always hung their hat on. They have said time and time again that science should decide the issue, not politics. Well, this schedule I am showing you is science in action. This is the check and balance system. This is the evaluation of all our environmental considerations in an orderly process. It is science in action. If

politics is going to kill this program by cutting the funding from the roughly $445, $443 million down to $275 million, it will not be science that is making that cut. It will be politics.

Let me repeat the statement because I think it is important. Science should decide this issue. This is science in action, not only because of its importance to the taxpayer but because it may be the only area of agreement the opponents and I have on Yucca Mountain. That is, let science determine the disposition. I, too, believe that science should determine this issue.

I hope, as we continue the discussion today on this matter, we consider the significant merits of exposing the American taxpayer to upwards of $100 billion in liability. Are we going to stop this program in its tracks at this time? If we let science make the determination about Yucca Mountain, then the funding should be restored and the program should be allowed to reach a determination about suitability one way or another. That is the orderly way to approach this. That was the general consensus of Members relative to the process which authorized the funding all these years, and we are still in the process of reaching a determination on suitability. That should be allowed to be funded at a level so we can make that determination.

If the suitability determination is not there, then, obviously, the project cannot go forward; it would have to be terminated. But that, again, should be a decision made by science and not the political process associated with this body.

I hope the Senate conferees will address this at an appropriate time, and it may be necessary that we move an amendment to restore the funds on the floor, but there are other Members who want to talk on this issue.

I yield the floor, and I will be happy to respond to any questions.

The PRESIDING OFFICER. The Senator from Nevada.

Mr. REID. Madam President, before my friend from Alaska leaves the floor, I take this opportunity to briefly respond.

In all my dealings with the then-chairman of the Energy Committee, now the ranking member, he has set an example of how one should treat people. He has always been available on difficult issues, on easy issues. He has never, as a result of our disagreement on a subject, done anything to be vengeful on something else that was important to Nevada. I have the greatest respect for the junior Senator from Alaska. He has been, in my estimation, a real role model as to how one should be a legislator.

On this issue we disagree. There are so many issues involved with this. Because I am from Nevada, I always consider myself maybe not the right person to speak about this issue. Maybe someone else should speak about it. Therefore, I am not going to speak a lot other than to say we not only have the characterization problem with Yucca Mountain but the unbelievably difficult problems dealing with transportation.

Senator Bryan and I traveled to St. Louis a year or two ago and met with the county commissioners, the legislative body that governs the county where St. Louis is located. We made a presentation to them. They, a short time after that, passed a resolution saying they were opposed to Yucca Mountain and they didn't want any nuclear waste traveling through St. Louis.

People feel that way all over the country. The problems dealing with transportation are complex, difficult, and almost impossible. That is why in Europe they have gone away from the burial of nuclear waste and, basically speaking, to now where they are going to try to do transmutation that we should already be doing in America.

We had a program going that was killed in the early 1980s. It was the Clinch River in Tennessee. Transmutation was terminated. Why? Because there was a belief at the height of the cold war that some of this processed plutonium could make its way into the hands of the wrong people. In hindsight, that was a very bad choice. Now in this bill we have money to again begin this process. The comanager of this bill, Senator DOMENICI, and I have worked hard to increase that funding.

I have not tried to, in any way, be mean spirited with the cuts we have made with Yucca Mountain. These moneys are not just thrown away; they have gone to extremely important programs. I have a little difficulty crying big alligator tears over a program that still has $275 million to be spent in 1 year. We are going to conference with the House. Of course, there would have to be changes made there, I am sure. But the changes are not going to be easy because we have programs for places in Ohio and we have programs in South Carolina, in Idaho, and in Washington, where huge amounts of money are going to clean up the mess that we as a Government made dealing with things nuclear.

So I understand from where my friend from Alaska is coming. It is a difficult problem. My personal belief is that we as a country and as a world would be better if we simply said let's leave it where it is, in dry cask storage. We will save hundreds of billions of dollars doing that, and we won't have the transportation problems. It would be safe for a hundred years. By then, we will have something to do with the product.

I know that my friend, the senior Senator from Idaho, has indicated he wants to speak on this issue and perhaps offer an amendment. The junior Senator from Nevada has indicated that he wants to speak on this issue. Perhaps during the day we will do that.

Madam President, let me say this. My friend from New Mexico is not here. I am not frustrated, but I am arriving at the point where I am a little bit frustrated. This is a bill involving more than $25 billion. Over $20 billion of this bill goes to defense-related activities, which is important for this country. We need to move this legislation along. There are a lot of phantom amendments out there. Bring them on. Let's have a debate and move this legislation along.

It is very apparent to me that there is an effort being made to stall this legislation, slow down the progress of what we are doing in the Senate. As our distinguished majority leader mentioned last night, this legislation is important to the President of the United States. It is his agencies we are trying to fund—the Bureau of Reclamation, Corps of Engineers, Department of Energy. So I really don't know what people are gaining by having us accomplish nothing.

The majority leader said we are going to work to complete this legislation, and we have an a agreement that after this we will go to the Graham nomination, and we will do Transportation this week. I have not spoken to the majority leader, so I am on my own in saying this. But we don't have to sit around here and do nothing. There can be votes. We can vote on all kinds of things. I think that Thursday and Friday, if there is still the view that we are going to do nothing, there would probably be some votes; I would think we would be going until sometime on Friday.

I have tried since last week to get an agreement as to when amendments would be filed, and we can't get either a finite list or a filing deadline. We can't get those. Yet no amendments are being offered. So I hope that later this afternoon we can have a time when we can determine not only what amendments are going to be filed but be more certain to have amendments filed at the desk.

It is my understanding that the Senator from Ohio, who has a lot of knowledge on things nuclear—and I have worked with him on a number of different issues—wishes to speak on energy-related matters generally. Is that true?

Mr. VOINOVICH. Yes.

Mr. REID. I have no objection to yielding. It is my understanding there are no time constraints. The Senator wishes to speak for 20, 25 minutes; is that correct?

Mr. VOINOVICH. Yes.

Mr. REID. I yield to my friend from Ohio.

The PRESIDING OFFICER. The Senator from Ohio is recognized.

Mr. VOINOVICH. Madam President, I rise to generally speak about the issue

of energy in this country and to underscore the fact that one of the sources of energy that we really need to look at is nuclear energy. The sooner we resolve the issue of how we deal with nuclear waste, the better for this Nation. We ought to do everything in our power to accelerate the decision in terms of where that waste is going to be located if we expect to deal with not only the energy needs of our country but also with something about which many of us are concerned, and that is climate change.

Nuclear power is a source of energy that does not produce greenhouse gases, and I think it is something that should be a priority for the Senate and for this Nation to resolve once and for all.

My other remarks will deal with the issue of the fact that in spite of much talk and much writing, conservation and alternative fuels are not going to be able to deal with the problem we have in this Nation in terms of our energy crisis. We have that crisis because we lack a national energy policy. We haven't had one for 30 years, and it is a Republican and Democrat problem.

We have a faulty deregulation law in California. We have environmental policies that have contributed to a lack of diversity and difficulties in siting new facilities, pipelines, and transmission lines. We are too reliant on foreign sources of oil, and we have inappropriately demonized nuclear power.

Today, we are a fossil-based economy, although there is broad recognition that we are eventually going to shift away from primary reliance on fossil fuels to much greater use and emphasis on other sources.

Several alternative energy sources exist today. They are either inexhaustible, i.e. solar, wind and nuclear—or renewed through natural processes—i.e. hydropower or plant-based fuels such as ethanol and vegetable oils.

Currently the contribution of alternative energy sources to U.S. needs range from less than one tenth of 1 percent for wind and solar power, 3 percent from hydroelectric and biofuels each and 8 percent from nuclear energy.

Today, however fossil fuel reserves appear to be adequate to serve the Nation's current energy needs, with a 70-year reserve for oil and approximately 250 years of reserves for coal, at current consumption rates.

One of my colleagues noted a while ago that wind power is the fastest growing source of electricity in the world and we should look to it more seriously as an alternative energy source.

Another one of my colleagues pointed out that solar panels covering a 100 by 100 mile square would produce enough solar energy to power this entire Nation.

The truth is that although alternative energy sources are being used in some places across the country, we have been subsidizing solar and wind power for 25 years now, and combined they only make up one tenth of 1 percent of the total energy demand to date.

Renewables are now generally costlier than fossil fuels, for example, solar power is currently 8 to 10 times more costly. Even assuming optimistic technology scenarios, it will take at least 30 to 40 years before renewables' energy infrastructure could be built up from its current level and start contributing significantly to our energy supplies.

As this chart shows, costs have a disproportionate impact on low-income families.

Since the beginning of the 107th Congress, I have been holding a series of public meetings across the state of Ohio where I have asked individuals and business owners to relay their experiences as to how our energy crisis is impacting them.

In Cleveland, I have held a meeting with Catholic Charities, Lutheran Housing, and Salvation Army as well as senior citizens, low-income parents, and handicapped individuals, and another with some small businesspeople to talk about the impact energy costs were having on their businesses.

Another was with governmental agencies and the increase our heating bills had on their budgets. Then I met with some folks who talked about the impact our high cost of gasoline was having on their businesses. One of the things the people of America should note is that when it gets to energy costs, the least of our brethren are those who are impacted the most.

As this chart shows, the people making under $10,000 in the United States of America spend 29 percent of their income on energy costs, and those making between $10,000 and $24,000 spend 13 percent, and those who are over $50,000, about 4 percent.

This energy crisis, quite frankly, is impacting more, as I refer to it, the least of our brethren than any other segment in our society. For example, the Catholic diocese said in the year 2000 their help line received 3,400 calls for basic needs, items such as food, utilities, mortgage, or rent. The number of calls the diocese received went up 96 percent from 1999 to 2000 and 194 percent from 1998 to 2000—attributable to this energy crisis.

Let's look at U.S. energy consumption by fuel so we get an idea of from where our energy actually is coming. As we can see by this chart, the principal sources of energy today are oil, natural gas, and petroleum. It goes without saying that these fuels have become essential elements in creating our way of life.

Despite the fact each year we use energy more efficiently, energy demand rises about two-thirds the rate of economic growth. As we can see, nuclear, hydro, and renewables are at the bottom of the chart, and any shortfall created between production and consumption of our three main energy sources—that is, oil, natural gas, and coal—is going to be made up in imports.

For example, oil imports have risen, as we are all aware, from 1973, when they were 36 percent, to 2001 at 56 percent. Refined gasoline net imports have risen from 1 percent in 1980 to approximately 5 percent in 2000. The reason for it is we have had to import oil to make up for the lack of our own production.

Oil and natural gas demand is expected to continue to grow for the foreseeable future. Alternative energy sources, such as wind and solar power, are being pursued but will not alter this outlook for decades to come, again making the point that for those who say do not worry about these three major sources of energy, we are going to make it up with nonrenewables, we can see the large discrepancy.

Now that we know how much Americans expect to consume over the next two to three decades, it is important to look at how that expectation will be met given our current state of resources. This chart shows how much energy we produce domestically by fuel type.

At the top of the list are natural gas, coal, petroleum, and then we have nuclear and renewables at the bottom of the list.

According to the Department of Energy, natural gas is expected to be the fastest growing component of world energy consumption. Gas use is projected to almost double to 162 trillion cubic feet in 2020 from 84 trillion cubic feet in 1999. So the world demand for natural gas is going up.

It is that increase in natural gas prices that drove up the cost of energy in my State for my homeowners, my businesses, my farmers, and for the other portions of our economy. If that continues, we can see continuing high prices.

We need to increase our infrastructure. According to a study by the nonprofit operator of New England's power grid, New England will be increasing its natural gas demand from 16 percent in 1999 to a projected 45 percent in 2005, but they lack—another thing we need to talk about—the local pipelines to distribute the gas to its market. We have a need for gas. The next question is, How do we get it to folks? We know we do not have the infrastructure to do that.

With that in mind, we also know there is an estimated 40 percent of undiscovered natural gas that is located on land owned by the Federal and State Governments. These resources will need to be tapped to accommodate the inevitable increase in natural gas consumption. If not, then we face the

hardship of increasing dependence on foreign resources that will have the capacity to cripple our energy economy and again drive up our cost.

The challenge to produce more oil and natural gas is greater because the production from our existing resource base is subject to natural decline through depletion.

Fuel cells, electric vehicles, hybrids, biomass, solar, and wind technology, all represented on this chart as nonhydropower renewables, are all promising energy sources for the future, but right now there is no suitable infrastructure in place that will allow for these energies, even combined, as we will see in later charts, to sufficiently supply current needs, much less future demands.

Energy consumption: As we can see by this chart, Americans consume more energy than we produce and will continue to consume more energy, especially fossil fuels, for decades to come.

Although several alternative energy sources exist today, the chart reflects that even the combination of those sources, marked ''renewables'' at the bottom of the chart, through 2020 will not compensate for the need for energy production that will take place over the next two decades.

Even if we double or triple renewables, we will not make up the difference between production and consumption. The President is right: We need more refineries, more electric powerplants, more coal, and more natural gas pipelines and production. It is plain to see that we will not be able to conserve our way out of this crisis. While conservation helps, it is not going to meet our estimated consumption without drastically changing Americans' standard of living.

Looking at this chart, we can see renewable energy sources that reflect some of the most promising forms of alternative energy in existence today. However, each is accompanied by extremely realistic limitations that hamper their ability to be viable in the near future.

We hear a lot about fuel cells, and I have studied fuel cells substantially. I met with the president of General Motors. He said it is going to be 10 to 15 years before fuel cells will be marketable and commercially viable.

Electric vehicles: I visited a facility in Euclid, OH, Alliance Electric, a Rockwell Automation subsidiary, and they are working on a little gismo for hybrid automobiles, but it is going to be 5 to 6 years before they get that down to a cost where it is going to be commercially viable.

We have biomass and solar power to which I made reference.

All of these are available, but the practical impact on our needs in this country in the next 20 years is negligible.

World primary energy is another issue at which we ought to look. This is not to say that alternative fuels are destined for failure. I agree with the President that we need to diversify our energy sources. I believe promoting technology of these sources is the right approach to take, not for the near term but for the future.

We as a government should continue to invest in providing grants and incentives to move forward with some of these alternatives. Over time, we have learned advancing technologies is perhaps the single most important factor that contributes to long-term productivity and economic growth. For example, we have clean coal technology available that we could use for burning coal. We need to move forward with that.

This chart is a little complicated, but it shows how energy sources have peaked in the world: Oil going down, gas going up, and we are seeing nuclear at the bottom of the chart. This little bit is the increase in renewables.

Again, if you look at the world picture, we have a problem. Today, China imports oil. They used to export oil. We are seeing that all over the world. The economy is getting better for all people. Their standard of living is going up and they are using more. We need more energy.

On petroleum production, the United States is the world's largest energy producer, consumer, and net importer. It is no secret the United States is becoming more and more dependent on foreign oil imports. This chart reflects what we have to look forward to by way of dependence through the year 2020. This is petroleum production and consumption, which is going up. Imports in the month of April as a percentage of petroleum delivered was 62.4 percent. This time last year it was only 60 percent. The total petroleum products delivered to the domestic market in April was over 19 million barrels per day. In the same month last year, it was 18½ million barrels per day.

Scarce petroleum resources is not a problem experienced only by the United States. The energy crisis is being felt across the globe; so much so that inevitably, as foreign countries realize an increase in their own energy needs, they will be less willing to accommodate the growing energy demands our country places on them. With the increased reliance on foreign oil, we will not get far if we do not work to expand the current oil and natural gas pipeline system.

Our Nation's 200,000-mile pipeline system is the world's largest. These nearly invisible ribbons of steel deliver more than 13.3 billion barrels of crude oil and petroleum products in a typical year. Without them, it will take thousands of trucks and barges clogging the Nation's roads and waterways to do the job. The capacity of the system, however, is being seriously eroded and the future of oil and natural gas transmission does not appear promising.

If we refuse to act, the alternative will be a continued capacity squeeze and higher transmission costs, passed on to the consumer. That is one of the problems we had last year with the big spike in gasoline. We had a break in two lines, one coming from the Gulf of Mexico, the other coming from Canada. That had a dramatic increase on the cost of oil to the people living in Ohio and other parts of the Midwest.

On conservation and its impact, this chart shows what we can expect under three different energy production scenarios through the year 2020. The top line assumes constant energy use with respect to economic growth, and it is going up. Hopefully, the economy continues to grow. This means if a nation continued along the same path we are traveling, through 2020, with energy demands rising with proportion to growth, and there were no technological advances made, consumption would increase dramatically.

The bottom line represents energy production growth without significant change. If we stay the way we are now, we are in very big trouble. The second line shows what the Department of Energy predicts will happen when or if consumers are offered a menu of available technologies from which to choose. An example would be a family replacing a vehicle after several years of usage for a more fuel-efficient automobile. This menu of options makes a big difference when compared to increased energy intensity and consumption in the first line. We need to move forward in order to meet our demand.

The third path reflects the impact of conservation at its height. This includes nonuse and the use of the most competent and efficient technology combined. This chart shows an ''available technology'' consumption curve by barely 20 percent. There is still a considerable gap between consumption, even at the greatest levels of conservation. We need to be concerned about it.

The point I am making this morning is that we have a challenge to meet the energy needs of this country. Those people who advocate conservation and alternative fuels, renewables and so forth, as the answer to the problem, frankly, are not being intellectually honest or facing reality. That means the Members of this Senate and the House of Representatives are going to have to face up to the issue of how to harmonize this Nation's environmental needs and this Nation's energy needs so we can come up with a realistic energy policy.

It is very important for the future of our country. I happen to believe, in terms of issues that need to be dealt with, we need to face this head on as soon as possible. President Bush should be given a great deal of encouragement

for coming up with a comprehensive energy policy that is being quarterbacked by the Vice President of the United States. It is long overdue to get on with the issue of debating how it is that we are going to confront this energy crisis that is having such a negative impact on the people in my State of Ohio, the people who live in our inner cities, our small businesspeople.

I had a meeting this week with small businesspeople, manufacturers. I asked the question, How many believe we are not in recession? There was not a hand that went up. Part of the reason they are being negatively impacted is the fact that the energy costs are skyrocketing. We have a very large plastics industry. We have more jobs in plastic than any other State. Because of the high cost of natural gas, they are now in a noncompetitive position and are laying off workers. For farmers in our State, natural gas is used in fertilizer. As a result, our corn crop will be 25 percent less this year because of the cost of fertilizer.

Some fertilizer companies are not manufacturing fertilizer this year but selling their natural gas contracts and are making more doing that rather than selling fertilizer.

The point I am making is, the energy crisis is cutting across my State and, I am sure, the State of the Presiding Officer and all other Senators. We owe it to our constituents to make sure we do not duck, take a walk, be unwilling to make the hard decisions we are going to have to make to deal with this problem, including the issue of what do we do with waste from our nuclear energy plants in this country. There are still people who demonize nuclear energy, for example, and fail to recognize our entire nuclear fleet has had not one problem since Three Mile Island, very little problem whatsoever. It is a safe way of producing energy. Europe is into it. We have had it in limbo because of the fact it has been demonized.

More important than that is how to deal with the nuclear waste. It is time we moved on with this. I hope this energy appropriations bill puts in enough money so we can intellectually move forward in resolving that issue. If it is not Yucca Mountain, what are the alternatives? We have to come up with a solution for what we do with our nuclear waste, to take advantage of nuclear energy in this country.

I suggest the absence of a quorum.

The PRESIDING OFFICER (Mr. FEINGOLD). The clerk will call the roll.

The legislative clerk proceeded to call the roll.

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

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

EXTENSION OF MORNING BUSINESS

Mr. REID. Mr. President, I have been advised that the Senator from Tennessee, Mr. FRIST, wishes to speak for up to 20 minutes in morning business. I ask unanimous consent that he be allowed to do so.

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

STEM CELL RESEARCH

Mr. FRIST. Mr. President, I rise to speak to a topic that is very much on the minds of the American people as well as policymakers in Washington, DC; that is, the issue of embryonic stem cell research. The issue of embryonic stem cell research is one that has captured the imagination of people all over the world in the last 2 to 3 years. It wasn't that long ago that the idea of taking cells very early in life and having their potential captured and set in different directions to help treat disease—to help make diagnoses—was really just a pipedream. Literally, it was 2 or 3 years ago.

Now, because of the advances in science, the advances in technology and the tremendous research that is being conducted in this country and, indeed, around the world, a whole new frontier has opened—the frontier of what is called stem cell research. I will mention a little bit about what that is, but what captures people's minds so much is the promising aspect of this research. What has inspired such interest in this is the fact that people with numerous diseases, for really the first time in their lives, can look ahead and say there is the potential for a cell at its earliest level to be channeled in certain directions to make the care of that disease easier, and possibly even cured.

The same hope—I hear it daily—is expressed by people with diabetes, Alzheimer's disease, or Parkinson's disease, and for spinal cord injuries. Indeed, this stem cell research—both adult stem cells and embryonic stem cells—has opened up a new frontier that is full of potential, full of hope, and full of promises.

The issue is being addressed by the leaders of our country. It is being addressed in amendments on the floor of the Senate. It is being addressed by groups considering the ethics among the think tanks. It is being considered by the administration as we speak.

I would like to make four points.

No. 1, in any of these arenas where we are talking about life—and indeed I believe upon fertilization—there is a continuum from a sperm and an egg, to a blastocyst, to a fetus, to a child, to an adolescent, to an adult. That continuum is indeed life.

As policymakers, we will be injecting our own feelings and our own beliefs into this debate as we go forward. Therefore, I wish to make it clear to my colleagues that from my perspective I do value life and give moral significance to the embryo and to the blastocyst and to that full continuum.

I, indeed, am pro-life. I oppose abortion. My voting record on the floor of this body is consistent with that. Those beliefs are based on the very strongly held spiritual beliefs that I have. They are based on my medical understanding, having spent 20 years in the field of medicine, and in science—that medical understanding of this process of life and of living tissues. I do give moral significance to the embryo, as I mentioned earlier.

Second, I am a transplant surgeon. I had the opportunity to serve on committees that looked at the ethical considerations surrounding the use of tissues and the transplantation of those tissues. I have served on committees sponsored by the United Network For Organ Sharing—the registry that oversees transplantation in this country. I have served on the board of local organizations and tissue procurement agencies. I have served on the ethics committees within hospitals. I have had the real privilege of writing scores of peer-reviewed papers in the field of transplantation and scientific papers in the field of transplantation—both basic science and clinical transplantation of living tissues. I wrestle on a daily basis with these decisions surrounding life and death and health and healing. I have had the opportunity to routinely deal with many of these end-of-life tissues.

I have also been blessed with having had the opportunity and the training to transplant tissues myself—to take a beating heart out of an individual who has healthy lungs, a healthy heart, healthy kidneys, and to take that beating heart from that individual that, yes, does terminate the living function of the lungs and the kidneys and the other organs, but to take that heart and give it to another on really a weekly basis before coming to the Senate, and allowing that individual to live in a new life, a better quality of life; an individual who without that transfer of tissue otherwise had no hope.

I mention that, because the ethical construct and ethical and moral decisionmaking that we are having to face today in a much earlier point on this continuum of life is very similar to what we debated and talked about—what our scientists debated and talked about—what our ethicists did—what our medical scientists did about 30 years ago in transplantation. To whom do you give scarce resources? To whom do you not give a heart or a lung because we have this shortage? Which organ tissues are suitable for transplantation?

I have had the privilege—really the blessing—to be able to see the rigorous