Harkin	Lugar	Sarbanes
Hatch	Martinez	Sessions
Hutchison	McConnell	Smith
Inhofe	Mikulski	Snowe
Inouye	Murray	Stabenow
Isakson	Nelson (FL)	Talent
Johnson	Nelson (NE)	Thomas
Kerry	Obama	Thune
Kohl	Pryor	Vitter
Landrieu	Reid	Voinovich
Levin	Roberts	
Lincoln	Salazar	

NAYS—26

Alexander	Gregg	Rockefeller
Allard	Kennedy	Santorum
Boxer	Kyl	Schumer
Clinton	Lautenberg	Shelby
Coburn	Leahy	Specter
Corzine	Lieberman	Sununu
DeMint	Lott	Warner
Ensign	McCain	Wyden
Feinstein	Reed	

NOT VOTING—4

Crapo	Murkowski
Jeffords	Stevens

The amendment (No. 779), as modified, was agreed to.

Mr. DOMENICI. I move to reconsider the vote.

Mr. SUNUNU. I move to lay that motion on the table.

The motion to lay on the table was agreed to.

RECESS

The PRESIDING OFFICER. Under the previous order, the hour of 12:30 p.m. having arrived, the Senate stands in recess until 2:15 p.m.

Thereupon, at 12:30 p.m., the Senate recessed until 2:18 p.m. and reassembled when called to order by the Presiding Officer (Mr. SUNUNU).

ENERGY POLICY ACT OF 2005—Continued

The PRESIDING OFFICER. The Senator from New Mexico is recognized.

Mr. DOMENICI. Mr. President, 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. DOMENICI. 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 President, I ask unanimous consent that the order for the quorum call be rescinded.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. DOMENICI. Mr. President, I note the presence of the distinguished Senator from Washington, Ms. CANTWELL, on the floor. We have agreed heretofore that her amendment would now be the subject matter before the Senate. I understand the Senator is prepared to offer it.

Ms. CANTWELL. Mr. President, yes.

Mr. DOMENICI. Mr. President, may we have a copy of the final draft of the amendment?

Ms. CANTWELL. Yes, we will send the amendment to the desk.

Mr. DOMENICI. We have it. I wonder if we can discuss what the Senator's pleasure is. We have nothing else pending but her amendment for at least a couple of hours or more. How much time does the Senator think she might need?

Ms. CANTWELL. Mr. President, I know there are many colleagues who want to talk on this issue. I do not know how many members on the other side of the aisle want to speak. I would think we can dispose of this within a couple of hours. That would be my guess.

Mr. DOMENICI. Mr. President, we will not set a specific time, but let's talk about a couple of hours. I gather that the Senator would not need all that time continuously, if somebody desired to speak. I ask the Chair to recognize the Senator to answer my question.

The PRESIDING OFFICER. The Senator from Washington.

Ms. CANTWELL. That is correct. I think we will start the debate on the Cantwell amendment, and if other Members want to address that or other issues, we are happy for them to come down and address those issues as the afternoon progresses.

Mr. DOMENICI. It is the understanding—and I hope Senator CANTWELL would comply—that there will not be any other subject matter come up. I ask unanimous consent that no other amendments be in order while this discussion is taking place, other than discussing the amendment.

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

Mr. DOMENICI. Mr. President, having said that, Senators on our side have heard we will be on this amendment for 2 hours, probably longer. If any of my colleagues desire to come down and debate the issue, I would very much appreciate them letting us know or, in fact, come to the floor and we will arrange for them to speak.

I yield the floor.

The PRESIDING OFFICER. The Senator from Washington.

Ms. CANTWELL. Mr. President, I thank the chairman of the Energy Committee for his participation and help in clarifying this next segment of debate on the Energy bill. While I think we have several issues left to discuss, I think it is very important to realize what a milestone we have achieved. After a couple of sessions of the Senate trying to get energy legislation, we are now on the precipice of having an energy bill that has great bipartisan support.

I compliment the chairman of the Energy Committee for his hard work and diligence in getting an energy bill that has such great bipartisan support. As a member of the Energy Committee and as a relatively new Member of the Senate, I can tell you how honored I was that Senator DOMENICI visited me in my office to talk about the issues impacting the Northwest—because we have been hard hit by an energy crisis in the last several years—and his willingness to work with my office on those Northwest issues, particularly related to the hydro system.

I can say with certainty that just about every member of the Senate Energy Committee participated in the markup of this legislation by getting ideas and concepts into the Energy bill. While each of us have different perspectives because we represent different regions of the country, people should realize that getting an energy bill is a very important step forward in our Nation.

I contrast that to the House version. The House version reminds me of where we were in the Senate version 2 years ago, except for the House version just kept going in the wrong direction. It basically has what I call ''gratuitous special interest deals'' relating to groundwater pollutants. This includes letting MTBE manufacturers off the hook from their liability, something I know the Presiding Officer has concerns about. The House bill also has rollbacks of the Clean Air Act, the Clean Water Act, the National Environmental Policy Act and the Safe Drinking Water Act. I think these are bad precedents to set.

I am trying to bring attention to the fact that the product we are starting with in the Senate is good legislation. The next week and a half will probably make this legislation even better, as Members who are not on the committee bring up issues, some of which, Members who are on the committee left to be discussed by all the Members on the Senate floor.

Something of particular importance to the Northwest is the electricity title in this legislation. Establishing the electricity title was a very meaningful step toward responding to the scandalous Enron crisis and the unethical practices of market manipulation. We are really getting tough on energy traders and executives who perpetrate the kinds of abuses that we saw in the western energy market. We are sending a message to those industries and businesses that the consumer will not provide the deep pocket for Enron kinds of bankruptcies.

I am grateful to the chairman and the ranking member from New Mexico for their hard work on this legislation. There was a great irony taking place the moment the Senate was about to make a decision on changing the filibuster rules. Members of both sides of the aisle and all their staffs were hard at work marking up a very comprehensive energy bill in a very bipartisan fashion. If people were there, they would have realized it was the Senate at its best doing its best work.

There are still outstanding issues that we decided we were going to bring to the Senate floor. Some of those issues were related to a variety of concerns that we thought were best addressed on the Senate floor. One of the issues that I think is important to bring up is my amendment on energy security. It is an amendment that will set a national goal for getting off our overdependence on foreign sources of oil. I am pleased to be able to offer that amendment with Senators DURBIN, SALAZAR, and KERRY because it is important that energy independence be

part of our strategy for a national energy policy.

Many Americans are feeling this overdependence at the gas pump today. They know we are overdependent on foreign oil. They want to see more competition in gas prices. Americans may not realize that now the United States imports about 58 percent of our oil supply. That is about 11 million barrels a day. This number is expected to grow to about 62 percent by 2015. The underlying bill tried to address this by saying we should cut our dependence on oil by a million barrels a day, but what that underlying bill does is leave us worse off by 2015 than we are today. It would leave us more dependent on foreign oil than we currently are. The mathematics of the underlying bill need to be improved.

My amendment would direct the President to develop and implement a long-term strategy to reduce our dependence on foreign oil by reducing 7.6 million barrels of oil per day by 2025. So, instead of allowing our foreign oil imports to grow from the 58 percent that it is today to 68 percent in 2025, my amendment would reverse this alarming trend.

We can see where we are today and where we need to get to reduce this dependence.

Under my amendment, this would be a 40-percent reduction by the year 2025. It is very important that this goal be included as part of our energy legislation.

It should be no surprise because many of the Members have talked about energy independence as part of the energy legislation. If my colleagues believe in the underlying fundamentals of this legislation, then they must believe that we can be successful in getting off our overdependence on foreign oil.

What this legislation is missing is an adequate goal to actually reduce our dependence on foreign oil.

It is no surprise that consumers and experts alike agree on this. In fact, there was a recent poll which showed that 92 percent of Americans are very worried about our dependence on foreign oil, and 93 percent of Americans want our Government to develop an energy strategy that will get us off our overdependence on foreign oil. In fact, the President has joined in the call, saying that in order to make sure our economy grows, we need to encourage small business sector growth and vitality. We need to address a major problem facing our country, and that is our Nation's growing dependence on foreign sources of energy.

The President has joined in this debate in saying that getting off our foreign dependence is important.

We have had many others speak out, such as the leadership on both sides of the aisle. In the House, Speaker HASTERT said: Our Nation is dependent on a fickle foreign oil market that is being stretched to the limit by foreign demands.

National security experts, such as CIA Director James Woolsey, former Secretary of State George Schultz, and others in the Energy Future Coalition, have said that the possibility exists for future oil embargoes and supply disruption that make us more dependent on the Middle East.

In fact, those gentlemen, in their report, said: For the foreseeable future, as long as vehicle transportation is dominated by oil, the greater Middle East and especially Saudi Arabia will remain in the driver's seat.

We have a chart that shows who owns the oil supply and who are the top global oil companies in the world. If one thinks about these companies on the chart, looking at the names, Aramco and various companies, and they look at the countries that basically own these companies, people will see that they are 100-percent owned by those entities. We can see what countries they are. We can see where the supply is.

If Americans look at this chart, then they know that we cannot leave our economic future and our national security for future oil supply in the hands of these governments and these countries. What we need to do is to get off of our overdependence on foreign oil and diversify, and that is specifically what my amendment calls for.

I ask unanimous consent that a letter from the Energy Future Coalition that calls for major new initiatives to curtail U.S. oil consumption be printed in the RECORD.

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

ENERGY FUTURE COALITION,
Washington, DC, May 18, 2005.

Hon. PETE V. DOMENICI,
Chairman, Committee on Energy and Natural Resources, U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: We are writing to follow up on the letter we sent to the President in March, urging an aggressive program to address America's growing dependence on foreign oil, which in our judgment endangers our national and economic security. We asked the President to ''launch a major new initiative to curtail U.S. oil consumption through improved efficiency and the rapid development and deployment of advanced biomass, alcohol and other available petroleum fuel alternatives.''

The signatories, representing a broad range of political: views, support a new national commitment: to reduce U.S. oil consumption substantially, through the accelerated introduction of advanced technology vehicles and alternative fuels. We believe domestic biofuels can cut the nation's oil use by 25 percent by 2025, and substantial further reductions are possible through efficiency gains from advanced technologies. That is an ambitious goal, but it is also an extraordinary opportunity for American leadership, innovation, job creation, and economic growth.

Mr. Chairman, we recognize that you and the other Members of the Committee are well along in the drafting process, and we hope that legislation can be enacted this year that addresses the critical energy challenges confronting the nation. We want to commend you for the leadership you are showing and the bipartisan approach you have pursued in developing a comprehensive energy bill. You have demonstrated a willingness to look anew at the facts on the ground and to adjust to those facts as appropriate.

We come forward now in a constructive spirit, with recommendations drawn from the work of several groups that have recently examined this topic in addition to the Energy Future Coalition—the National Commission on Energy Policy, the Set America Free Coalition, the Apollo Alliance, Rocky Mountain Institute, and others.

The President said last month, ''Our country is on the doorstep of incredible technological advances that will make energy more abundant and more affordable for our citizens. By harnessing the power of technology, we're going to be able to grow our economy, protect our environment, and achieve greater energy independence.'' We could not agree more strongly.

We see a broad and bipartisan consensus emerging at various levels of government throughout the country on the need to move to a new model of energy production and use. As promising as that vision is, however, it won't happen by itself. Public policy and investment are needed to hurry the future, and now is the time to act, before a crisis.

Toward that end, we recommend certain first steps, outlined briefly below. The cost of this package is small, relative to both the risks and opportunities at hand, but it would begin to change the nation's direction on this critical issue. We would be pleased to work with you and your staff on specific legislative language.

1. Reward technological innovation that increases fuel efficiency—Transportation accounts for two-thirds of U.S. oil consumption, and light-duty vehicles account for more than half of all transportation demand. New vehicle technologies, including hybrids and advanced diesels, can dramatically increase the efficiency of that fleet.

The health of the U.S. economy is closely linked to the health of its auto manufacturing industry, which affects one out of every 10 private-sector jobs in America. The industry's vitality in turn depends on its ability to innovate and respond to rapidly changing customer preferences.

We recommend tax incentives for U.S. vehicle and component manufacturers that will enable them to retool existing production lines for both cars and trucks and produce advanced technologies that reduce fuel consumption and U.S. demand for foreign oil. We also recommend tax incentives, as the President did again last month, that will increase consumer demand for these technologies. We recognize, of course, that tax policy falls within the jurisdiction of the Committee on Finance, and we will send a similar letter to Chairman GRASSLEY.

2. Support the next generation of advanced vehicles—Fuel consumption is closely tied to vehicle weight. Lighter vehicles are thus desirable as long as they do not compromise safety or performance. Advanced materials—such as composites now used in advanced aircraft—could allow dramatic gains in fuel economy if they could be reduced in cost. We recommend that the Federal government carry out a program to demonstrate the feasibility of high-volume, low-cost manufacture of these materials, which will have important military applications as well.

Additional reductions in oil demand would flow from extending the range that hybrid vehicles can travel on the electricity stored in their batteries. This will require further improvements in battery technology and the ability to plug in to the electric power grid, but may have the additional benefit of leveling peak utility power loads. We recommend support for further development,

demonstration, and deployment of these technologies.

3. Accelerate the introduction of alternative transportation fuels—The production of ethanol has increased dramatically in the last two yeas, but must grow much further to displace a major share of U.S. oil demand. Technologies to convert widely abundant plant fiber—cellulosic biomass—to liquid fuels have been demonstrated at pilot scale but face considerable financial and technical risk in moving to first-of-a-kind commercial-scale production. A Canadian company, Iogen, is currently producing ethanol from wheat straw, but at relatively small scale. Biodiesel fuels—from sources as diverse as soybeans, waste cooking oil, and turkey offal—are also emerging as important alternatives.

A well-focused and adequately funded program to take these technologies to the point of becoming low-risk commercial choices should be pursued on grounds of national security. This may be the only way that the U.S. can have—in years, as opposed to decades—a significant supply of renewable domestic fuels, chemicals, and other products for which we now depend on imported oil or limited natural gas reserves. The Federal government should be directed to conduct a one-time technology competition, supporting private-sector construction of at least 10 commercial-scale demonstration plants within the next five years—testing the comparative advantages of different conversion processes, feedstocks and end products.

We also support an aggressive program to increase the use of renewable fuels in the fleet (similar to S. 650, for example) to encourage development of these fuels and their use as fuel substitutes, not just as additives. Flexible-fuel vehicles can use ethanol or gasoline interchangeably, and some four million are already on the road. Because new cars can be given flexible-fuel capability at negligible cost, we recommend that this technology be rapidly introduced into the fleet to give consumers a choice in refueling options. We also believe the corporate average fuel economy program should provide credit for the demonstrated use of alternative fuels not based on petroleum, and we recommend that all biodiesel blends be treated alike in the tax code.

Finally, we are not unmindful of the current budget situation and its implications for the energy bill; however, we think that a more rational allocation of scarce resources would substitute the unfunded elements of this package for the $2 billion ''ultra-deep-water and unconventional onshore natural gas and other petroleum research and development program'' contained in the House bill. As the President noted recently, with oil at $50 a barrel, ''energy companies do not need taxpayers'-funded incentives to explore for oil ad gas.'' We should support instead a new direction in energy policy that will reduce our dependence on foreign oil, expand the production of domestic transportation fuels from agriculture, and create new jobs, economic growth, and investment in America.

Mr. Chairman, we note that the Committee has held conferences this year on natural gas supply and on the future of coal, as well as hearings on other relevant topics, but not on the subject of oil dependence and national security, despite the remarkable rise in the price of oil over the past year. We respectfully urge you to consider such a session and offer our participation if you so desire. In any case, we would be pleased to discuss these initiatives with you as you consider incentives for innovative clean energy technologies, as well as other provisions on renewable energy, fuels and vehicles, and oil and gas.

These recommendations are the product of three years of work by the Energy Future Coalition and others, who have come together in a constructive and non-partisan effort to develop politically viable answers to seemingly intractable issues, so that we might have a national energy policy that responds strategically both to the challenges we face and to the opportunities they create.

With best wishes,

Sincerely,

Robert C. McFarlane.
R. James Woolsey.
Frank J. Gaffney, Jr.
Richard L. Trumka.
Charles B. Curtis.
C. Boyden Gray.
Timothy E. Wirth.
John D. Podesta.

Enclosures: Additional Signatories

Lt. Gen. John S. Caldwell, Jr., USA (Ret.); Adm. William T. Crowe, Jr., USN (Ret.), Former Chairman, Joint Chiefs of Staff; Hon. John H. Dalton, Former Secretary of the Navy; Vice Adm. Robert F. Dunn, USN (Ret.); Michael T. Eckhart, American Council on Renewable Energy; Hon. Vic Fazio, Former U.S. Representative; Hon. Robert W. Fri, Resources for the Future; Brig. Gen. Gordon Gayle, USMC (Ret.); Hon. Sherri W. Goodman, Former Deputy Under Secretary of Defense; Hon. James C. Greenwood, Biotechnology Industry Organization, Former U.S. Representative.

Vice Adm. Lee Gunn, USN (Ret.); Institutes for Public Research, Center for Naval Analysis; F. Henry Habicht II, Former Deputy Administrator, EPA Commission on National Energy Policy; David A. Harris, American Jewish Committee; Hon. Gary Hart, Former U.S. Senator; Co-Chair, U.S. Commission on National Security for the 21st Century; Bracken Hendricks, Apollo Alliance; John P. Holdren, Harvard University, Co-Chair, National Commission on Energy Policy; Lt. Col. William C. Holmberg, USMC (Ret.), Biomass Coordinating Council; Hon. Jerry Hultin, Former Under Secretary of the Navy; Rear Adm. Leland S. Kollmorgen, USN (Ret.).

Gen. Richard L. Lawson, USAF (Ret.), Former President, National Mining Association; Maj. Gen. Charles Link, USAF (Ret.), National Defense University Foundation; Gal Luft, Institute for the Analysis of Global Security; Lt. Gen. William R. Maloney, USMC (Ret.); Vice Adm. Dennis V. McGinn, USN (Ret.); Dennis R. Minano, Former Vice President for Environment and Energy, General Motors; Hon. William A. Nitze, Former Assistant Administrator, EPA, The Gemstar Group; John L. Petersen, The Arlington Institute; Hon. Robert B. Pirie, Jr., Former Secretary of the Navy (acting).

Hon. Joe R. Reeder, Former Under Secretary of the Army; Hon. William K. Reilly, Former Administrator, EPA, Co-Chair, Commission on National Energy Policy; Maj. Gen. J. Milnor Roberts, USAR (Ret.); Larry J. Schweiger, National Wildlife Federation; Hon. Philip R. Sharp, Former U.S. Representative, Congressional Co-Chair, Commission on National Energy Policy; Hon. Susan F. Tierney, Former Assistant Secretary of Energy, Commission on National Energy Policy; Vice Adm. Richard H. Truly, USN (Ret.), Former Director, National Renewable Energy Laboratory; R.E. Turner, Turner Foundation; Adm. James D. Watkins, USN (Ret.), Former Secretary of Energy.

Ms. CANTWELL. Specifically, this coalition believes that domestic biofuel, something that we just debated as part of this energy strategy, can be used to produce a very significant amount of our future energy, and they are calling it an extraordinary opportunity for American leadership for job creation and economic growth.

I think this group of individuals, who are part of a coalition that is interested in our country's national security, are pointing out that this very chart, showing the ownership by foreign entities, is of great concern to our future. I think this letter does adequately call on us to do our job in making sure we are getting off of our foreign dependence.

I believe this underlying legislation gives us the tools to do so. That is especially true if you think about the framework that is in the bill and the debate we just had on biofuels, the 8 billion gallon biofuels goal by 2012. What is great about the biofuels amendment that was adopted and revised from the committee markup is that it includes both ethanol and biodiesel, and specifically ethanol research and development of what are called cellulosic ethanols—biomass-based ethanol materials.

We know we have Midwestern States that are already producing ethanol and giving us a source of supply. But if you take those five Midwestern States and try to transport that product to the Northwest, as we do today—we are selling biofuels and ethanol in a variety of places in Washington State today, but you are adding a 30-cent to 50-cent transportation cost. What the amendment we just adopted does is make sure that various parts of the country can also be in the biofuels business; that we can start producing products in other parts of the country, closer to the source and consumers that are going to use them. So it is a very positive step forward.

The bill also includes clean coal technology, that I know my colleague who is on the floor, the Senator from Tennessee, has worked on so diligently. It includes hydrogen fuel cells, and it includes next generation nuclear power, things I know my colleagues on the other side of the aisle have worked hard to perfect. It includes new research and development, to play a vital role in the commercialization of new technology. It promotes in, a bipartisan way, conservation initiatives. It is exciting to catch a sense of the new technology that will be in this bill to give us more efficiency in our homes and businesses. We will get a lot of savings from these programs and tools.

There are many tools in the underlying bill to achieve the goals we set out for ourselves. We believe this underlying bill has the right technology answers; that is, it has all the various means by which we can get off our foreign oil dependence, but it is simply lacking a goal. That is what my amendment will provide. This legislation should reflect the resolve of the American people, who say that getting off our overdependence on foreign oil is a national priority, and we are going to stick to it.

I know various Members are going to come down here and offer amendments

on other issues, issues related to global warming and greenhouse gas emissions. We are going to have proposals regarding a renewable portfolio standard, which would basically mean that our electricity grid would use more renewable energy to provide supply. I think Senator FEINSTEIN is still going to come down and offer her amendment to close the SUV loophole, to try to make SUVs more fuel efficient.

We are going to have a lot of discussion to help improve the bill. But without setting a national goal, without saying our country has to get off our dependence on foreign oil, we will have missed an opportunity. This underlying legislation sets a goal that will actually make us, in 2015, more dependent on foreign oil than we are today. I think we need to set a goal as a legislative body, that we want to reverse that trend. In 2025 we want to actually be importing less foreign oil, and that is exactly what my amendment does.

Why is this so important? First, we all know it is in the economic interest of the United States to diversify off foreign oil. We know our dependence has cost us, since 1970, something like $3.6 trillion. In 2003, imports cost us $10 billion every single month, and our oil imports count for about 34 percent of our existing trade deficit. Think about that, 34 percent of our trade deficit, just because of the cost of oil. In fact, Alan Greenspan has said that the high cost of fuel has basically caused 8 out of the 10 postwar U.S. recessions; they were related to high energy prices and spikes in oil.

We know there is a strong relationship between energy costs to our overall economy. That is what we are trying to change. But a number of factors remain, and that is what is of great concern. Who actually controls those energy costs? We know the OPEC cartel, as well as international events and political events, have an impact. We know the growing demand in China and India for the same supply of oil has an impact. We know we need to do something about it.

If you talk to economists about what is going to happen to the price of oil in the future, the signs are pointing to oil prices could reach $100 a barrel in the next 20 years. If that is the case, that would have a devastating impact on our national economy. Yet that is exactly what we are hearing from them. That is exactly what people are saying. There is a world economic outlook report that was issued this spring by the International Monetary Fund, and that report basically said that oil could spike to $100 a barrel between now and 2030.

The Wall Street firm of Goldman Sachs also predicted that the price of oil could reach $105 in the next few years, and energy markets could easily be in the early stages of a superspike period. I know the United States has been through these periods before, where we have seen extreme spikes in energy costs. It has had a devastating impact on our economy. That is something we are trying to avoid by setting a national goal to diversify away from foreign oil.

We have many economic reasons for this amendment. But as I stated earlier, we also have security reasons. Let me expound on that just a little bit because I think it is important to understand the demand for oil and, basically, who holds the reserves. The oil reserves of every area in the world are in decline except for the Middle East. That means if we continue to be dependent on foreign oil, we are going to be more dependent on OPEC and its member countries. Given that those reserves, let's just say, are constantly under some scrutiny because of the challenges in that region of the world, some analysts, when looking at the oil futures market, basically describe what they call a fear premium. That is, the price of oil futures actually increases because people are concerned that international incidents may happen, terrorist threats and other things, that will damage that oil supply. So the cost of oil futures actually goes up, just on the fear of what might happen.

That is troubling because as we all know, we cannot predict what is going to happen on an international basis. We do our best to protect that oil supply, but Saudi Arabia alone has about a quarter of the world's oil reserves and more than 60 percent of that country's total oil inputs are processed at a single facility. So if you think about it, it is the home to almost all of the world's spare production capacity. Again, we are putting all our eggs in one basket. I am simply saying lets set a national goal to get off that dependence on foreign oil because of this security reason, as well as the economic reason and who owns this supply and how important it is.

I would like to talk for a second about the picture as it relates to other people interested in that oil supply. I mentioned China and India and the projections of the price of oil reaching $100 a barrel. Analysts agree that China, because of its growth and huge demand, is likely to shift the whole center of gravity for energy markets. That is, China has already moved past Japan in its global energy consumption. It is the second largest oil consumer and the third largest oil importer. In the next decade, China is going to continue to grow to about half of today's U.S. combined car and truck total, so they are going to be looking for lots of energy supply. It is expected that their imports are going to double by 2010 and quadruple, to 8 billion barrels of oil a day, by 2025. Imports will be 60 percent of China's total oil consumption.

While we are looking at the picture, already knowing we are overdependent on foreign oil and that the challenges to security are there and that the American economy is already suffering, we also need to recognize there are other nations who are going to be bidding for that same resource.

We need to get off our overdependence on foreign oil. How are we going to do that? First, we have to have the resolve. There are many times in American history this country has shown American resolve. We have put a man on the Moon. We have ushered in the nuclear age. We stood up in the OPEC crisis and got fuel efficiency standards for cars. We ought to have the resolve now. We need to bet on the ingenuity of American brain power to get us off our overdependence on foreign oil. If we are smart enough to put a man on the Moon, we ought to be smart enough to get off our overdependence on foreign oil. When John F. Kennedy made the declaration of wanting to put a man on the Moon in a 10-year period of time, I don't think he had the answer to every single element of how to do that. He left the details up to both the public and private sector in getting new technology developed so we could move forward.

In this case we have an underlying bill that actually can achieve this goal of reversing the trend by 2025 and reducing 40 percent the consumption of the United States of foreign oil. How do we do that? Many people have talked about how we get there. I will show one chart with examples of the oil savings technology in this legislation.

The biofuels amendment we talked about: Many organizations, including some of those security initiative organizations such as Energy Future Coalition and some environmental organizations such as Natural Resources Defense Council, have said biofuels can play a significant role. They could help produce 3.9 billion barrels of alternative fuel a day.

I hope my Midwest colleagues and my colleagues from other parts of the country who are interested in biodiesel and ethanol are excited by that opportunity. It means an economic opportunity for all the regions of our country that can produce those fuels. It also has a higher national purpose, to help us get off our over-dependence on foreign oil.

We can also improve efficiencies in various sectors such as aviation, residential applications, and various modes of transportation. I am very proud the Northwest has figured this out.

At the Paris Air Show we are seeing a lot of news about future planes. One plane you will not see there today but is on the drawing boards and is getting rave reviews from people making purchase orders is the next generation 787. What is great about that is its whole design is based on a more fuel-efficient plane. Boeing estimates it can save between 20 and 30 percent on fuel costs. They figured out the marketplace is going to be very sensitive to the high expense of transportation fuel and have developed a plane to answer the call from the marketplace. What has the marketplace said? The marketplace is responding with over 200 orders for a plane that is not even finished yet.

That is a great example of how we can get efficiencies in aviation and other sectors.

This chart explains how we can make a big step forward in energy savings, which are aspects of this legislation. They are very important aspects to look at.

A few of my colleagues who are anxious about this legislation want to know if it is a back door to higher fuel efficiency standards; that somehow this bill mandates CAFE. It does not mandate a higher fuel efficiency standard, although this Member would certainly support a piece of legislation in the Senate that suggested that. This amendment realizes there are hybrid cars in the marketplace that are likely to come onboard. There are estimates that you can increase the efficiency of our economy using hybrids and save up to 2 million barrels a day by 2015. That's just from the growth in the hybrid auto market. That is just American consumers buying hybrid cars and making that investment. It does not have to be CAFE, although I personally think we are losing a huge opportunity in the American marketplace by not being more aggressive about cars that can run on alternative fuels. I say that, mentioning the Boeing experience in aviation.

The aerospace industry in the Northwest is responding to the demand of more fuel-efficient transportation. I wish the auto manufacturers would be more aggressive. Actually, as oil has hit $50 a barrel they have gotten more aggressive. They have gone over to Japan and said, okay, we want a technology deal with the Japanese auto manufacturers; we want to get more of these cars in the United States market. Maybe that will work.

However, this amendment does not assume we are going to have a new CAFE standard. It simply says to the United States, if you are serious about this problem, you will set a national goal to get off our overdependence on foreign oil by 2025 and start reducing the trend. Instead of continually importing more, we should be importing less.

This chart shows the trend we are trying to reverse. Today we are basically importing 13 million barrels a day; if we do nothing, by 2025, we will be importing 19 million barrels. This is the trend we are trying to reverse. This is the direction we did not want to go in. We want to make a change.

Some of my colleagues ask, how can you set this goal? If you are not specific about how you get there, how are we going to achieve it? There is a lot I am sure that President Kennedy thought about when he wanted to put a man on the Moon, and maybe his original projections were not accurate. There is a lot of research and development we are going to do on a variety of these technologies.

One country that has taken this challenge and embraced it is Brazil. It is a country which looked at this same dilemma the United States has, from the economic perspective. They said, we cannot afford to be dependent on the high cost of imported oil. In fact, in the 1970s, Brazil had about 80 percent of its supply from imports. That was a big challenge.

As it exists today, Brazil has, because of its biofuels initiative, changed that trend. In fact, Brazil has gone from 1975 being 80 percent dependent on foreign oil to 1990 being only 45 percent dependent on foreign oil, and in 2006, Brazil actually plans on being an energy self-sufficient country and maybe even being a net exporter of fuel. That is very interesting. As it stands today, they are only importing about 11 percent of their supply.

How do you go from 1975 at 80 percent to 11 percent in 2003? The country took the initiative and said they were going to produce a competitive product to fossil fuel. That competitive product happened to be sugar-based ethanol. They got good at producing sugar-based ethanol. They got so good at producing sugar-based ethanol they actually can produce it and ship it here cheaper than we can produce it today.

I don't like losing the competitive edge to somebody else on the production of an alternative fuel source. I want the United States to be a leader in the production of alternative fuel sources. It holds a lot of promise for the United States.

One might say, well, Brazil is only one-eighth the size of the United States economy and we have much more demand than Brazil. That is true, but Brazil has learned about the efficient production of ethanol. Are we saying somehow the United States does not have the raw material supply for ethanol, whether it is sugar-based ethanol or biomass-based ethanol?

We actually are trying to put the American farmer in the fuel business. If there is anything we ought to be sure we have its agriculture. We know we only sit on 3 percent of the oil reserves in the world, so we know we are not going to get it from there. We are talking about importing liquified natural gas, so we know we are challenged there. But we sure know that the American farmer can produce a lot of product as it relates to ethanol, whether it is sugar based or biomass based, and we can produce a lot as it relates to biodiesel products as well.

That is exactly what this legislation does. It is very specific about the research and development that needs to take place to get us into the alternative fuels business. I am so certain of the well-crafted nature of that section of the bill that I am willing to say that I think we really can achieve our goal of decreasing our energy dependence by 2025. So it is a very positive step for us to look at what we have seen around the globe as far as other countries trying to get toward energy independence or becoming less dependent on foreign oil.

Now, I have another chart that shows examples of what we are trying to reach. This chart basically demonstrates how we can reduce, by 7 million barrels a day, U.S. consumption. It does not have to be the exact mix as shown on the chart of how we achieve that. This is just one of the proposals. You have market growth in hybrid cars; industrial improvements, efficiency improvements in aviation; efficiency gains in trucks and heavy-duty equipment. One of our National Laboratories in the State of Washington, the Pacific Northwest Labs, is doing great research on lightweight trucks, lightweight materials, transportation efficiency, for the trucking industry in our country. Other areas to reduce consumption: how to make the movement of goods and services more efficient, saving transportation costs; the replacement of tires, you can get more fuel efficiency just by having better balance of your tires to get better gas mileage; and there are transportation choices; and biofuels. Again, biofuels is a big opportunity for us.

So I hope all my colleagues are listening who are very supportive of the biofuels section of this legislation—which I hope there are many because I think it is a great opportunity. If you are supportive of that biofuels section of the bill, you ought to be very supportive of setting a goal because you really ought to believe the national goal is achievable. You ought to believe that the economic interest of our country in getting that new production of biofuels is not only an economic and security matter, it is also just plain good job creation for our country. You are putting the American farmer back in business with a product that now will see huge demand.

Now, I do not know if we have it here on the floor, but I took great note that the Economist magazine wrote a piece on biofuels a few weeks ago. In fact, it was a front-page cover story article that week about biofuels. What was interesting about it is that it discussed the fact that we are at this point where biofuels make so much sense because of the price of oil.

Now, several years ago, when we were talking about oil at $20 a barrel and people were talking about biofuels, maybe it did not make much sense, the economics did not make much sense. But we have hit, as Andy Grove would say, an inflection point, and that inflection point is that now we are seeing prices over $50 a barrel for imported oil.

So the article basically says that it is no longer the ''blue sky'' stuff that people talk about, but it is an idea whose time has come. It is a very substantive opportunity for anybody who can produce biofuels because at anywhere around $50 a barrel, instead of $25 a barrel, biofuels can be competitive.

Now, in Washington State, we are selling biodiesel and alternative fuels. A few weeks ago, we had the opening of one of our first biofuels stations. It was

actually at the same location as a previous traditional petroleum-based station. So they changed over from serving customers gasoline to now serving biodiesel.

Right now, the product is something that is shipped from the Midwest, refined at a production facility in Seattle, and then sent over to what was this particular station, Laurelhurst Oil. They are producing a biofuel in Seattle, even though the oil is still imported from another state. That biofuel, I think at the time, was about 30 cents more than what you could go around the corner and get to fill your car up with gasoline—30 cents more. And you ask: Well, how are you expecting to be competitive if it is 30 cents more? It was 30 cents more because we had the transportation cost of bringing that agricultural product to the Northwest, having it processed, and then sold. The production facility that is actually producing this biodiesel in Seattle believes it can reduce the cost by 30 cents—they could be selling the biodiesel at the same cost we are buying gasoline per gallon in Seattle—by simply producing the product in the State of Washington.

So that is what this bill allows us to do. I think the Economist was right, that the private sector is starting to respond to this and starting to come up with solutions. So then you say: Well, if the private markets are responding, why do we have to set a national goal? Well, let me address that because as a former businessperson, I understand that businesses are responsive to their customers and they are responsive to their shareholders. I do not blame a national oil company for setting its own agenda on when it wants to get into new energy technologies. That is their prerogative.

You see lots of commercials on TV all the time about how existing fossil fuel companies are going to generate biofuels, how they are going to diversify. They would make you think they are doing that in a rapid fashion. I am not so sure it is rapid enough for the consumers of Washington State, who are paying a very high price for gasoline, have paid a very high price for electricity recently, and are reeling from a hard-hit economy because of high energy costs.

We would like to see a much more aggressive effort. But those companies are not going to set a national goal and they are not going to diversify until it is in their financial interest. So the question is whether this body is going to set a national goal, which I think this underlying bill can achieve, and whether we, as a country, are going to diversify off of that overdependence on foreign oil. It is not their job; it is our job. And we should get about showing the American people that we have the will to do it and that we are betting on American ingenuity to achieve it. I have to believe that putting a man on the Moon is a lot harder than discovering how to be as efficient as the Brazilians are in the development of ethanol. I have to believe that was a tougher challenge.

So I think about the things we have achieved in our country's history. I think about the fact that, in response to the threat of what other countries might be doing with the nuclear bomb in World War II, FDR ushered in the nuclear age in 2 years. He shifted our spending in the development of energy in 2 years from about $8,000 to 86 million dollars and ushered in the nuclear age. Why? Because he saw a threat, and he wanted to set a national goal. We have had these instances where our country has decided it was in our economic interest and our security interest to move ahead. That is what we need to do today.

So I am glad to offer this amendment that simply says that we should take the underlying legislation and change its goal. The underlying bill already has a goal. It says that our goal should be to get off of foreign oil by 2015 by reducing it a million barrels a day.

What we need to do is reduce our oil supply in a much more aggressive fashion. We need to reduce that 40 percent by 2025. That is what my amendment calls for. I am happy to hear from my other colleagues on this issue. I hope that my colleagues will take this issue as an amendment to improve the underlying bill.

The underlying bill has the tools and the framework we need. What we need to do is have the resolve as a country to set a national goal. The private sector is not going to do that. We are not going to have consumers make market choices that don't exist. They want more market choices. What we have to do is set the wheels in motion. The good news is, once the Government sets a goal, it is amazing how many people respond to that.

Our country has set lots of goals. We set goals for more homeland security. I have seen more security technology companies come through my office in the last 2 years than imaginable. Why? Because we said we want more homeland security. So we have every imaginable aspect of homeland security being addressed by thousands of companies across America.

If we want to be serious about getting off our overdependence on foreign oil, we will pass this amendment, and we will be on the track for setting a goal that both the private sector and public sector will respond to. I think with that we will be able to say to Americans that we are on the right track, that we are not going to let consumers continue to pay high transportation costs, and that we have a plan for the future. We are not going to continue to be so singularly dependent on the fossil fuel industry. We are not going to continue to have transportation-sensitive industries caught in a stranglehold by high energy costs. We are going to say to them instead that our national security interests, our economic interests, our environmental interests are being met by a new national goal that all of us will participate in making a reality.

Mr. DURBIN. Will the Senator yield for a question?

Ms. CANTWELL. I yield to the Senator from Illinois.

Mr. DURBIN. I thank the Senator for her leadership. The amendment she is proposing—and we hope will be embraced by both sides of the aisle—will set a goal to reduce our dependence on foreign oil. I can't think of a single person in America who wouldn't agree with that goal. We can all understand that as we wait every day for a press release from the OPEC nations to try to determine whether or not the price of gasoline is going to go up or down. This proud, strong, leading nation in the world goes hat in hand to the Saudi peninsula looking for oil. We wait for them to determine what the price will be. It affects every individual and family and business and airline, right down the line.

Is it not true that the bill before us, S. 10, has a goal of reducing dependence on foreign oil over the next 10 years by 1 million barrels a day, which is not as ambitious or as far reaching as the goal of reducing dependence on foreign oil by 40 percent over 20 years? Is it not also true that the President sent a letter to Congress yesterday and said if we include this provision—the weaker provision that is already in the bill—reducing the barrels of oil by 1 million a day over 10 years, the President will veto the bill? Is that the message that we have received from the Bush White House about our goal in reducing dependence on foreign oil?

Ms. CANTWELL. The Senator is correct. In the underlying bill, we have language that says we should reduce our dependence on foreign oil by 1 million barrels a day by 2015. The problem with that goal is, when you are currently importing 58 percent of your oil supply from foreign sources and you calculate in the growth of demand—obviously, our economy continues to grow—there is demand for more oil. Even with that amendment, in 10 years, in 2015, we will be importing 60 to 62 percent of what our Nation consumes in oil supply from foreign sources. So the underlying amendment does nothing to stop this trend. In fact, we will continue to be more dependent on foreign oil.

I know the White House has sent some communication to Senators saying they oppose even that milestone in the bill which does attempt to try to reduce oil consumption. But the provision in the bill doesn't take into effect the fact that the economy grows. I guess it is saying: We don't want to have any goal to actually try to decrease the amount of foreign oil coming into this country.

I want to have a goal for decreasing the amount of foreign oil coming into this country. I want to reverse the trend. I want to go from what we are expected to have, 68 percent in 2025,

and say, let's switch that down towards 50. Let's get to 56 percent. Let's start doing as the Brazilians did, which is an amazing story, if you think about it. Here is a nation that basically went from 80 percent, now, today to 11 percent, and is on the verge of becoming an exporter. When you think about the economic opportunities our country has in actually being an exporter of new energy efficiency technology, it is a great opportunity.

The Senator is right that the administration opposes any goal setting in this bill. Why would somebody oppose goal setting? All the tools are here in this legislation. I am not saying which technology is going to win. Basically, our amendment is technology agnostic. It doesn't say: You are going to have CAFE; you are going to have nuclear power.

A lot of my colleagues are betting on nuclear power. There is new language in here for new nuclear technology. A lot of people think it will provide us hydrogen sources, and we will have hydrogen fuel cells. We will move to having a more fuel-efficient economy that way.

I am not being prescriptive because 2025 is a long time from now. But I know if we look at specifics, we can get there through these various means, but we won't get there without a goal.

Mr. DURBIN. If the Senator will yield for a further question, we can't pick up a news magazine or a newspaper in America without reading about the growth of the Chinese economy. They are expanding at the expense of many other countries, including the United States.

We have lost hundreds of thousands of manufacturing jobs over the last 4 years to China as their economy is exploding in size. Many of the companies in China that are growing are American companies. The fact is, China is expanding its economy dramatically. It is no longer a backward Communist nation. It is a full-fledged world competitor, and many believe that China and India will be our competitors in the next 50 years for jobs and economic growth.

Is it not also true that China has one problem it has to face, and that is the fact that within the borders, as huge as China is, they don't have a lot of energy resources. So to keep this economy moving forward, they need to import energy into China, which means in the years to come, we will see more and more competition for foreign oil, not just the United States versus the rest of the world, but the United States versus China and the rest of the world, which means oil for $50 per barrel, which has now raised our price at the pump, may go to $100 per barrel.

I ask the Senator from Washington, setting this goal of reducing our dependence on foreign oil through conservation techniques, through alternative fuels, through finding environmentally sensitive resources that we can use, is that not looking forward to the kind of global competition we are going to face and accepting the reality that if we don't do this as a nation, we will find ourselves losing out from a security viewpoint as well as global competition with nations such as China?

Ms. CANTWELL. The Senator from Illinois brings up an important question, which is with China's interest in global oil supply and the demand, is it going to drive up the price. I don't think an oil company really cares whether the price of oil is driven up or not. What do they care?

Somebody is going to pay them, whether it is $50, $55, $60, $80, or $100. With an increase in demand, that is good news for them. Oil supply costs just go up. They reap the benefits; they reap the profit. But what it is not good for is the American economy.

So the Senator is absolutely right, China's entrance into the demand for foreign oil should be seen by this country as an economic and security risk. China's consumption and growth rate is staggering. China is going to be consuming I think I said 8 million barrels of imports. They have already overtaken Japan, and they are fast on our heels to catch up to our consumption, and they will get to a point where they are the 800-pound gorilla in the dynamics of world oil supply.

Even our underlying bill says you can try to ramp up different sources of U.S. production. But we all know with the United States being situated on 3 percent of the world's oil reserves, it is not a likely scenario for us in the United States to be able to drill our way to energy security. So the Senator is right, China is a unique concern in this. We ought to take that, along with the other national security factors, and the fact that the oil supply is located primarily in these Middle Eastern countries—if we can put the chart back up there. If you look at where the supply is already, the countries and state ownership, that is already worrisome enough. Now, when you throw into the equation that China is going to be demanding more supply from these entities, it is going to lead to a higher price. I am not sure any of these countries are worried about the U.S. consumer and what they have to pay for transportation costs. I don't think they are responsive to the needs of U.S. consumers. The United States might be responsive to our own consumers if we were the owner of these companies, but we are not.

So this is about setting a national goal that recognizes the hardship the American economy is going to encounter, and that we are going to be under in the future if we continue to pay these prices. We might, in 10 years, be happy we were talking about $50 a barrel prices, if some of the expectations of Wall Street come to pass—the predictions that we could see superspikes and get to $100 a barrel. We are already feeling the pain now. Americans are losing jobs, pensions, like the pensions of transportation workers, where there are issues because of high fuel costs; and people are curtailing economic activity because of high transportation costs. We ought to take the Chinese part of the equation and realize this goal needs to be set and we need to make it a reality, just as we did to reach the goal of putting a man on the Moon.

My colleague from Tennessee is also on the floor. I want to give him an opportunity to add whatever comments he wants to add about this.

AMENDMENT NO. 784

Ms. CANTWELL. Mr. President, I call up my amendment at the desk and ask for its immediate consideration.

The PRESIDING OFFICER. The clerk will report.

The legislative clerk read as follows:

The Senator from Washington [Ms. CANTWELL] proposes an amendment numbered 784.

Ms. CANTWELL. Mr. President, I ask unanimous consent that further reading of the amendment be dispensed with.

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

The amendment is as follows:

(Purpose: To improve the energy security of the United States and reduce United States dependence on foreign oil imports by 40 percent by 2025)

Beginning on page 120, strike line 23 and all that follows through page 122, line 14, and insert the following:

SEC. 151. REDUCTION OF DEPENDENCE ON IMPORTED PETROLEUM.

(a) FINDINGS.—Congress finds that—

(1) based on the reports of the Energy Information Administration entitled ''Annual Energy Outlook 2005'' and ''May 2005 Monthly Energy Review''—

(A) during the period beginning January 1, 2005, and ending April 30, 2005, the United States imported an estimated average of 13,056,000 barrels of oil per day; and

(B) the United States is projected to import 19,110,000 barrels of oil per day in 2025;

(2) technology solutions already exist to dramatically increase the productivity of the United States energy supply;

(3) energy efficiency and conservation measures can improve the economic competitiveness of the United States and lessen energy costs for families in the United States;

(4) United States dependence on foreign energy imports leaves the United States vulnerable to energy supply shocks and reliant on the willingness of other countries to provide sufficient supplies of oil;

(5) while only 3 percent of proven oil reserves are located in territory controlled by the United States, advances in fossil fuel extraction techniques and technologies could increase United States energy supplies; and

(6) reducing energy consumption also benefits the United States by lowering the environmental impacts associated with fossil fuel use.

(b) GOAL.—It is a goal of the United States to reduce by 40 percent the amount of foreign oil projected to be imported during calendar year 2025 in the reference case contained in the report of the Energy Information Administration entitled ''Annual Energy Outlook 2005''.

(c) MEASURES TO REDUCE IMPORT DEPENDENCE.—

(1) IN GENERAL.—Not later than 1 year after the date of enactment of this Act, and every two years thereafter, the President shall—

(A) develop and implement measures to reduce dependence on foreign petroleum imports of the United States by reducing petroleum in end-uses throughout the economy of the United States sufficient to reduce total demand for petroleum in the United States by 1,000,000 barrels per day from the amount projected for calendar year 2015; and

(B)(i) subject to clause (ii), develop and implement measures to reduce dependence on foreign petroleum imports of the United States by reducing petroleum in end-uses throughout the economy of the United States sufficient to reduce total demand for petroeum in the United States by 7,640,000 barrels per day from the amount projected for calendar year 2025.

(ii) If the President determines that there are insufficient legal authorities to achieve the target for calendar year 2025 in clause (i), the President shall develop and implement measures that will reduce dependence on foreign petroleum imports of the United States by reducing petroleum in end-uses throughout the economy of the United States to the maximum extent practicable and shall submit to Congress proposed legislation or other recommendations to achieve the target.

(2) REQUIREMENTS.—In developing measures under paragraph (1), the President shall—

(A) ensure continued reliable and affordable energy for the United States, consistent with the creation of jobs and economic growth and maintaining the international competitiveness of United States businesses, including the manufacturing sector; and

(B) implement measures under paragraph (1) under existing authorities of the appropriate Federal agencies, as determined by the President.

(3) PROJECTIONS.—The projections for total demand for petroleum in the United States under paragraph (1) shall be those contained in the Reference Case in the report of the Energy Information Administration entitled ''Annual Energy Outlook 2005''.

(d) REPORT.—

(1) IN GENERAL.—Not later than 1 year after the date of enactment of this Act, and annually thereafter, the President shall submit to Congress a report, based on the most recent edition of the Annual Energy Outlook published by the Energy Information Administration, assessing the progress made by the United States toward the goal of reducing dependence on imported petroleum sources by 2025.

(2) CONTENTS.—The report under paragraph (1) shall—

(A) identify the status of efforts to meet the goal described in subsection (b);

(B) assess the effectiveness of any measure implemented under subsection (c) during the previous fiscal year in meeting the goal described in subsection (b); and

(C) describe plans to develop additional measures to meet the goal.

Ms. CANTWELL. Mr. President, I know there are many Members who want to speak. I ask unanimous consent that Senators FEINSTEIN and REID be added as cosponsors of the legislation.

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

Ms. CANTWELL. Mr. President, I ask unanimous consent that following the Senator from Tennessee, Senator KERRY be recognized to speak.

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

The Senator from Tennessee is recognized.

Mr. ALEXANDER. Mr. President, I thank the Senator from Washington for her contribution to the debate today and for her contribution to the debate in our committee process.

While it may seem like ''inside baseball'' to those outside the Senate, the process here is very important. We don't get anywhere unless we have some sort of consensus. That is the way this body operates. So far, over the last several years, we have not had a consensus on energy. I thought the Senator from Washington, at the close of our committee markup proceedings a couple of weeks ago, made a very important comment. She said this was a clean energy bill, but she said it also was a clean process. She was referring to the fact that both Senator DOMENICI, the Republican chairman, and Senator BINGAMAN, the Democratic ranking member on the committee, have been working together to try to identify areas of consensus.

Senator DOMENICI literally set out on that by going from office to office on the Democratic side and on the Republican side to see what he could do. We all had our say. We didn't all get our way in those proceedings, but we had long hearings on gas, we had long hearings on coal, and we had much discussion of renewable energy. In the end, we reported to this body a piece of legislation with a vote of 21 to 1. There was only one dissenting vote.

The Senator from Washington made an important contribution to that discussion, as she did today, with her discussion of biodiesel, which is a promising renewable fuel. It is in its infancy. We don't know how far it will go. Biodiesel has only contributed about 2 percent of all of the fuel we use in the United States today. We have to always remember what a huge economy we have and how long and how much it takes to turn it around. But she offered an amendment that the committee adopted and which was included in the bill now before us. It has as part of the mandate for use of renewable fuels biodiesel.

The Senate, by a large vote a few minutes ago included, I believe, an 8 billion gallon standard for renewable fuels. So she made an important contribution. And the spirit of our discussion so far has been that we recognize the urgency of the issue we are talking about, which is blue-collar workers, homeowners, keeping jobs from moving overseas, and that this is serious business and we need to get it right.

I will make some observations about the Senator's amendment. There will be three observations. One is I respectfully suggest she has the wrong goal for the near term. Two, I suggest the bill we have before us actually presents an excellent, balanced approach toward what we need to do. Three, I will reemphasize the importance of not just reducing our dependence on oil, the growth of our dependence on oil in the United States—that is the goal, I believe—but lowering the price of natural gas for the benefit of blue-collar workers, homeowners, and farmers. That is the point.

The Senator talked about President Kennedy and probably the most celebrated goal of the last 100 years—certainly one of the most celebrated in our history, and very much in keeping with the American spirit and character. We are always setting high goals, such as ''anything is possible'' and ''all men are created equal'' and ''we will pay any price and bear any burden to defend freedom.'' A lot of our politics is about the disappointment of not reaching those goals. In fact, most of American history is the story of setting high goals, missing them, being disappointed, and recommitting ourselves to the goals. But the goals we remember and the leaders we remember are the ones who have challenged us within some reason. We used to have a wonderful citizen of Tennessee named Chet Atkins, who played the guitar. He may have been the best guitar player in the world. He always said: In this life, you have to be mighty careful where you aim, because you are likely to get there.

I don't think we would have remembered President Kennedy as well if he had said in 1960 that we need to put a man on Mars by 1970, or a man on Jupiter by 1970. President Kennedy didn't say that. That would have been far outside of our reach. Our scientists knew that, but it was within our reach to go to the Moon. He said that and challenged us, and we figured out the details of doing it.

I suggest the goal of the Senator from Washington would be like putting a man on Mars. It is out on another planet, it is somewhere out there. It might be the right goal one day, but we have to go to the Moon before we go to Mars. I suggest her goal is the wrong goal. The Senator suggests that the United States, over the next 20 years, reduce its dependence on foreign oil by 40 percent. That sounds pretty good, like going to Mars might have sounded pretty good in 1960, but we would never have gotten there. Let me try to put her goal in perspective.

She says get rid of 7.6. We use about 20 million barrels of oil a day in the United States. It supplies about 40 percent of all of our energy. The Energy Committee, including the Senator from Washington, considered all of this, and we came to a consensus that we should look for wherever the Moon might be in this goal. And we said: Let's save 1 million a day. Let's ask the President to save 1 million a day by the year 2015, 1 million of that 20 million.

That million is a pretty big number. Drilling for oil in ANWR, which we argued so heavily in this body, would produce about 1 million barrels of oil a day. If I am not mistaken, if we were to adopt the CAFE standards legislation that Senator CANTWELL herself suggested in earlier debates, that would have saved about 1 million barrels of oil a day. But she is saying 7.6 million barrels of oil a day over the next 20 years.

I agree it might be possible to go higher than 1 million barrels of oil a

day. Senator JOHNSON and I introduced the National Gas Price Reduction Act of 2005 earlier this year. We had in that an oil savings amendment of 1.75 million barrels of oil a day.

All these amendments direct the President to figure out a plan for doing this and then to implement it. These are not just idle suggestions.

I think there is a consensus in this body, certainly on this side and that side of the aisle, and I might say, as Senator BINGAMAN mentioned, we did not really vote Republican and Democrat in our committee hearings. We had a lot of votes, but they generally split on our individual views and regions, not whether we are a Republican or a Democrat. I think there is still a consensus here. Of course, we want to reduce the growth of our dependence on oil, but to say our goal should be to reduce by 40 percent in 20 years our reliance on oil is somewhere out on another planet, not within our reach.

Many of us have been reading very carefully the National Commission on Energy Policy report called ''Ending the Energy Stalemate, A Bipartisan Strategy to Meet America's Energy Challenges,'' that includes within it a broad variety of people—Mr. Holdren, Bill Reilly, Mr. Rowe from Exelon Corporation, a representative from the United Steelworkers. We all read it, and I suppose we all like the parts we agree with and try to agree with some things that may have changed our mind. Here is what this commission report, which is an excellent report, says about oil:

> Over the last 30 years, the United States has sought to improve oil security by promoting a greater diversity of world oil suppliers, reducing domestic consumption through a substantial increase in new passenger fuel economy between 1975 and 1987, and creating the largest dedicated strategic petroleum reserve in the world. Due to these policies and as a result of structural shifts, the U.S. economy today is less oil-intensive and therefore less vulnerable to oil price shocks than it was in 1970. The fact that oil imports have nonetheless steadily increased since that time suggests that calls for energy independence—while rhetorically seductive—represent the wrong focus for the U.S. energy policy.

To try to get another example of the practical effect of the amendment of the Senator from Washington, we asked the Energy Department to take a look at it. Here is what they said. Remember, the Cantwell energy security amendment calls for a 7.64-million-barrel-per-day reduction in oil consumption over the next 20 years. EIA, the Energy Information Administration, which looks at all these things, estimated that by a combination of policies outside the transportation sector, the upper limit of what we could do in this country would be 2 to 3 million barrels of oil per day.

So we take out 2 or 3 million barrels of oil a day and let's say that leaves 4.5 million barrels oil per day. The Cantwell amendment would require the President to, therefore, impose on the transportation sector of our economy this achievement, and here is what it would translate to in terms of a CAFE standard miles per gallon. It would require a 78.6-mile-per-gallon CAFE standard. That is a 185-percent increase over today's standard. And it would require 60.8 miles per gallon for light trucks. That is a 174-percent increase.

I submit that is putting a man on Mars instead of a man on the Moon. That is somewhere off on another planet and not anything that we could reasonably do. The effect of enforcing that on the American economy would be to destroy jobs and raise fuel prices and raise expectations and disappoint the people who sent us here.

I much prefer the approach the committee bill takes that came out of the committee 21 to 1, with a very broad consensus. I will admit, we all recognized, when that came out, that we would reserve for debate on the floor some of the more contentious issues, such as MTBE, global warming, CAFE standards, and the size of the oil savings amendment, about which we are talking today.

We said 1 million a day. That is what the committee could agree on. I and Senator JOHNSON thought 1.75. Senator CANTWELL is at 7.6, and that is the wrong goal.

What would the right goal be? The right goal is to say, of course, we want to reduce our dependence on foreign oil. It makes no sense whatsoever for us to rely for so much of our oil on an area of the world where men and women are getting blown up every day, including a great many Americans. It makes no sense whatsoever.

So our goal should be this: Putting us on the path to a steady supply of low-cost, adequate, American-produced clean energy—low-cost, adequate supply of American-produced clean energy. As we do that, we reduce our reliance on all oil. We reduce our reliance on oil not just from around the world but from this country.

Here would be some of the things that are already underway in this bill. As I mentioned, we just adopted an 8-billion-gallon requirement for renewable fuels. Personally, I think that is a little high. That is stretching the limit. I believe the House of Representatives is at 5. Remember, only at 2 percent of all of our energy is renewable fuels. So we have done that.

We have in our bill which is before the Senate research for biofuels, about which the Senator from Washington talks. They are very important, but they are minuscule at this time. We have a way to go. There are some associated waste problems that occur with them, and there are production problems about which we have to think. To produce large-scale biodiesel fuel requires large areas of land. We have to think about that as well. Clearly, we should do it in this bill, which supports research for that.

If we are really serious about reducing our demand for overseas oil, then we should start with efficiency and conservation in the United States, both of oil and natural gas because they often come together. And so the provisions in this legislation, twice as strong as last year's Energy bill, provide for efficiency and conservation standards for such items as appliance efficiency standards. It would avoid building 45 natural gas powerplants of 500 megawatts each and save billions of dollars.

This legislation also includes a 4-year national consumer education program which, when used in California, helped produce a 10-percent cut in peak demand. This is natural gas we are talking about. But we are talking about conserving energy, and oil and gas often are found together.

If we were to add a provision, as I tried to do in the committee, and as I would welcome the Senator from Washington helping me do on the floor as we debate this bill, to encourage utilities to use first the electricity most efficiently produced from natural gas, we could save and conserve even more. Add that to the oil savings amendment of 1 million barrels of oil per day, which is in our legislation, which is about the same as the amount of oil produced onshore in the State of Texas, and then add on top of the provisions that are in the Finance Committee's mark that would continue the deduction for American consumers to purchase hybrid, and I would hope advanced diesel vehicles as well, that saves oil, that gives an incentive, that helps to change the market in a very promising way without a mandate. If we include the provision that is also in this legislation that supports discouraging large trucks from running their motors all night long so they can have their air-conditioning on and their TV on and their appliances on, one may think that is a small potatoes item, but it is actually a big potatoes item. Big trucks are a big part of our energy use in the United States. They are a big part of our air pollution in the United States. When we encourage them to plug into a battery instead of leaving their trucks on, we are using less oil. All of this is a well-balanced approach.

So it is my respectful suggestion that we remember President Kennedy for saying, Let us go to the Moon. We would not remember him as well if he had said, Let us put a man on Mars in 1970. I believe the committee approach is the right goal and is the right balance and much more realistic than the goal of the Senator from Washington State which, according to the Energy Department, would produce a CAFE standard of 78 miles per gallon for cars and 60.8 miles per gallon for light trucks.

I conclude by making a general remark about natural gas and other aspects of how we ought to be producing energy in this country. One important part of it is American-produced. That is what the Senator from Washington

is emphasizing with her amendment. Another important part is low cost. Another important part is reliable and adequate supply.

We use 25 percent of all the energy in the world in the United States of America. We spend $2,500 per person on it. Another important part is clean air. This is not the clean air debate, but it is the debate that will solve the clean air problem, in my opinion, because clean air and clean energy are so intricately related.

The legislation that is before this Senate begins with conservation and efficiency. That reduces our demand for oil, as well as natural gas, and helps to lower prices at least of natural gas. It goes next to increasing supply of natural gas, and I would say oil.

Listening to the Senator from Washington, she is saying we need to reduce our demand for oil from overseas, and since it is unrealistic to think we could save this much oil in that 20-year period of time, that would suggest to me that she would be advocating a big increase in supply of oil as well as natural gas from domestic sources in the United States.

In the legislation that Senator JOHNSON and I offered, we recommended that. It recommended that we look onshore and offshore for new supplies of natural gas as well as oil in the Rocky Mountain area and offshore. Well, that has been greeted with a very cold gaze by many Members of this body, including some who have created objections to unanimous consent agreements just to stop us from even considering increasing our exploration for drilling the large amount of oil and gas that we have just offshore, even though we could put the rigs far out to sea where no one could see them.

It would seem to me as we are talking about oil savings, if we want to keep prices down in the United States and keep jobs here, we need to talk about oil and gas supply at the same time coming from the United States. I did not hear very much about that.

We also need to hear more about LNG. I am speaking now of natural gas, which is an essential part of this debate. Many in the Senate often talk about gasoline prices. The truth is, as the Senator from Washington accurately observed, there is a huge demand for oil. Prices are going to stay up for the foreseeable future, that is the truth about it in terms of gasoline, and we need to learn to reduce our use of the oil. The one thing we can do is lower the cost of natural gas, which is a big part of this bill. That affects millions of blue-collar workers, millions of farmers, and tens of millions of homeowners.

We have gone from having the lowest priced natural gas to the highest price natural gas, and this is outsourcing jobs, putting farmers out of business, and making home heating and cooling prices too high.

If we are going to reduce the price and conservation does not do it, the next best step is to import some from overseas. That goes directly in the face of what the Senator is talking about to reduce our supply of natural gas. If we do not import liquefied natural gas from overseas, we are going to be exporting jobs from America to overseas. So we can either import natural gas or export American jobs. We have to be realistic in the near term in what we have to do.

I would hope that we could drill offshore and drill in the United States and use the extensive amounts of natural gas we have and bring down the price that way. But if we are not going to do it that way we are going to have to bring it in from overseas at least for a while until we have an alternative form of energy.

When we talk about alternative forms of energy, we often go to the renewable fuels, and I will talk about those more in a moment. I am just as excited about those as anybody. We have in Memphis a Sharp plan, for example, that produces solar energy. They have exciting new technologies. In the Oakridge National Laboratory we have a whole division on renewable energy and renewable fuels. They have exciting new technologies in solar. That is only 2 percent of our energy and 2 percent of our fuels. We have to be realistic about where we are going from there.

Where are we going to get the energy we need that will create this adequate supply of American-produced clean energy? After conservation, after new supply, we have to come to nuclear power. I suggest if we want to talk about American independence, we talk about nuclear power, that we do what France is doing. They are 80 percent nuclear power. We should do what Japan is doing. They are adding a nuclear powerplant every year. We invented the technology. We have used it without incident for more than half a century in our Navy. We produce 20 percent of our electricity today from nuclear power and 70 percent of our carbon-free electricity comes from nuclear power.

So if we really want American-produced energy, we need to build advanced nuclear powerplants so that we can have them at a cost that makes us less reliant on oil and gas from overseas.

Waiting in the wings and right behind nuclear power is coal gasification and carbon sequestration. I see the Senator from North Dakota on the Senate floor. He has been a leader in that area for a long time. He talks about it a lot and talks about it clearly. That technology is not completely with us yet. We know how to do coal gasification; that is, turn coal into gas and then gas into electricity. That gets rid of mercury, nitrogen, and hydrogen by and large. It still leaves carbon in the air, but there is a technology called carbon sequestration. We are a few years away from that, but if we accelerate research on carbon sequestration that would be a good goal.

Then we can burn the coal we have in the United States, and we have a 400- or 500-year supply of it. We are the Saudi Arabia of coal. Conservation plus our own supply of natural gas, plus nuclear power, plus coal gasification and carbon sequestration would fuel this great big economy.

One might ask, what does that have to do with automobiles? Well, hopefully, by that time we will also have invested a lot of money in research and development—not just for nuclear power, not just for carbon sequestration, but also for hydrogen, which the Senator from North Dakota is a leading spokesman for, and for fusion. When we get to hydrogen and these hybrid cars that we see being driven around America today—a gasoline engine with an electric engine, that is called a hybrid—when that hybrid becomes an electric engine and a hydrogen engine, then we have to have some way to make that hydrogen. We are either going to import oil and gas from overseas as we are doing it now, we are going to supply it from our own reserves, we are going to conserve enough, we are going to make it from nuclear, or we are going to make it from coal gasification.

I am glad we are having a debate about American energy independence. Just as President Kennedy is remembered for having the right goal by saying, Let us put a man on the Moon, and not for picking an unrealistic goal in 1960 and saying, Let us put a man on Mars in 1970, let's be realistic. Our bill stretches our country, causes us to aim differently, and if adopted will transform the way we produce electricity and will increase our independence on foreign sources of gas and oil.

One last thought about renewable fuels, before I finish. We need to keep that in perspective. If we were a small country, we might be able to rely on renewable fuels or renewable energy, but we are not. We are a country that uses 25 percent of all the energy in the world. Stretch as we might, for the foreseeable future we are going to have to rely on conservation, on our own supplies of oil and gas, and, yes, on some oil and gas from around the world. Then we are going to have to invest in an incredibly aggressive way in advanced nuclear technology and advanced coal gasification and carbon sequestration technology if we are going to have a reliable, low-cost power of American-produced clean energy.

I hope the Senate will prefer the committee report which was adopted by 21 to 1, that includes a balanced approach to the right goal. I would say it is more in keeping with President Kennedy's ''man on the Moon'' goal. This is a ''man or woman on Mars'' goal, and maybe we will get there one day, but it is unrealistic today. It would be disruptive of jobs if you set a 78 mile per gallon CAFÉ standard for cars, a 185-percent increase; a 60 mile per gallon standard for trucks, light trucks, a 174-percent increase. I hope we will stick

with the consensus that passed 21 to 1, and one day we might also reach this goal.

I yield the floor.

The PRESIDING OFFICER (Mr. COBURN). The Senator from Washington.

Ms. CANTWELL. Mr. President, I thank the Senator from Tennessee for his comments and for his diligence in following energy policy both on the committee and on the floor. I know he cares greatly about this issue and has spent many hours on the details in various sections of this legislation. I appreciate his interest and unique focus on clean coal technology. He has great interest and knowledge about clean coal technology, and has articulated his views about that numerous times.

I know my colleague from North Dakota is here so I want to give him an opportunity to talk, but I want to respond. The 7 million barrels reduction is an achievable goal. If you believe in the underlying technology the Senator from Tennessee just discussed, which is the various ways we can get to that goal, he and I are in agreement. Where we seem to be in a disagreement is whether we want to set this goal. I believe the American people deserve to have a goal set that is achievable.

The underlying bill that says in 2015 we will be more dependent on foreign oil than we are today doesn't seem the goal we should be putting forth. While the committee passed that out of committee, we knew we were going to come out here and discuss a variety of issues. Now that we have the perspective of the entire bill with a lot of different technology solutions, I would say it is time for the Senate to be more bold about this.

I commend to my colleagues this report, ''Securing America; Solving Our Oil Dependence Through Innovation.'' There are two different organizations, the NRDC and the IAGCS, that basically outline in their report how we can save close to 7 billion barrels of oil per day.

We have a submittal to the RECORD from the Committee on the Present Danger, on our oil security. It, too, talks about how we can achieve this goal and what some of the sources are.

I ask unanimous consent to have that printed in the RECORD.

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

A COMMITTEE ON THE PRESENT DANGER
POLICY PAPER: OIL AND SECURITY

(By George P. Shultz and R. James Woolsey)

SUMMARY

This paper could well be called, ''It's the Batteries, Stupid.'' Four years ago, on the eve of 9/11, the need to reduce radically our reliance on oil was not clear to many and in any case the path of doing so seemed a long and difficult one. Today both assumptions are being undermined by the risks of the post-9/11 world and by technological progress in fuel efficiency and alternative fuels.

We spell out below the risks of petroleum dependency, particularly the vulnerability of the petroleum infrastructure in the Middle East to terrorist attack—a single well-designed attack could send oil to well over $100/barrel and devastate the world's economy. That reality, among other risks, and the fact that our current transportation infrastructure is locked in to oil, should be sufficient to convince any objective observer that oil dependence, today creates serious and pressing dangers for the US and other oil-importing nations.

We propose in this paper that the government vigorously encourage and support at least six technologies: two types of alternative fuels that are beginning to come into the market (cellulosic ethanol and biodiesel derived from a wide range of waste streams), two types of fuel efficient vehicles that are now being sold to the public in some volume (hybrid gasoline-electric and modern clean diesels), and one vehicle construction technique, the use of manufactured carbon-carbon composites, that is now being used for aircraft and racing cars and is quite promising as a way of reducing vehicle weight and fuel requirements while improving safety.

The sixth technology, battery improvement to permit ''plug-in'' hybrid vehicles, will require some development—although nothing like the years that will be required for hydrogen fuel cells. It holds, however, remarkable promise. Improving batteries to permit them, to be given an added charge when a hybrid is garaged, ordinarily at night, can substantially improve mileage, because it can permit hybrids to use battery power alone for the first 10–30 miles. Since a great many trips fall within this range this can improve the mileage of a hybrid vehicle from, say, 50 mpg to over 100 mpg (of oil products). Also, since the average residential electricity cost is 8.5 cents/kwh (and in many areas, off-peak nighttime cost is 2–4 cents/kwh) this means that much of a plug-in hybrid's travel would be on the equivalent of 50 cent/gallon gasoline (or, off-peak, on the equivalent of 12–25 cent/gallon gasoline).

A plug-in hybrid averaging 125 mpg, if its fuel tank contains 85 per cent cellulosic ethanol, would be obtaining about 500 mpg. If it were constructed from carbon composites the mileage could double, and, if it were a diesel and powered by biodiesel derived from waste, it would be using no oil products at all.

What are we waiting for?

There are at least seven major reasons why dependence on petroleum and its products for the lion's share of the world's transportation fuel creates special dangers in our time. These dangers are all driven by rigidities and potential vulnerabilities that have become serious problems because of the geopolitical realities of the early 21st century. Those who reason about these issues solely on the basis of abstract economic models that are designed to ignore such geopolitical realities will find much to disagree with in what follows. Although such models have utility in assessing the importance of more or less purely economic factors in the long run, as Lord Keynes famously remarked: ''In the long run, we are all dead.''

These dangers in turn give rise to two proposed directions for government policy in order to reduce our vulnerability rapidly. In both cases we believe that existing technology should be used, i.e. technology that is already in the market or can be so in the very near future and that is compatible with the existing transportation infrastructure. To this end government policies in the United States and other oil-importing countries should: (1) encourage a shift to substantially more fuel-efficient vehicles, including fostering battery development for plug-in hybrid vehicles; and (2) encourage biofuels and other alternative fuels that wherever possible can be derived from waste products.

PETROLEUM DEPENDENCE: THE DANGERS

This fact substantially increases the difficulty of responding to oil price increases or disruptions in supply by substituting other fuels.

There is a range of fuels that can be used to produce electricity and heat and that can be used for other industrial uses, but petroleum had its products dominate the fuel market for vehicular transportation. With the important exception, described below, of a plug-in version of the hybrid gasoline/electric vehicle, which will allow recharging hybrids from the electricity grid, substituting other fuels for petroleum in the vehicle fleet as a whole has generally required major, time-consuming, and expensive infrastructure changes. One exception has been some use of liquifed natural gas (LNG) and other fuels for fleets of buses or delivery vehicles, although not substantially for privately-owned ones, and the use of corn-derived ethanol mixed with gasoline in proportions up to 10 per cent ethanol (''gasohol'') in some states. Neither has appreciably affected petroleum's dominance of the transportation fuel market.

Although there are imaginative proposals for transitioning to other fuels, such as hydrogen to power automotive fuel cells, this would require major infrastructure investment and restructuring. If privately-owned fuel cell vehicles were to be capable of being readily refueled, this would require reformers (equipment capable of reforming, say, natural gas into hydrogen) to be located at filling stations, and for natural gas to be available there as a hydrogen feed-stock. So, not only would fuel cell development and technology for storing hydrogen on vehicles need to be further developed, but the automobile industry's development and production of fuel cells also would need to be coordinated with the energy industry's deployment of reformers and the fuel for them.

Moving toward automotive fuel cells thus requires us to face a huge question of pace and coordination of large-scale changes by both the automotive and energy industries. This poses a sort of industrial Alphonse and Gaston dilemma: who goes through the door first? (If, instead, it were decided that existing fuels such as gasoline were to be reformed into hydrogen on board vehicles instead of at filling stations, this would require on-board reformers to be developed and added to the fuel cell vehicles themselves—a very substantial undertaking.)

It is because of such complications at the National Commission on Energy Policy concluded in its December, 2004, report ''Ending The Energy Stalemate'' (''ETES'') that ''hydrogen offers little to no potential to improve oil security and reduce climate change risks in the next twenty years.'' (p. 72)

To have an impact on our vulnerabilities within the next decade or two, any competitor of oil-derived fuels will need to be compatible with the existing energy infrastructure and require only modest additions or amendments to it.

2. The Greater Middle East will continue to be the low-cost and dominant petroleum producer for the foreseeable future.

Home of around two-thirds of the world's proven reserves of conventional oil—45% of it in just Saudi Arabia, Iraq, and Iran—the Greater Middle East will inevitably have to meet a growing percentage of world oil demand. This demand is expected to increase by more than 50 per cent in the next two decades, from 78 million barrels per day (''MBD'') in 2002 to 118 MBD in 2025, according to the federal Energy Information Administration. Much of this will come from expected demand growth in China and India. One need not argue that world oil production

has peaked to see that this puts substantial strain on the global oil system. It will mean higher prices and potential supply disruptions and will put considerable leverage in the hands of governments in the Greater Middle East as well as in those of other oil-exporting states which have not been marked recently by stability and certainty: Russia, Venezuela, and Nigeria, for example (ETES pp. 1–2). Deep-water drilling and other opportunities for increases in supply of conventional oil may provide important increases in supply but are unlikely to change this basic picture.

Even if other production comes on line, e.g. from unconventional sources such as tar sands in Alberta or shale in the American West, their relatively high cost of production could permit low-cost producers, particularly Saudi Arabia, to increase production, drop prices for a time, and undermine the economic viability of the higher-cost competitors, as occurred in the mid-1980's. For the foreseeable future, as long as vehicular transportation is dominated by oil as it is today, the Greater Middle East, and especially Saudi Arabia, will remain in the driver's seat.

3. The petroleum infrastructure is highly vulnerable to terrorist and other attacks.

The radical Islamist movement, including but not exclusively al Qaeda, has on a number of occasions explicitly called for worldwide attacks on the petroleum infrastructre and has carried some out in the Greater Middle East. A more well-planned attack than what has occurred to date—such as that set out in the opening pages of Robert Baer's recent book, Sleeping With the Devil, (terrorists flying an aircraft into the unique sulfur-cleaning towers in northeastern Saudi Arabia)—could take some six million barrels per day off the market for a year or more, sending petroleum prices sharply upward to well over $100/barrel and severely damaging much of the world's economy. Domestic infrastructure in the West is not immune from such disruption. U.S. refineries, for example, are concentrated in a few places, principally the Gulf Coast. The recent accident in the Texas City refinery—producing multiple fatalities—points out potential infrastuture vulnerabilities. The Trans-Alaska Pipeline has been subject to several amateurish attacks that have taken it briefly out of commission; a seriously planned attack on it could be far more devastating.

In view of these overall infrastructure vulnerabilities we do not suggest that policy should focus exclusively on petroleum imports, although such infrastructure vulnerabilities are likely to be the most severe in the Greater Middle East. It is there that terrorists have the easiest access and the largest proportion of proven oil reserves, and low-cost production are also located there. Nor do we hold the view that by changing trade patterns anything particularly is accomplished. To a first approximation there is one worldwide oil market and it is not generally useful for the U.S., for example, to import less from the Greater Middle East and for others then to import more from there. In effect, all of us oil-importing countries are in this together.

4. The possibility exists particularly under regimes that could come to power in the Greater Middle East, of embargoes or other disruptions of supply.

It is often said that whoever governs the oil-rich nations of the Greater Middle East will need to sell their oil. This is not true, however, if the rulers choose to try to live, for most purposes, in the Seventh century. Bin Laden has advocated, for example, major reductions in oil production.

In 1979 there was a serious attempted coup in Saudi Arabia. Much of what the outside world saw was the seizure by Islamist fanatics of the Great Mosque in Mecca, but the effort was more widespread. Even if one is optimistic that democracy and the rule of law will spread in the Greater Middle East and that this will lead after a time to more peaceful and stable societies there, it is undeniable that there is substantial risk that for some time the region will be characterized by chaotic change and unpredictable governmental behavior. Reform, particularly if it is hesitant, has in a number of cases been trumped by radical takeovers (Jacobins, Bolsheviks). There is no reason to believe that the Greater Middle East is immune from these sorts of historic risks.

5. Wealth transfers from oil have been used, and continue to be used, to fund terrorism and its ideological support.

Estimates of the amount spent by the Saudis in the last 30 years spreading Wahhabi beliefs throughout the world vary from $70 billion to $100 billion. Furthermore, some oil-rich families of the Greater Middle East fund terrorist groups directly. The spread of Wahhabi doctrine—fanatically hostile to Shi'ite and Suffi Muslims, Jews, Christians, women, modernity, and much else—plays a major role with respect to Islamist terrorist groups: a role similar to that played by angry German nationalism with respect to Nazism in the decades after World War I. Not all angry German nationalists became Nazis and not all those schooled in Wahhabi beliefs become terrorists, but in each case the broader doctrine of hatred has provided the soil in which the particular totalitarian movement has grown. Whether in lectures in the madrassas of Pakistan, in textbooks printed by Wahhabis for Indonesian schoolchildren, or on bookshelves of mosques in the U.S., the hatred spread by Wahhabis and funded by oil is evident and influential.

It is sometimes contended that we should not seek substitutes for oil because disruption of the flow of funds to the Greater Middle East could further radicalize the population of some states there. The solution, however, surely lies in helping these states diversify their economies over time, not in perpetually acquiescing to the economic rent they collect from oil exports and to the uses to which these revenues are put.

6. The Current Account deficits for a number of countries create risks ranging from major world economic disruption to deepening poverty, and could be substantially reduced by reducing oil imports.

The U.S., in essence, borrows about $13 billion per week, principally now from major Asian states, to finance its consumption. The single largest category of imports is the $2–3 billion per week borrowed to import oil. The accumulating debt increases the risk of a flight from the dollar or major increases in interest rates. Any such development could have major negative economic consequences for both the U.S. and its trading partners.

For developing nations, the service of debt is a major factor in their continued poverty. For many, debt is heavily driven by the need to import oil that at today's oil prices cannot be paid for by sales of agricultural products, textiles, and other typical developing nation exports.

If such deficits are to be reduced, however, say by domestic production of substitutes for petroleum, this should be based on recognition of real economic value such as waste cleanup, soil replenishment, or other tangible benefits.

7. Global warming gas emissions from manmade sources create at least the risk of climate change.

Although the point is not universally accepted, the weight of scientific opinion suggests that global warming gases (GWG) produced by human activity form one important component of potential climate change. Oil products used in transportation provide a major share of U.S. manmade global warming gas emissions.

THREE PROPOSED DIRECTIONS FOR POLICY

The above considerations suggest that government policies with respect to the vehicular transportation market should point in the following directions:

1. Encourage improved vehicle mileage, using technology now in production.

Three currently available technologies stand out to improve vehicle mileage.

Diesels

First, modern diesel vehicles are coming to be capable of meeting rigorous emission standards (such as Tier 2 standards being introduced into the U.S., 2004–08). In this context it is possible without compromising environmental standards to take advantage of diesels' substantial mileage advantage over gasoline-fueled internal combustion engines.

Substantial penetration of diesels into the private vehicle market in Europe is one major reason why the average fleet mileage of such new vehicles is 42 miles per gallon in Europe and only 24 mpg in the U.S. Although the U.S. has, since 1981, increased vehicle weight by 24 percent and horsepower by 93 percent, it has essentially improved mileage not at all in that near-quarter century (even though in the 12 years from 1975 to 1987 the U.S. improved the mileage of new vehicles from 15 to 26 mpg).

Hybrid Gasoline-Electric

Second, hybrid gasoline-electric vehicles now on the market show substantial fuel savings over their conventional counterparts. The National Commission on Energy Policy found that for the four hybrids on the market in December 2004 that had exact counterpart models with conventional gasoline engines, not only were mileage advantages quite significant (10–15 mpg) for the hybrids, but in each case the horsepower of the hybrid was higher than the horsepower of the conventional vehicle. (ETES p. 11) If automobile companies wish to market hybrids by emphasizing hotter performance rather than fuel conservation they can do so, consistent with the facts.

Light-Weight Carbon Composite Construction

Third, constructing vehicles with inexpensive versions of the carbon fiber composites that have been used for years for aircraft construction can substantially reduce vehicle weight and increase fuel efficiency while at the same time making the vehicle considerably safer than with current construction materials. This is set forth thoroughly in the 2004 report of the Rocky Mountain Institute's Winning the Oil Endgame (''WTOE''). Aerodynamic design can have major importance as well. This breaks the traditional tie between size and safety. Much lighter vehicles, large or small, can be substantially more fuel-efficient and also safer. Such composite use has already been used for automotive construction in Formula 1 race cars and is now being adopted by BMW and other automobile companies. The goal is mass-produced vehicles with 80% of the performance of hand-layup aerospace composites at 20% of the cost. Such construction is expected to approximately double the efficiency of a normal hybrid vehicle without materially affecting manufacturing cost. (WTOE 64–66).

2. Encourage the commercialization of alternative transportation fuels that can be available soon, are compatible with existing infrastructure, and can be derived from waste or otherwise produced cheaply.

Biomass Ethanol

The use of ethanol produced from corn in the U.S. and sugar cane in Brazil has given

birth to the commercialization of an alternative fuel that is coming to show substantial promise, particularly as new feedstocks are developed. Some six million vehicles in the U.S. and all vehicles in Brazil other than those that use solely ethanol are capable of using ethanol in mixtures of up to 85 percent ethanol and 15 percent gasoline (E–85); these re called Flexible Fuel Vehicles (''FFV'') and require, compared to conventional vehicles, only a somewhat different kind of material for the fuel line and a differently programmed computer chip. The cost of incorporating this feature in new vehicles is trivial. Also, there are no large-scale changes in infrastructure required for ethanol use. It may be shipped in tank cars, and mixing it with gasoline is a simple matter.

Although human beings have been producing ethanol, grain alcohol, from sugar and starch for millennia, it is only in recent years that the genetic engineering of biocatalysts has made possible such production from the hemicellulose and cellulose that constitute the substantial majority of the material in most plants. The genetically engineered material is in the biocatalyst only; there is no need for genetically modified plants. Typically the organism that is engineered to digest the C5 sugars freed by the hydrolization of the hemicellulose also produces the enzymes that hydrolyze the cellulose.

These developments may be compared in importance to the invention of thermal and catalytic cracking of petroleum in the first decades of the 20th century—processes which made it possible to use a very large share of petroleum to make gasoline rather than the tiny share that was available at the beginning of the century. For example, with such genetically-engineered biocatalysts, it is not only grains of corn but corn cobs and most of the rest of the corn plant that may be used to make ethanol.

Such biomass, or cellulosic, ethanol is now likely to see commercial production begin first in a facility of the Canadian company, Iogen, with backing from Shell Oil, at a cost of around $1.30/gallon. The National Renewable Energy Laboratory estimates costs will drop to around $1.07/gallon over the next five years, and the Energy Commission estimates a drop in costs to 67–77 cents/gallon when the process is fully mature (ETES p. 75). The most common feedstocks will likely be agricultural wastes, such as rice straw, or natural grasses such as switchgrass, a variety of prairie grass that is often planted on soil bank land to replenish the soil's fertility. There will be decided financial advantages in using as feedstocks any wastes which carry a tipping fee (a negative cost) to finance disposal: e.g. waste paper, or rice straw, which cannot be left in the fields after harvest because of its silicon content.

Old or misstated data are sometimes cited for the proposition that huge amounts of land would have to be introduced into cultivation or taken away from food production in order to have such biomass available for cellulosic ethanol production. This is incorrect. The National Commission on Energy Policy reported in December that, if fleet mileage in the U.S. rises to 40 mpg—somewhat below the current European Union fleet average for new vehicles of 42 mpg and well below the current Japanese average of 47 mpg—then as switchgrass yields improve modestly to around 10 tons/acre it would take only 30 million acres of land to produce sufficient cellulosic ethanol to fuel half the U.S. passenger fleet. (ETES pp. 76–77). By way of calibration, this would essentially eliminate the need for oil import for passenger vehicle fuel and would require only the amount of land now in the soil bank (the Conservation Reserve Program (''CRP'') on which such soil-restoring crops as switchgrass are already being grown. Practically speaking, one would probably use for ethanol production only a little over half of the soil bank lands and add to this some portion of the plants now grown as animal feed crops (for example, on the 70 million acres that now grow soybeans for animal feed). In short, the U.S. and many other countries should easily find sufficient land available for enough energy crop cultivation to make a substantial dent in oil use. (Id.)

There is also a common and erroneous impression that ethanol generally requires as much energy to produce as one obtains from using it and that its use does not substantially reduce global warming gas emissions. The production and use of ethanol merely recycles in a different way the CO_2 that has been fixed by plants in the photosynthesis process. It does not release carbon that would otherwise stay stored underground, as occurs with fossil fuel use, but when starch, such as corn, is used for ethanol production much energy, including fossil-fuel energy, is consumed in the process of fertilizing, plowing, and harvesting. Even starch-based ethanol, however, does reduce greenhouse gas emissions by around 30 percent. Because so little energy is required to cultivate crops such as switchgrass for cellulosic ethanol production, and because electricity can be co-produced using the residues of such cellulosic fuel production, reductions in greenhouse gas emissions for cellulosic ethanol when compared to gasoline are greater than 100 percent. The production and use of cellulosic ethanol is, in other words, a carbon sink. (ETES p. 73)

Biodiesel

The National Commission on Energy Policy pointed out some of the problems with most current biodiesel ''produced from rapeseed, soybean, and other vegetable oils—as well as . . . used cooking oils.'' It said that these are ''unlikely to become economic on a large scale'' and that they could ''cause problems when used in blends higher than 20 percent in older diesel engines''. It added that ''waste oil is likely to contain impurities that give rise of undesirable emissions.'' (ETES p. 75)

The Commission notes, however, that biodiesel is generally ''compatible with existing distribution infrastructure'' and outlines the potential of a newer process (''thermal depolymerization'') that produces biodiesel without the above disadvantages from ''animal offal, agricultural residues, municipal solid waste, sewage, and old tires''. It points to the current use of this process at a Conagra turkey processing facility in Carthage, Missouri, where a ''20 million commercial-scale facility'' is beginning to convert turkey offal into ''a variety of useful products, from fertilizer to low-sulfur diesel fuel'' at a potential average cost of ''about 72 cents per gallon.'' (ETES p. 77)

Other Alternative Fuels

Progress has been made in recent years on utilizing not only coal but slag from strip mines, via gasification, for conversion into diesel fuel using a modern version of the gasified-coal-to-diesel process used in Germany during World War II.

Qatar has begun a large-scale process of converting natural gas to diesel fuel.

Outside the realm of conventional oil, the tar sands of Alberta and the oil shale of the Western U.S. exist in huge deposits, the exploitation of which is currently costly and accompanied by major environmental difficulties, but both definitely hold promise for a substantial increases in oil supply.

Plug-In Hybrids and Battery Improvements

A modification to hybrids could permit them to become ''plug-in-hybrids,'' drawing power from the electricity grid at night and using all electricity for short trips. The ''vast majority of the most fuel-hungry trips are under six miles'' and ''well within the range'' of current (nickel-metal hydride) batteries' capacity, according to Huber and Mills (The Bottomless Well, 2005, p. 84). Other experts, however, emphasize that whether with existing battery types (2–5 kwh capacity) or with the emerging (and more capable) lithium batteries, it is important that any battery used in a plug-in hybrid be capable of taking daily charging without being damaged and be capable of powering the vehicle at an adequate speed. By most assessments some battery development will be necessary in order for this to be the case. Such development should have the highest research and development priority because it promises to revolutionize transportation economics and to have a dramatic effect on the problems caused by oil dependence.

With a plug-in hybrid vehicle one has the advantage of an electric car, but not the disadvantage. Electric cars cannot be recharged if their batteries run down at some spot away from electric power. But since hybrids have tanks containing liquid fuel (gasoline and/or ethanol, diesel and/or biodiesel) plug-in hybrids have no such disadvantage. Moreover the attractiveness to the consumer of being able to use electricity from overnight charging for a substantial share of the day's driving is stunning. The average residential price of electricity in the U.S. is about 8.5 cents/kwh, one-quarter the cost of $2/gallon gasoline. So powering one's vehicle with electricity purchased at such rates is roughly the equivalent of being able to buy gasoline at 50 cents/gallon instead of the more than $2/gallon that it presently costs in the U.S. Moreover, many utilities sell off-peak power for 2–4 cents/kwh—the equivalent of 12-to-25 cents/gallon gasoline. (Id. p. 83) Given the burdensome cost imposed by current fuel prices on commuters and others who need to drive substantial distances, the possibility of powering one's family vehicle with fuel that can cost as little as one-twentieth of today's gasoline (in the U.S. market) should solve rapidly the question whether there would be public interest in and acceptability of plug-in hybrids.

Although the use of off-peak power for plug-in hybrids should not initially require substantial new investments in electricity generation, greater reliance on electricity for transportation should lead us to look particularly to the security of the electricity grid. In the U.S. the 2002 report of the National Academies of Science, Engineering, and Medicine (''Making the Nation Safer'') emphasized particularly the need to improve the security of transformers and of the Supervisory Control and Data Acquisition (SCADA) systems in the face of terrorist threats. The National Commission on Energy Policy has seconded those concerns. With or without the advent of plug-in hybrids, these electricity grid vulnerabilities require urgent attention.

CONCLUSION

The dangers from oil dependence in today's world require us both to look to ways to reduce demand for oil and to increase supply of transportation fuel by methods beyond the increase of oil production.

The realistic opportunities for reducing demand soon suggest that government policies should encourage hybrid gasoline-electric vehicles, particularly the battery developments needed to bring plug-in versions thereof to the market, and modern diesel technology. The realistic opportunities for increasing supply of transportation fuel soon suggest that government policies should encourage the commercialization of alternative fuels that can be used in the existing

infrastructure: cellulosic ethanol and biodiesel. Both of these fuels could be introduced more quickly and efficiently if they achieve cost advantages from the utilization of waste products as feedstocks.

The effects of these policies are multiplicative. All should be pursued since it is impossible to predict which will be fully successful or at what pace, even though all are today either beginning commercial production or are nearly to that point. The battery development for plug-in hybrids is of substantial importance and should for the time being replace the current r&d emphasis on automotive hydrogen fuel cells.

If even one of these technologies is moved promptly into the market, the reduction in oil dependence could be substantial. If several begin to be successfully introduced into large-scale use, the reduction could be stunning. For example, a 50-mpg hybrid gasoline/electric vehicle, on the road today, if constructed from carbon composites would achieve around 100 mpg. If it were to operate on 85 percent cellulosic ethanol or a similar proportion of biodiesel fuel, it would be achieving hundreds of miles per gallon of petroleum-derived fuel. If it were a plug-in version operating on upgraded lithium batteries so that 20–30 mile trips could be undertaken on its overnight charge before it began utilizing liquid fuel at all, it could be obtaining in the range of 1000 mpg (of petroleum).

A range of important objectives—economic, geopolitical, environmental—would be served by our embarking on such a path. Of greatest importance, we would be substantially more secure.

Ms. CANTWELL. There are lots of third parties saying we can achieve this goal. I want to bet on the American ingenuity that is outlined in this bill, and other American ingenuity, that we can achieve what it takes to get there. So I am not afraid of setting this goal. I am glad third parties are validating that we can achieve it.

My colleague wants to say this is about putting a man on Mars or something of that nature. I can tell you, the American people are right here on planet Earth and paying $2.36 or close to it for gasoline in Seattle, and that is too high. What Americans want is relief. What they know they will not get is relief from language that says we are going to be more dependent in 2015 than we are today. They want us to set a goal to get off that overdependence because, frankly, there is not true competition on oil prices. That is to say when Americans have no alternative fuel at the pump and they have to pay that price, there is no true competition. So Americans want to get off that overdependence. That is what the amendment says and that is what we want to achieve by 2025, 20 years from now.

With all the myriad technology in the legislation and all the technology we can create between now and then, let's reverse the trend and be less dependent on foreign oil in 2025 than we are today. That seems to be a national goal on which everyone in this body ought to be able to agree. We should not be afraid of the underlying bill and the great work that has been done by my colleagues. I cannot say who the ultimate winners and losers will be. My colleague has spoken about new nuclear technology, he has talked about natural gas—there will be many ways. But I know if we set this goal and tell the American people they are not going to be strangled by high energy costs moving forward maybe up to $100 a barrel, then we will actually achieve that goal. But our underlying language right now does not get us there. So I hope we will embrace the bipartisan effort that the Senate committee had and work together on this to set a goal we will be proud of, in the sense of reversing the trend so we are not in 2015 being more dependent on foreign oil, but in 2025 being less dependent on foreign oil.

I yield the floor to the Senator from North Dakota.

The PRESIDING OFFICER. The Senator from North Dakota.

Mr. DORGAN. Let me thank my colleague from the State of Washington. I think she has offered an amendment that is worthy of the kind of significant debate we should be having about energy. I recognize that tomorrow's newspapers will not likely include this discussion on the front page. I was watching the television programs last Sunday, including one with perhaps one of the most esteemed columnists in this country, one of the best, in my judgment, David Broder. They were talking about the majority party and Democrats and the political differences. David Broder observed that the Democrats need to come forward with a positive agenda—with an agenda. What is their agenda?

The fact is, people don't cover positive news. You can be on the floor all day with an agenda and they will not cover it. This will not be on the front page of the paper tomorrow.

On the front page today is Michael Jackson. His attorney says he has agreed to end the behavior that got him into such trouble.

A new ''Batman'' movie, I noticed on the front page.

The Lakers have hired a new coach. That is on the front page of the newspaper.

I don't think this debate will make the front page and that is regrettable, because this is a big issue. This is an important issue. The question is, are we going to set goals as a country and aspire to achieve those goals? There is an old saying that if you do not care where you are going, you are never going to be lost. Where are we going with respect to energy? We know that 60 percent of our oil comes from off our shores—60 percent from off our shores.

I asked the Energy Department officials one day when they came before the Energy Committee: We talk a lot about 50 years from now, like what will be the consequences of the Social Security financing system 50 years and 75 years from now. Then I asked these officials to tell me what their plan is 50 years from now with respect to energy usage and energy supply. You would have thought I hit him with a baseball bat. They did not have the foggiest idea. They don't have a 50-year plan for energy. We know that 60 percent of our oil now comes from off our shores, much of it from troubled parts of the world. Yet here we are, blissfully moving along, buying one big vehicle after another.

In fact, pull up to the next stoplight and pull beside a humvee; that is about 6,500 pounds—I will get a letter from the humvee folks, I suppose—6,000 pounds or so. I am sure it gets single-digit gas mileage. I never took Latin, but I think of the Latin term ''totus porcus'' whenever I pull up next to a humvee. Someone told me it means whole hog. Here we are, blissfully moving along, driving our humvees, driving our SUVs, understanding that the question of whether we continue to have an oil and gas supply in this country is not up to us, it is up to the generosity of others, their willingness to pump it, their willingness to sell it, and the question of, at what price do they sell it to this country.

I want to tell a story. Late one evening, I was in the old Air Force One, the old 707 used by President George Bush, the first. That plane was retired and is now in a museum. But that old Air Force One is the airplane that carried John F. Kennedy's body from Dallas, TX, to Andrews Air Force Base the night that he was shot. It is a great old airplane. One of the last trips made in that old Air Force One was to Asia. I was on that trip. Senator John Glenn was on the trip and about two or three other Senators. We were going to China and Vietnam and a couple of other places to talk to foreign leaders.

Late that night, in the dark, in the front cabin which the President would have used when it was Air Force One, we began talking as we were sitting around, as colleagues do. I asked John Glenn about his space flight because I was a young boy listening to the radio with rapt attention when I heard that John Glenn circled the Earth. I asked him questions about it. What was it like going up in that space capsule and being the first American to orbit the Earth? He leaned forward, and for the first time he began talking about that flight to us.

One of the things he told us I never have forgotten. As he crossed from the light side of the Earth to the dark side of the Earth—some of you might remember that all of the citizens of Perth, Australia, decided to turn on all of their lights so that when this human being in some small little capsule called *Friendship 7* orbited over the dark side, Perth, Australia, wanted to shine all their lights up so that John Glenn could see them. And John Glenn told us that night, sitting in that old Air Force One cabin, flying across the Pacific, he told us that he looked down on the dark side, and the only thing he could see on that path around were the lights of Perth, Australia.

Think of that. This big old planet of ours, with 6 billion people, that spins around the Sun, we have a human

being for the first time orbit the Earth. He looked down on the dark side and saw the product of the light switches turned on by all those citizens in that community in Australia. The only evidence on the dark side of the Earth that John Glenn could see as he orbited the Earth was the product of energy—light.

We take energy for granted every single morning. We wake up, we flip the switch on, and it is energy at our fingertips. We put our key in the ignition, we turn the ignition on, and it is energy at our fingertips. We turn on the air conditioner or the heater, it is energy at our fingertips. We take it for granted. The story John Glenn told describes that the human condition in this country depends a lot on the availability of energy.

What has the Senator from Washington said today? She said: Let's have a big idea. I am pleased to support this amendment and to come over and speak about this amendment because this is a big idea. It says: Let's set a goal. Let's set a target, a timetable. I know there will be some, and there are some, who say it shouldn't be done, won't be done, can't be done, can't be done, can't be done. I understand these comments. That is always the case.

In my little old hometown, we had a guy named Grampy. His reaction to everything was, it can't be done. He always supported it after it was done, but he always said, it can't be done. While he was saying it can't be done, the other folks in my little hometown were doing it, out making it happen.

This country has a responsibility at this intersection, at this time, at this moment, to decide on a different energy future. We cannot hold this country hostage by being dependent on 60 percent of our oil from troubled parts of the world.

I talk a lot about trade. In part, this is a trade issue. We use nearly 21 million barrels of oil a day. The Saudis suck that oil out of the sands. They are blessed with a lot of oil under their sands. Then the oil comes over here, and we say, well, go ahead and fill her up over here and we will just give you a credit card. By the way, our folks will pay for it later. That is exactly what happens because that is how we get a $640 billion trade deficit—which, by the way, next year we are on the path—for the first 4 months of this year—we are on the path to exceed $750 billion in trade deficit next year. This is just one construct of that transaction, saying: Suck the oil out of the sand, send it over here, and we will pay later. It is like going to the gas station saying: Fill it up, here is a plastic card. We will not pay now, we will pay later.

This cannot continue. What if, God forbid, we woke up and discovered our oil supplies from Iraq, from Saudi Arabia, from Kuwait, from Venezuela, from any other country around the world, were gone. If that happened, I guarantee this economy will be belly up immediately. We cannot exist as a world class economy, we cannot exist, without this supply of energy.

What about this energy? We are hopelessly addicted to oil. When you have an addiction, the best way to deal with an addiction is to have an intervention. My colleague from Washington is saying let's have an intervention. Let's decide the future has to be different from the past. She says let's propose a big idea. I support that, as do many of my colleagues. Let's really have a big idea. Let's decide to reduce our dependence on foreign oil in the next 20 years by 40 percent.

Some say it can't be done. Well, we decided to go to the Moon. We did it in 10 years. We cannot do this in 20? Don't underestimate the American people. Of course, we can do this in 20 years.

I will go through a list of technologies, and my colleague from Tennessee listed some, but there are a lot of hopeful things on the horizon. Those things alone will not solve this issue. We have to be more aggressive, much more aggressive, by setting timetables.

Those who are pilots, they understand what I mean when I say you set waypoints when you are in the airplane. You get in the cockpit and decide where you are going to fly and you set waypoints and fly to a waypoint. We need to set targets, waypoints. Where do we want to be? How do you measure where you are if you do not have a discussion about where you want to be?

That is what this amendment is about. It is not about 80-mile-per-gallon CAFE standards or 50-mile-per-gallon CAFE standards. It is not about that at all. It is about whether this country collectively will decide that when it is dependent on something, dangerously dependent on something that it must shed its dependency on, whether we will make the decision to stop that dependency. Will it make a bold decision to stop the direction we are heading, turn it around, and back off?

I don't know the answer to that. We will find out at some point. If anyone happens to be listening with respect to reporting on positive agendas, I would say here is an example of a positive agenda, a positive idea, a big idea. Big and bold. Risky? I don't know. I know the riskiest proposition for this country. By far, the riskiest proposition for this country is to keep doing what we are doing and be dependent and held hostage to 60 percent of our oil coming from outside of our country.

Those who have studied economics, and I have studied and taught economics—probably not very well—but you will recognize the doctrine of comparative advantage. It was a simple doctrine. The doctrine of comparative advantage is, and the example traditionally used is, it is easier to produce wool through sheep in England and to grow grapes and wine in Portugal. It makes more sense, is more efficient to do both in England and Portugal, and then the English can ship their wool to Portugal, and Portugal can ship their wine to England, and they have traded. They have each produced what is to their advantage. The English raise sheep, get the wool; the Portuguese raise grapes, make the wine; and you simply trade wool for wine. It is a very simple construct, the doctrine of comparative advantage.

That is not what this issue is about. The issue of energy has nothing to do with the doctrine of comparative advantage. The advantage here is not comparative. The advantage here is that in the Middle East you have a massive amount of oil under the sands. It is pulled up less expensively there than any place else in the world. A few people sit on massive reserves of oil. And we have become addicted to its supply. As a result of that, instead of getting ourselves out of a hole, we are still busy with shovels continuing to dig.

We need to find a way and develop a goal that says at a certain point this country's future is no longer dependent on someone else providing for us the oil we need. We need to do that. Is it hard? Sure, it is hard, absolutely. This is not an easy thing to do. But do we have a choice? I do not think so. I do not believe we have a choice.

My colleague described a number of technologies that are being discussed these days. Let me describe a few of them.

Wind. Does anybody here understand how much more efficient the new wind turbines are? The new turbines are much more efficient. We are in a situation where we have the capability of taking energy from the wind. You take energy from the wind, a renewable resource, use it to produce electricity, use the electricity in a process called electrolysis, and separate hydrogen from water, and have an inexhaustible supply of hydrogen coming from water. Where does that come from? It comes from renewable energy, an inexhaustible supply of energy.

We just finished the ethanol title on this piece of legislation today. What a wonderful thing that is, to grow energy in your farm fields. Take a kernel of corn, and from that kernel of corn comes a drop of alcohol and, in addition to the drop of alcohol, you still have the protein feedstock left to give to the cows. It makes a lot of sense, doesn't it?

I know some oil companies do not like it. When I learned they did not like it, I figured this has to make a lot of sense for our country. So we passed an ethanol title. The renewable part of this legislation dealing with wind energy and biodiesel and a range of other strategies makes great sense.

I particularly have been interested in helping write the title that deals with hydrogen and fuel cells. Some say: Well, we are not ready for that. You are right, at this point we do not have all the solutions of production, storage, transportation, and infrastructure. I understand that. But we can, and we

will, and other countries, particularly in Europe, are moving rapidly in this direction. And even as an interim step we are seeing these hybrid cars. But we are going to move rapidly toward a different construct: hydrogen fuel cells—twice the efficiency of power to the wheel and water vapor out the tailpipe.

What a wonderful thing. Hydrogen is ubiquitous. It is everywhere. There are many strategies to employ to take hydrogen from water, using renewable resources, to extend our country's energy supply in a dramatic way and move us toward less dependence and greater independence.

The one thing that characterizes this country is how famously wrong people have been in trying to prognosticate the future. There is a whole list of these famous projections. Thomas Watson, in 1943, who was the chairman of IBM, said he thought maybe there was a world market for up to five computers. He was the head of IBM in 1943: I think maybe there is a world market for five computers. Sarnoff once said, with respect to the proposal to develop the radio: Well, who on Earth would pay for a message sent to no one in particular?

I guess they missed the mark. I could go through a long list. We are famous for not understanding what promise the future holds. This is not going to the Moon. That is not what this is. But this country does best when setting goals, such as when John F. Kennedy said, in response to Sputnik and in response to the race with the Soviets: We are going to go to the Moon by the end of the decade.

I have talked to folks at NASA who were around back then, the old codgers, the old-timers. They scratched their heads: How on Earth are we going to get to the Moon? We don't have the technology to get to the Moon.

Did you know the lunar lander that landed on the Moon with Armstrong and Aldrin had less computer power than a current new car has? Let me say that again. The lunar lander, on which Buzz Aldrin and Neil Armstrong settled on the surface of the Moon, had less computer power than a new car that you purchase today at the dealership anyplace around this country.

That is remarkable. But those scientists, those engineers, that American ingenuity, that know-how, that spirit said: We are going to do this. We are going to put someone on the Moon in a decade. And guess what. By the end of the decade, there they were. ''One small step,'' you will recall, when Neil Armstrong planted his foot on the Moon.

This country needs to establish goals. This country needs to have aspirations. All of us need to be a part of something that is bigger than ourselves. We debate so many issues on the floor of the Senate that have so little importance. This issue will determine whether our kids and our grandkids and their kids have jobs and opportunities and live in a country that has an economy that expands, that improves the standard and scale of living in the United States. That is what this amendment is about.

Read the history books. Just because we are here on this designated spot in America, we think we have some blessing, some right to believe that America will always grow, always expand, always lead the world. Not so. It will be the case only if we make good decisions, only if we make the right decisions.

This country has a wonderful economy. You can circle the globe in any kind of plane you want and you can look down on any spot in the world, and you will not find the equivalent of the United States of America—nowhere. But we are headed toward some whitewater rapids here in a range of areas. We are spending money we do not have. We have the highest budget deficits in history. We have a trade deficit that is going to choke this country unless we get it under control. And, I think most importantly, we have an economy that is running on foreign oil.

Sixty percent of that which we use comes from elsewhere. An economy that is hostage to decisions made by OPEC, hostage to decisions that might be made by terrorists, hostage to 60 percent—and going, we estimate by the Department of Energy, to 69 percent in a relatively short period of time—of its oil coming from off its shores, is a country, in my judgment, that is not in control of its own destiny.

It falls to us to make the decisions to put this country on track. It falls to us to chart the future with respect to this country's energy. We have an energy bill on the floor. I have complimented Senator DOMENICI and Senator BINGAMAN. I am pleased this bill was brought to the floor in a bipartisan way. I voted for it out of the committee. I had a hand in a good many of the titles that were written for this bill. I could not be more pleased than to be here saying this is a step that is a positive step in the right direction: a bipartisan energy bill.

My hope is the amendment that has been offered by Senator CANTWELL will be embraced on a bipartisan basis as well because there is not a Republican or a Democratic way for this country to go off course. There is not a Republican or Democratic way for this country to need energy and not have it and, therefore, shrink its economy and shrink opportunity for the future.

We need to do this together. Together we need to describe a big, new, bold idea that charts a new course for this country, a new energy course that gives us some feeling that we are moving toward independence.

There is all this discussion these days about freedom. I am not talking about ''freedom fries'' now, I am talking about freedom and independence. All of that was undergirding the State of the Union Address given to us by President George Bush.

Well, in my judgment, the issue of independence related to the word ''freedom'' these days applies to a lot of things. And it must—it must—apply to the circumstances that this country finds itself in with respect to its dangerous, its hopeless addiction to oil coming from off our shores. As I have said previously, we simply cannot hope that in the months and years ahead the Saudis, the Kuwaitis, the Iraqis, the Venezuelans, and others, will decide there is enough oil to share with us.

My colleague from New Mexico, the other day on television, I think, actually said—I did not hear him exactly—but there may not be a completely inexhaustible supply of oil in this world. We act as though it is inexhaustible. Every day we wake up in this country and use over 20 million barrels of oil.

We pretend it is inexhaustible. Maybe it is not. If it is not, what then: That is why I believe we ought to set some goals. This has nothing to do with politics. The Senator from New Mexico just came on the floor. He missed the credit I have given him and Senator BINGAMAN. I like what we have done. I am going to vote for another energy independence amendment called the renewable portfolio standard, requiring 10 percent of our electricity be made with renewables. We didn't have that in committee because we decided to do it on the floor. Some utility companies don't want it. I understand that. There is lots of room for debate. Maybe my view isn't the right view. I don't know.

I know my view is one I hold passionately. I believe strongly that we need to do what is in this bill because it moves this country forward and advances our energy interests. I also believe we ought to do more. I believe we should set big, bold goals for America's energy future, see if we can't free ourselves from a hopeless dependence on foreign oil that is set now to grow and grow. Let's decide to make a U-turn and see if we can't begin to move in a more constructive direction.

The Cantwell amendment will improve the legislation. I am going to vote for the Energy bill. I voted for it in committee. I am proud to vote for it. I am also going to vote for some things that will improve it. This positive idea is going to improve the legislation. I am happy to be a cosponsor and happy to support it.

The PRESIDING OFFICER. The Senator from Washington.

Ms. CANTWELL. Mr. President, I thank the Senator from North Dakota for his comments. I wish I could take credit for the bold idea in the sense that I am happy to be the sponsor of this amendment, but there are many people in America who have been talking about this as an idea.

I submit for the record another organization that has supported a blueprint for U.S. energy security, the Set America Free Organization, which is a collective organization of individuals, and they actually submit information that would be much bolder than a proposal to set a goal in number of barrels that could be saved by 2025.

There are a lot of people out there who have their sights set even more dramatically than what we are talking about.

Clearly, my colleague outlined that we are talking about something that is technologically agnostic. We are not declaring what technology is going to win. There are lots of great solutions that are provided in this bill. But I would like to remind my colleagues that today at 2 p.m., the price of oil per barrel was up to $56.50. So that is what we are dealing with, $56.50.

I know my colleagues in the Chamber were involved in getting the original language of 1 million reduction by 2025. I think that language first emerged when the Senate was considering previous Energy bills 2 years ago. At the time we originally started thinking about this goal of how to get off our foreign oil dependence or to reduce it, we were talking about oil prices that were much lower, maybe as low as $23 a barrel. Now we are looking at $56 a barrel. It is imperative that we be more aggressive by setting this goal and by working together to achieve it.

The underlying bill is a testament to bipartisan work in saying that there are a variety of ways to reach the goal. Some may ask: Senator CANTWELL, why do you want to set this goal? You might actually find the United States pursuing more domestic oil supply as a result of this goal.

I can't say what is going to happen. I just know I want to get off the foreign dependence that we are at today because our economy cannot continue to take that risk. With the concentration of oil supply in the Middle East, we are one mishap away from having our economy face a $100-a-barrel oil cost in the future. We cannot afford $56 a barrel. Some people say: Well, economies adjust to the high cost. I guarantee, in the meantime, a lot of people are going to suffer. There is not a week that goes by that I am not on a plane flying back to the west coast, to my home State of Washington, and a transportation worker doesn't come up to talk to me about their pension, the fact that they are laid off, the fact that they are losing their job because transportation fuel costs in aviation have not been passed on to the consumer. Consequently, it is being taken out on pensions. So there isn't a week that goes by where I don't see somebody who hasn't suffered from the high cost already, at $56 a barrel.

We cannot continue this dependency or the race we are going to be in with China on competing for a limited supply.

I am confident enough in American ingenuity that I am not even going to be prescriptive about how we get there as it relates to whether it is nuclear, another supply of oil, biofuels, what is going to win the day. I showed a chart because I am a big advocate of biofuels. If you can buy biofuels in Seattle now in the $2.60 range, $2.70 range, I know that we can create more incentive, as we are in this bill, more research and development to get that cost down. So I know I can get it competitive to what I think gasoline prices are going to be. I want to do that. I am gung-ho about that.

I am gung-ho about what the Brazilians have done because they have turned their economy around by becoming almost net exporters of energy instead of net importers. That is an incredible story the United States should learn from.

As my colleague from North Dakota said, there are many different technologies in the bill, but other countries are starting to gain the advantage. If we think about it, we are not the experts on fuel efficiency that the Japanese are. We are not the experts on wind energy that some of the Scandinavian countries are. We are not the experts on the production of sugar-based ethanol that the Brazilians are. It bothers me that we are losing the technology edge to other countries.

I certainly am willing to take the risk of setting a goal of 2025 in reducing our foreign oil consumption by 40 percent and saying all the options are on the table. I believe that Senator DOMENICI and Senator BINGAMAN did a good job of putting all those options on the table. I believe in the underlying bill. What I think we should reflect on is that the underlying bill includes language from a couple of years ago that may not be bold enough in the sense that if it doesn't reduce our dependence on foreign oil in 2015, we will be more dependent.

We should reflect on that and see if we can get to a point where we are endorsing the underlying solutions in this bill and setting a higher goal so that we can say to the American people, we are reversing this trend.

I yield the floor.

The PRESIDING OFFICER. The Senator from Missouri.

Mr. BOND. Mr. President, I thank the Senator from Washington. I thank my kind colleague from Louisiana. I attended a meeting at the White House and just returned so I only had this time to do it. I appreciate the opportunity to discuss the Cantwell oil savings amendment.

Obviously, it sounds good. Anybody who says we are going to save more oil, it is a good thing. But I urge my colleagues to look at it for what it really is. This appears to me to be a backdoor attempt, arbitrarily, to increase the corporate average fuel economy or what we call the CAFE standards. Along with my colleague from Michigan, Senator LEVIN, we have been through the CAFE debate in both the 107th and 108th Congress. It appears, from all I can tell, that if this amendment really has any teeth, it means we are going to go through it again in this Congress. I am sure there will be other efforts to increase CAFE standards later in the debate.

Let me remind my colleagues, we went through extensive debate, and we got signed into law measures saying that we must push the technology to increase fuel economy as fast as we can. We directed the National Highway Traffic Safety Administration to examine the technology and increase the required CAFE standards as quickly as can be done with the technology available.

Now, I believe that after all of our debates on CAFE, the Members of this body understand that corporate average fuel economy is a complex issue that requires a lot of thought and scientific analysis. That is why previous CAFE measures in the last Congress were defeated. Members have come to realize that the massive arbitrary increases in CAFE standards cost lives, jobs, and stifle the ability of consumers to choose the vehicle best for their families.

It is wonderful to say we want to make a statement—we are not saying how we want to get there, but we really ought to have a major decrease. Well, Mr. President, the effort by Congress initially to establish CAFE standards, without knowing how you are going to get there, wound up with the auto manufacturers being forced to lower the average weight of their automobiles by about a thousand pounds.

As I will be discussing later, we have lost thousands and thousands of lives because of unsafe automobiles. Unless you mandate that only certain cars can be sold or you tell people what they have to buy, people may not buy the cars that are made small to conform to the CAFE standards.

While I laud my colleagues' desire to conserve oil, the fact is that under this amendment, as best we can determine, the only place oil savings can come from would be a massive increase in CAFE standards. The amendment requires the use of existing authorities to obtain these savings, but they appear to be inadequate to the task required. Authorities to implement the requirement or mandate are very limited.

According to a recent Energy Information Association report, by 2025, oil consumption reductions on the order of 1.3 million barrels per day might be expected using a broad array of incentives and policies, such as new appliance efficiency standards, credits for home efficiency upgrades, additional tax credits for advanced technologies, energy performance standards for customers of selected utilities, and, of course, the promotion and use of renewable fuels. Many of these policies are already outside of the scope of existing authorities and still fall short of the goal of this amendment of 7.64 million barrels per day.

Furthermore, assuming the renewable fuels standard included in the bill can be doubled by 2025 to 16 billion gallons per year, which is ambitious and also beyond existing authorities, it would contribute only 1 million barrels a day of petroleum reduction toward the Cantwell goal. As a result, some 4

to 5 billion barrels per day would be required, and there is no readily apparent source to get it from.

The Cantwell amendment fails to protect these policies subject to existing authorities from excessive implementation. Existing programs, such as CAFE, may be called upon to provide contributions toward the goal that are far in excess of the normal implementation of these programs if there are inadequate overall authorities or demand reductions to accomplish these goals and other measures. For example, the Energy Information Association analysis referenced above estimates that with a 20-percent increase in CAFE standards by 2012, in conjunction with the other policy options analyzed, only a 1.1-percent decrease in the net import share of oil consumption occurs by 2025. The 40-percent reduction required in the Cantwell amendment is far beyond what can reasonably be expected, using existing authorities.

The proposed amendment assumes that huge, new opportunities exist to reduce oil demand, but existing programs will ultimately be held accountable. The development of fuel cells and extensive implementation of other advanced technologies may contribute significantly to the accomplishment of the goal, but the contributions they might make are highly uncertain. If we don't know where they are coming from, the consequences could be something very different than what we bargained for and having the adverse consequences we have seen from other broad mandates where Congress assumed that great, good things could be accomplished. Those are some of the reasons, frankly, we got into this energy problem, because of some of the ''great'' ideas. I will only mention the forcing of electric utilities to burn natural gas, which has caused a great part of the energy problem we have today.

In addition, since the measures must be defined and implemented starting within a year, existing programs and authorities would have to be relied upon extensively to develop the plan and to make up any shortfalls.

The Cantwell amendment would push the administration to rely on contributions from programs and activities that are high risk, high cost, and the benefits are unknowable at this point. The President is allowed 1 whole year under the amendment to develop and implement measures that will save an amount of oil equivalent to 90 percent of the annual consumption of the current light-duty vehicle fleet. However, the timing and the level of contributions of programs such as fuel cell and hydrogen development can only be guessed at this point, and authorities to fully implement them are still being developed. In light of this, my question would be, How can the President obtain the oil savings required under this amendment?

According to the Department of Energy's EIA, the vast majority of petroleum consumption in the United States—68 percent in 2002—is in the transportation sector. Any reduction in petroleum consumption will imply a substantial contribution from this sector.

Under the Cantwell amendment, CAFE standards for cars, light trucks, and SUVs will skyrocket. The Alliance of Automobile Manufacturers, in its examination of the EIA's assessments on oil savings, projects that the Cantwell amendment will require CAFE standards for passenger cars nearly to triple from its current level of 27.5 miles per gallon to 78.6 miles per gallon by 2025. Anybody for riding a golf cart? Furthermore, the CAFE standard for light trucks and SUVs would nearly triple from its current level of 21 miles per gallon to 60.8 miles per gallon by 2025.

Under the 20-year duration of the proposed amendment, the yearly percentage increase for passenger cars and light trucks would be equal to a 10-percent rate of increase. According to NHTSA, the ''maximum feasible'' standard for cars and light trucks for the years 2005 to 2007 is a 2.8-percent rate of increase. To go above that, to have the 10-percent increase, would not only be technically infeasible, but it would have a devastating effect on employment in the auto industry. If the requirements of the Cantwell amendment are enacted, then we could kiss tens of thousands of good, high-paying, American union jobs goodbye. I don't want to do that to the roughly 36,000 hard-working men and women who work directly for the automotive industry in Missouri, nor am I willing to do that to the over 200,000 men and women who work in auto-dependent jobs in my State or those employed directly and indirectly throughout this Nation.

Furthermore, what does the Cantwell amendment mean for the size and safety of our Nation's vehicle fleet? If we force consumers to drive smaller vehicles, which is what will happen under arbitrary CAFE increases, then we can expect a lot more highway fatalities.

Yesterday, I received some frightening statistics from NHTSA and the National Center for Statistics and Analysis regarding the small vehicle fatality rates. In 2003, over 3,200 fatalities resulted from crashes involving smaller vehicles. This is anywhere from 2 to 7 times more than the fatality rates for larger, heavier vehicles, depending on their weight class.

As we talked about the last time we debated CAFE, when we take a look at it over the years, NHTSA has found that solely as a result of the lighter cars made necessary by CAFE standards, between 1,000 and 2,000 more people were killed on the highways than would have been killed if they had larger vehicles. This isn't just on head-to-head, running into another larger car or a larger vehicle; over 40 percent of those were single-car accidents.

The latest figures I have heard is that NHTSA estimates that 1,300 deaths a year occur because of the mandated smaller size cars made necessary by the CAFE standards. Make no mistake, you may call this an oil savings, but this is CAFE all over again. As I have stated time and again, far-reaching increases to fuel efficiency standards that are not based on sound science are too costly and impractical for us to adopt. The lives and safety of drivers and their passengers, along with the livelihood of men and women in the automotive workforce who manufacture these vehicles, is too much of a price to pay for unthought-out, unscientific fuel efficiency standards.

And, finally, make no mistake about it, this goes to consumer choice. Consumers are making the decision on what kind of vehicles they want to drive. Right now, more and more of them are opting for light trucks. Are we going to tell them that we are going to tell them what kind of vehicle they can purchase? Are we going to have some Soviet-style czar who says because they have two parents and two children in the family, we will allow them one minicar and one small van? Who is going to decide if we take away from the consumers their right to choose these vehicles?

If we have fuel standards of 78 miles per gallon, we are not going to be able to buy any of the cars we want. Consumers are not going to have choices. We are going to see people out of work in the auto industry, major disruptions in the transportation sector, a great inconvenience, and increased highway dangers.

I urge my colleagues to continue to work for sound, science-based ways to conserve and produce more energy and to reject a measure that does not have a good, sound scientific foundation.

I thank the Chair, and I yield the floor.

The PRESIDING OFFICER. The Senator from New Mexico.

Mr. DOMENICI. Mr. President, I will take 1 minute. Before Senator BOND leaves, I thank him for his statement. I have heard the Senator eloquently describe this whole situation regarding automobiles in the United States and CAFE standards, but it seems to me this amendment is even way beyond anything we debated before. We are talking about changing by a couple miles, 2 or 3 miles. What we are talking about here would never become law. Let's be serious about it. But if it would, we are talking 3 or 4 times the CAFE standards we have today. What kind of cars could we build?

Mr. BOND. We would have golf carts.

Mr. DOMENICI. It seems to me the answer is impossible. That is the answer. This is an impossible amendment. People want to dream, but you do not build a country on dreams. Maybe you can dream, wake up and think of something that is quite appropriate for goal achievement. This seems like somebody dreamt up something to tell us we ought to save 40 percent of crude oil we use in the United States by 2025; is that what it sounds like to the Senator?

Mr. BOND. Mr. President, I am happy to answer. Obviously, it is well-intentioned, but I agree with the distinguished chairman of the committee who has done an excellent job on this entire bill. I commend him. The chairman and ranking member, our two friends from New Mexico, have done great things in this bill, but I think this kind of amendment would cripple its chance of passage. It does not meet the test of scientific reasonableness, sound science that I think we have to follow if we are to make some major improvements in the energy situation in our country.

Mr. DOMENICI. I thank the Senator. I yield the floor.

The PRESIDING OFFICER. The Senator from Louisiana.

Ms. LANDRIEU. Mr. President, I wanted to come to the floor to make a few brief remarks about the overall Energy bill that is before us, about some of the strong points in this bill and how we might be able to improve upon it.

I would like to briefly mention, along the lines of the discussion that just ensued, importing oil and the challenges that brings to our Nation. I will submit a few documents for the RECORD and discuss generally the situation that we have in Louisiana. Of course, I will not be offering any amendment at this time but just discussing something I know we will be talking more about as this debate ensues.

While I understand the amendment before us is quite an aggressive amendment—and at this time, I have not made a final decision about it—I would like to say something positive about the amendment.

One of the points I like about this approach, while it is very aggressive because it is similar to an approach that Senator ALEXANDER and I took 2 years ago on the Energy bill, is the flexibility that it provides to the country to try to make smart strategic choices about how savings can occur and smart strategic choices about lessening our dependence on foreign oil.

Coming from an oil-producing State, I can say that the people in Louisiana who produce oil and gas right here at home would like to reduce our dependency on foreign sources of oil.

The question is—and I think the chairman raises a very excellent point, and it is a real question—can we do that this fast, this aggressively, and maintain our economic position? We may or may not. But I want to say that anything we can do to reduce our dependency on foreign oil, while we recognize that we are just about to open to the imports of natural gas because we virtually have no choice—we have to because we cannot step up domestic production fast enough to meet the demands because China, because India, because our industries—chemical, petrochemical, agriculture, and others—are demanding more natural gas. We are about ready to bring in natural gas, where in some ways, while I support that, it will compound the problem of dependency.

It really is a dilemma. I say to the Senator from Washington that I think the flexibility of her proposal is very important, and the fact that this amendment does not say we have to conserve, we could, in fact, produce more domestic oil and gas which I happen to think would be a great idea. I know the chairman and the ranking member support more domestic drilling of oil and gas.

I want to say a word about that for a moment. We do not do anything the same way today that we did in the 1930s. Our telephones do not work the same way. We did not even have computers in the 1930s. Everything has changed. Technology for the large part has made everything better. Some people might argue with that statement, but the efficiency, the convenience, the ability to clean up our environment—everything has been made better in large measure by technology.

The oil and gas industry is not what it once was when the men and women who started it were paddling in a pirogue, a canoe—that is what we call a pirogue in Louisiana. A pirogue is a canoe—in the marsh pumping the oil out of the ground by hand and digging with shovels and crude instruments. This industry resembles more of the space industry today. It is run by computer. It is highly technical.

The environmental advances are absolutely astonishing. I have taken the chairman down to Louisiana. He has seen this with his own eyes. The wells, where they are situated, the offshore platforms, I believe, would make any American proud, even Americans who belong to the California Sierra Club. I absolutely believe they would be proud if they could see the development of this oil and gas industry. In fact, one of the majors told me—and I do not have any reason to doubt them because I think independent studies have shown this—that in the Gulf of Mexico last year, in the entire Gulf of Mexico, that oil company collected three barrels—three barrels—of spilled oil from its operations, and it has billions of dollars invested.

That is how good we have gotten. Guess what. We are the best in the world. Instead of bellyaching, we should be proud of that. We should say thank goodness for that old American ingenuity. We did not do it very well in the 1930s, and we did not do it well in the 1940s, but one good thing about America is we never stop trying to be better. It separates us from so many places in the world.

Coming from an oil and gas State, I would be the happiest person in the world if we could stop importing oil, drill it at home and explore new places that are appropriate. Some places may need to be off-limits but not everyplace.

There is a place that is not off-limits and we are proud of, and that is south Louisiana and the work that we have contributed to this country. I am going to show my colleagues this chart because this is where all of the drilling off the coast of our country occurs: Texas, Louisiana, Mississippi, and Alabama. We have been producing oil and gas and sending $5 billion annually to the Treasury in taxes every year. Yes, there have been some environmental impacts which I am going to talk about in a moment, but they have been minor compared to the wealth that this industry has created not just for this region but for the entire Nation.

Does anybody remember we have gone through an industrial revolution? Does anybody remember that everybody moved off the farms and went to the cities? How do people think the cities got lit? It did not wave a magic wand and the lights came on. We have been producing and digging from coal, oil, and gas. So if anybody wants to say that, oh, well, we just do not have to do that any more, heck, the whole country was built on this contribution. People from Louisiana are darn proud of it.

Instead of everybody coming to the floor and saying how we do not care about our land and we do not care about our trees and we do not care about our coast and we do not have anything beautiful to preserve, not only do the people of Louisiana love our land and love our water, we survive on it and in it more than anybody in America. We swim more. We eat more fish. We spend more time in boats. We recreate more on the water than probably anyplace maybe except for a very few. Not only wealthy people get to the water, everybody lives by the water. In some places, one has to have a $5-million house before they can touch the water. In Louisiana, there are people who live in a house not worth $25,000, but they have a gorgeous marsh land behind their house, and those kids go fishing.

So I do not like to hear anybody come to this floor and say that we do not treasure our land in Louisiana. We are going to continue to produce oil and gas. We are going to continue to be proud of it, and we are going to continue to tell the story, whether anybody wants to believe us or not, that this can be done in a very safe environmental way. Why? Because we have good regulation; two, we have courts that enforce the regulation; three, we have all kinds of agencies—some would argue too many—that make sure that all of these companies are doing what they are supposed to do.

We have a free press, which means a lot because if somebody is doing something wrong, there is nothing I can do or the Senator from New Mexico can do to try to stop them from reporting it. So they can report anything they want. There is open information. I wish they would really tell people what is actually happening.

The point I want to make in just a moment is that we are going to continue to do drilling. I appreciate all the good work of my colleagues to try to

give more revenues to the State. We get a little bit, but because we are generating so much and helping everybody so much—let me just use this. I wanted to thank my colleagues for their interest in helping us, but this makes my point even better. When the Senator from Washington said she wants us to be more like Brazil, I am going to learn a little bit more about what Brazil has done because I am not quite sure of the details, but I will tell my colleagues about 11 States in the United States and what they have done. Those States are Utah, Colorado, North Dakota, Montana, Oklahoma, Kentucky, New Mexico, Alaska, West Virginia, Louisiana, and Wyoming. Eleven States out of fifty are the only States in the United States that produce more energy than they consume.

Let me say that again. There are only 11 States in the United States of America that produce more energy than they consume. So if anybody wants to give Brazil an award, please give these 11 States an award first because we have already done that. We produce oil and gas. We are net exporters of energy—well, we produce oil, gas, coal, nuclear. We can produce energy from a lot of different ways. This is not just oil and gas production. This includes nuclear. This is from the Energy Information Agency, our own agency, not from Louisiana or Senator LANDRIEU. This is the U.S. Department of Energy Energy Information Agency. This includes nuclear, hydro, geothermal, wood, wind, waste, solar, oil, natural gas, and coal.

As the chairman from New Mexico will say, his goal is to increase the choices of all of these so that more States can begin producing something. If my colleagues do not want to drill for oil, then drill for gas. If they do not want to do that, put in a nuclear powerplant. If they do not want to do that, put in some wind turbines. If they do not want to do that, dam up some of their rivers and use hydro. Some people will do that; some people will not. But for heaven's sakes, do something. Do something. If they want to mine for coal, we have given them a lot of money in this bill and they can clean the coal. It can be burned and used efficiently. Put in solar panels. Go get waste from the agricultural areas of their State. That is the whole point of this bill.

We have 39 States that need to make some decisions about what they are going to produce to be free because 11 of us have already figured it out.

I do not know these other States as well as I know my State, but in addition to being a net exporter of energy, I will also tell the country that Louisiana probably has the most petrochemical plants per capita than any State in the Union. Those products that are produced in my State are not consumed by my State alone.

We make these products and send them all over the country and the world. So not only are we producing enough energy for every single person in Louisiana—the 4.5 million of us—and what we need, but we are also fueling every plant, every LNG facility, every petrochemical facility, supplying so much for the Nation and still exporting because people in Louisiana kind of believe in good old-fashioned ''do your part'' kind of work.

We also conserve. I am so tired of people saying, oh, the Senator from Louisiana and the people from Louisiana, all they do is waste fuel. I do not have the document, but I am going to submit for the record—I am going to take the last 10 years—the efficiencies that Louisiana, through our industry, has achieved. Yes, some of them have been mandated by this body and they had no choice and they had to do it, but some of it is voluntary. We have tried to be more efficient as well and, of course, we have produced this energy.

Let me just point out three or four States that are at the top of this list. Actually, I am probably going to do five States.

The States that consume more energy than they produce are California at the top of the list, New York second, Ohio third, Florida fourth, and Michigan fifth.

Let me point out one other thing, because you will say, Why isn't Texas on the green list. I want to find where Texas is—here it is, 25. Texas is not a net exporter, but it is close. The reason it is not is because, of course, it is a big State, a huge State—20-plus million people, and they also have so much industry that they supply energy for, that helps us all, they don't quite make it. But I have to say Texas is doing a great deal. Perhaps they could do more.

But the rest of these you can understand. Maybe Hawaii is too small. Hawaii is not very big, but they are doing a whole heck of a lot better than California.

I want to be clear about who is doing what, who is not, and where we need to go and try to help everybody make the choices that work for their State but that also work for the country. It has to happen.

I will stop for a moment on that issue and move to something else.

Mr. DOMENICI. Will the Senator yield for a moment?

Ms. LANDRIEU. I am happy to.

Mr. DOMENICI. Just for a few minutes, without losing your right to the floor.

I want to say to the Senator, thank you for your discussion, as you zero in on what States do and do not do. I will not repeat that. People heard it and they ought to heed it. Some of the States you have alluded to ought to heed it, too. Some of them are the very ones who do not want to produce anything and have production somewhere else, not there.

But in passing, the Senator discussed offshore production in her State, which she described in terms of new technology that is very safe. There is nothing happening that hurts anybody. There is no degradation of the water, no degradation of the air. I have seen one of the new facilities. I wish everybody who is worried about offshore drilling would take a helicopter and go out there. They are not next door to your house, they are miles and miles out in the ocean, and they are very large. They look like a big battleship out there all lighted up, full of technology, with 10 or 12 oil wells you cannot even see, producing natural gas for America, and you don't know where it goes, no pipes, nothing. Nothing spills, and it is our resource.

The Senator knows in this bill one big thing is missing and that is we are not going to do anything significant about letting the United States of America or States make a decision that off their shores they could produce more natural gas or crude oil for this great country. That is because Senators will not vote for it because the Senators with coastlines stand up and talk about what you have been talking about here.

''We need the energy, we need to grow, we are great Americans, we have a lot of plants, we want jobs—but you bring the energy here.'' Right?

Off our shores, remember—and Americans should remember it well—sits the largest reserve of natural gas that America has today, but for some parts of Alaska which are very difficult right now, but we are going to bring some down. It is the largest mainland reserve of natural gas we are going to have for generations to come.

What does it mean that we do nothing about it? Listen well, we are not going to stop using it. Remember how much crude oil we import. It will be 5, 6, 10 years and what will we be importing? The Senator knows the answer: Natural gas. Where from? Not from our seashores 100 miles away out there in the ocean where our natural gas is. From thousands of miles away in big, gigantic boats. They are going to come across the ocean and come over to America. And do what? Pump it into these States you are talking about. Because right here on this floor, if the Senator from New Mexico and two Senators from Louisiana were to say, just simple: Those States that have moratoriums off their shores where we can't drill, if they would like to let us drill, let's let them say yes and then let's pay them a little more royalties than we have been paying. Because right now we get no royalties. Give them more than we are paying now and let them decide whether they would like to or not.

Guess what would happen. I have already been told. The bill, if it passed, will die. First of all, it will not pass. Because for all this language around here—flexibility, let's do what we can, let's use every avenue for exploration—that is not true. That is not true. Because don't touch this one I have just talked about. Right?

Ms. LANDRIEU. Right.

Mr. DOMENICI. Your State has. They have done it, along with Texas and a couple of other States. Frankly, before we start giving other States resources, I wish they would start making decisions and we would start making them so other States would join. We have to help your State. We have to help you because you are taking the burden, and we are going to try to do something about that.

I don't know what we can do because we are stymied by a few things that are intangible, that we don't control—fiscal policy and budget policy and the like. But I want to say it doesn't do very much good to adopt resolutions on this floor and proposals such as are pending here from Senator CANTWELL—it doesn't do a bit of good to say these are our goals, let's do them. Flexibility.

We don't need that kind of bill if we do what we know we should do. We have not built a nuclear powerplant in two decades plus, while the rest of the world built them. We can talk all we want about why did we use so much natural gas in the powerplants of America. We know why. We didn't want to use anything else. Right? So we used natural gas, even some from offshore, some from your State. We piped it all the way over and burned it in powerplants as though it were coming out and would be here forever. It starts running out, right? So we are going to import it pretty soon.

That is the problem. We have been doing that. It is the problem in this bill. We are 90 percent where we ought to go, but the big thing is no action with reference to the largest asset we have toward independence, which is natural gas and crude oil hundreds of miles—not a mile—offshore.

There is one thing we are asking in this bill: Let's inventory it. Right? We voted in our committee. It was a hard vote. Hard? Just ask somebody to go out and tell America what we own. That natural gas you have been talking about, how much is there? You don't have to disturb anything anymore.

We have been talking about high tech. You don't drill holes to find out what is there. We do it by technology, by looking, by checking, by a new kind of geophysical equipment. Should not we tell America how much is there?

You watch, there will be a motion to strike that here on the floor. You and I will be here saying, What is the matter with that. But we are apt to lose that. Yet we are talking about some ''pie in the sky,'' let's set a goal 30 years from now to be 40 percent less dependent upon crude oil and we will have all the flexibility in the world. We don't need flexibility of any statute. We need the flexibility of Americans deciding that we have to do what you said.

If we have a source of energy, we have to produce it. Do not think we are producing ourselves out of existence. This bill conserves more than any piece of legislation will ever ask Americans to conserve. But we can't conserve our way out of this dilemma either, right?

Ms. LANDRIEU. Right.

Mr. DOMENICI. We could close up the wells offshore in Louisiana and say, ''Thank you.'' Of course not. We need more—and conservation. But I thought, since you raised the subject of offshore, we ought to tell the Senate, tell the few people listening, where the real value in America is, that we refuse. We are like ostriches when it comes to offshore.

People say, it is so pretty here, we don't want to touch it. What about 100 miles out from that shore? You cannot even see it. And people around here are crying that you will hurt their States. You could put any limitation you would like that is credible and let's go beyond that and try to do something with this very important asset—this asset field that is ours.

I thank the Senator for her comments and thank her for yielding.

The PRESIDING OFFICER. The Senator from Louisiana.

Ms. LANDRIEU. I thank the chairman, the distinguished Senator from New Mexico, because he is absolutely correct. I share his frustration. All I can say is as we proceed, we will continue to talk about these issues and educate the American people. People are afraid. They tend to be afraid if they are not sure of the facts. Sometimes people get the facts all confused.

But as I hope people understand, as I keep speaking the truth on this and people understand there are ways you can do this drilling, particularly for natural gas, that are safe for the environment, that meet every environmental standard we have today, and actually meet the clean air standards set out in our own act, we can most certainly explore these opportunities and continue to work on this bill. I thank the Senator for his comments, for his interest and his knowledge of the subject. I can only say I will continue to try to tell the story, and as the American people learn more about it, perhaps some of the fear will dissipate, reason will prevail, and we can begin to understand that here at home we have places on our shores and off our shores that we can tap into and minimize our dependency on foreign oil and foreign gas.

For the short term, this bill, and with the support of most of these Senators, will begin importing natural gas. We have policies in this bill to allow that to happen. It is quite ironic we are setting out in a bill to import more natural gas, and we will not take opportunities to drill for more on our shores. Again, this is a work in progress.

Let me share another part of the story that is not just about energy production. It is the great contribution our coast makes to Louisiana. There is the gold coast, the rocky coast, the cliff coast. We are the working coast. We are proud of it. We are the largest and most productive expanse of coastal wetlands in North America. It is the seventh largest delta on Earth. The Mississippi River drains two-thirds of the United States. As I said, it is one of the most productive environments in America.

In addition to the energy production I talked about which is right off this shore—and we have 20,000 miles of pipeline that can wrap around the country 10 times, 2,000 miles each way, miles of pipeline that send oil and gas to Chicago, California and to Washington and New York—in addition to the energy we produce for the Nation, through this Mississippi River, we drain the mountains in the West and all throughout the Nation; we also have a great nursery for one of the greatest flyways in the world for millions of waterfowl and migratory songbirds.

It also is a nursery for the Gulf of Mexico. Most of the seafood in the Gulf of Mexico is produced because this marsh does not exist anywhere else in the coastal United States. Again, it is an unusually large delta created by the Mississippi River. It is unique.

In addition to the energy contributions this delta makes, in addition to the drainage we contribute by our location for the Nation, in addition to the great flyways for migratory birds that this provides, and the nursery for all the gulf coast fish and species, it also serves as a protection for the two million people that live below I–10. This is the main interstate that runs in the southern part of the United States. It goes all the way through Mississippi, to Florida, and all the way through Texas and west. This I–12/I–10 corridor is one of the busiest in the Nation for many reasons. It is a great north-south trade Route.

Below this interstate, basically two million people live in Louisiana. As the map shows, this land is all marsh and low-lying wetlands. The people that live here are in some jeopardy. They are in some danger if this marsh would erode and go away as storms—whether they are hurricanes, floods, or rising tides—continue to pound our shore. That, unfortunately, is exactly what is happening today.

Yet this wetland that supplies all of this energy, seafood and other environmental benefits to the Nation, we are losing a football field every 30 minutes. We are losing 25,000 square miles every year. In the last 50 years, we have lost the size of the State of Rhode Island.

The red on this map indicates a loss of wetland. This is not caused by oil and gas and by fisheries. It is exacerbated by pipeline construction and some exploration, but it is caused primarily by the channelization of the Mississippi River. This river, for all the things I have said it is used for, you could argue the most important thing it is used for, for the Nation, is the commerce—500 tons of cargo, the largest port system in the world. When my friends from the Midwest—whether it is Senator HARKIN, Senator CONRAD, or

Senator DORGAN and others—want to get grain and corn out of the States they represent, there is not a whole lot of ways to get it out except by barge. It comes down the Mississippi River.

We are happy for the trade and the traffic. But this river was levied to keep the water in, to create this major port system for the Nation, and as a result, over decades, the river cannot overflow itself, and it then cannot replenish the marsh. That is what is causing the staggering loss of these wetlands. Then, on top of that—which is probably 85 percent of the loss of wetlands, say our scientists who have been studying this for many years, the last two decades in particular—when the oil and gas industry came in and some canals had to be put in for the drilling, it exacerbated it by allowing the saltwater from the Gulf of Mexico to come into this water. We call it brackish. It is part salt and part fresh. It comes into the marsh and kills the marsh grass. The salt is toxic to that particular marsh grass. The marsh grass fades away, and before you know it, you are in open water.

I have friends that have fished down here for years and old timers I talk to. It is getting scary because it is not even people that are that old any more who are saying: When I was a kid, you could stand right here in Terrebonne Bay and look out for miles and see land. I took my little boy down there last week, the same place I used to fish when I was a kid, and there is no land left.

Senator, what is happening? Where is it going? It is eroding. I have been here for 8 years trying to get this Congress—Senator Breaux joined me, Senator VITTER now joins this effort—to try to get this Senate and this Congress to understand that this delta is not only precious to Louisiana—it is not even Louisiana's wetlands, it is America's wetlands—it deserves our attention.

Since we contribute so much toward waterborne commerce, so much to the energy infrastructure and independence of this Nation, we serve as a nursery for the fisheries industry, for the whole gulf coast of Mexico, we serve as a flyway for migratory birds which support a whole emerging and growing ecotourism industry that affects everyone in a positive way, surely we can get a few little dollars to help us save our coast.

We are only one hurricane away. We had a terrible season last season. We had five or six major storms. Luckily, they did not hit directly. Unfortunately, our friends in Mississippi and Mobile were hit. None of us along the gulf coast like to get hit. We are in great sympathy and empathy with each other because we know what a major hurricane will do. My people are sitting ducks. It is getting worse and worse. We can save our coast. But we need to use some of the moneys we can get to invest and to do this and we can make progress.

The Senator from Washington would like to wrap up on her amendment, and so let me conclude in a few moments. I thank the Senator for her courtesy and time.

This is a very precious wetland to Louisiana and to America. It is something that can be saved, must be saved and, if saved, cannot only contribute so much to Louisiana but to the Nation.

This issue is not as clearcut as some would like to believe. As I said, I like some parts of the amendment of the Senator from Washington. She has been a tremendous contributor on the Energy bill and a tremendous voice for conservation. What I do like about her amendment is its flexibility. What I do like about her amendment is the opportunity to produce more domestically so we do not have to get it from somebody else, particularly a somebody who does not share our values, who does not have America's best interests at heart. So I agree with that approach. Again, it may be too aggressive for us. But the Senate will decide if that is the case.

But I want to say from a State that is producing—and we are going to continue to produce; we are happy to produce—there are some coastal impacts associated with it. But even if we were not doing any production off the coast of Louisiana, this loss of wetlands would still be occurring because of the channelization of the Mississippi River done by the Corps of Engineers, at our request, on behalf of the Nation. It is time we get some help and some support for fixing this wetland.

I thank the Senator for her patience and her courtesies, and I wish her the best of luck as we continue to work on our bill.

The PRESIDING OFFICER. The Senator from Washington.

The Chair would advise the Senator from Washington that her last unanimous consent request for a submission was not made formally. If she would like to resubmit that request at this time, the Chair would take it. It was the last piece of information you submitted.

Ms. CANTWELL. Mr. President, I ask unanimous consent that a letter from Set America Free be printed in the RECORD.

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

SET AMERICA FREE

For decades, the goal of reducing the Nation's dependence upon foreign energy sources has been a matter on which virtually all Americans could agree. Unfortunately, differences about how best to accomplish that goal, with what means, how rapidly and at what cost to taxpayers and consumers have, to date, precluded the sort of progress that might have been expected before now.

Today, we can no longer afford to allow such differences to postpone urgent action on national energy independence. After all, we now confront what might be called a ''perfect storm'' of strategic, economic and environmental conditions that, properly understood, demand that we affect over the next four years a dramatic reduction in the quantities of oil imported from unstable and hostile regions of the world.

America consumes a quarter of the world's oil supply while holding a mere 3% of global oil reserves. It is therefore forced to import over 60% of its oil, and this dependency is growing. Since most of the world's oil is controlled by countries that are unstable or at odds with the United States this dependency is a matter of national security.

At the strategic level, it is dangerous to be buying billions of dollars worth of oil from nations that are sponsors of or allied with radical Islamists who foment hatred against the United States. The petrodollars we provide such nations contribute materially to the terrorist threats we face. In time of war, it is imperative that our national expenditures on energy be redirected away from those who use them against us.

Even if the underwriting of terror were not such a concern, our present dependency creates unacceptable vulnerabilities. In Iraq and Saudi Arabia, America's enemies have demonstrated that they can advance their strategic objective of inflicting damage on the United States, its interests and economy simply by attacking critical overseas oil infrastructures and personnel. These targets are readily found not only in the Mideast but in other regions to which Islamists have ready access (e.g., the Caspian Basin and Africa). To date, such attacks have been relatively minor and their damage easily repaired. Over time, they are sure to become more sophisticated and their destructive effects will be far more difficult, costly and time-consuming to undo.

Another strategic factor is China's burgeoning demand for oil. Last year, China's oil imports were up 30% from the previous year, making it the world's No. 2 petroleum user after the United States. The bipartisan, congressionally mandated U.S.-China Economic and Security Review Commission reported that: ''China's large and rapidly growing demand for oil is putting pressure on global oil supplies. This pressure is likely to increase in the future, with serious implications for U.S. oil prices and supplies.''

Oil dependence has considerable economic implications. Shrinking supply and rising demand translate into higher costs. Both American consumers and the U.S. economy are already suffering from the cumulative effect of recent increases in gas prices. Even now, fully one-quarter of the U.S. trade deficit is associated with oil imports. By some estimates, we lose 27,000 jobs for every billion dollars of additional oil imports. Serious domestic and global economic dislocation would almost certainly attend still-higher costs for imported petroleum and/or disruption of supply.

Finally, environmental considerations argue for action to reduce imports of foreign oil. While experts and policy-makers disagree about the contribution the burning of fossil fuels is making to the planet's temperatures, it is certainly desirable to find ways to obtain energy while minimizing the production of greenhouse gases and other pollutants.

The combined effects or this ''perfect storm'' require concerted action, at last, aimed at reducing the Nation's reliance on imported oil from hostile or unstable sources and the world's dependence on oil at large. Fortunately, with appropriate vision and leadership, we can make major strides in this direction by exploiting currently available technologies and infrastructures to greatly diminish oil consumption in the transportation sector, which accounts for two thirds of our oil consumption.

The attached Blueprint for Energy Security: ''Set America Free'' spells out practical ways in which real progress on ''fuel choice'' can be made over the next four years and beyond. To be sure, full market transformation

will take a longer time. In the case of the transportation sector, it may require 15–20 years. That is why it is imperative to begin the process without delay.

We call upon America's leaders to pledge to adopt this Blueprint, and embark, along with our democratic allies, on a multilateral initiative to encourage reduced dependence on petroleum. In so doing, they can reasonably promise to: deny adversaries the wherewithal they use to harm us; protect our quality of life and economy against the effects of cuts in foreign energy supplies and rising costs; and reduce by as much as 50% emissions of undesirable pollutants. In light of the ''perfect storm'' now at hand, we simply can afford to do no less.

SIGNATORIES

Gary L. Bauer, President, American Values; Milton Copulos, President, National Defense Council Foundation; Congressman Eliot Engel; Frank Gaffney, President, Center for Security Policy; Bracken Hendricks, Executive director, Apollo Alliance; Bill Holmberg, American Council on Renewable Energy; Anne Korin, Co-Director, Institute for the Analysis of Global Security (IAGS); Deron Lovaas, Natural Resources Defense Council (NRDC); Gal Luft, Co-Director, Institute for the Analysis of Global Security (IAGS); Cliff May, President, Foundation for the Defense of Democracies; Robert C. McFarlane, Former National Security Advisor; Daniel Pipes, Director, Middle East Forum; Professor Richard Smalley, Nobel Laureate Chemistry; Admiral James D. Watkins, former Secretary of Energy; R. James Woolsey, Co-Chairman, Committee on the Present Danger; and Meyrav Wurmser, Hudson Institute.

A BLUEPRINT FOR U.S. ENERGY SECURITY

Introduction

Historically, the United States has pursued a three-pronged strategy for minimizing the vulnerabilities associated with its dependency on oil from unstable and/or hostile nations: diversifying sources of oil, managing inventory in a strategic petroleum reserve and increasing the efficiency of the transportation sector's energy consumption. In recent years, the focus has been principally on finding new and larger sources of petroleum globally.

Rapidly growing worldwide demand for oil, however, has had the effect of largely neutralizing this initiative, depleting existing reserves faster than new, economically exploitable deposits are being brought on line. Under these circumstances, diversification among such sources is but a stop-gap solution that can, at best, have a temporary effect on oil supply and, hence, on national security. Conservation can help, but with oil consumption expected to grow by 60% over the next 25 years, conservation alone will not be a sufficient solution.

The 'Set America Free' Project

Long-term security and economic prosperity requires the creation of a fourth pillar—technological transformation of the transportation sector through what might be called ''fuel choice.'' By leading a multinational effort rooted in the following principles, the United States can immediately begin to introduce a global economy based on next-generation fuels and vehicles that can utilize them:

Fuel diversification: Today, consumers can choose among various octanes of gasoline, which accounts for 45% of U.S. oil consumption, or diesel, which accounts for almost another fifth. To these choices can and should promptly be added other fuels that are domestically produced, where possible from waste products, and that are clean and affordable.

Real world solutions: We have no time to wait for commercialization of immature technologies. The United States should implement technologies that exist today and are ready for widespread use.

Using existing infrastructure: The focus should be on utilizing competitive technologies that do not require prohibitive or, if possible, even significant investment in changing our transportation sector's infrastructure. Instead, ''fuel choice'' should permit the maximum possible use of the existing refueling and automotive infrastructure.

Domestic resource utilization: The United States is no longer rich in oil or natural gas. It has, however, a wealth of other energy sources from which transportation fuel can be safely, affordably and cleanly generated. Among them: hundreds of years worth of coal reserves, 25% of the world's total (especially promising with Integrated Gasification and Combined Cycle technologies); billions of tons a year of biomass, and further billions of tons of agricultural and municipal waste. Vehicles that meet consumer needs (e.g., ''plug-in'' hybrids), can also tap America's electrical grid to supply energy for transportation, making more efficient use of such clean sources of electricity as solar, wind, geothermal, hydroelectric and nuclear power.

Environmentally sensible choices: The technologies adopted should improve public safety and respond to the public's environmental and health concerns.

KEY ELEMENTS OF THE 'SET AMERICA FREE' PROJECT

Vehicles

Hybrid electric vehicles: There are already thousands of vehicles on America's roads that combine hybrid engines powered in an integrated fashion by liquid fuel-powered motors and battery-powered ones. Such vehicles increase gas-consumption efficiency by 30–40%.

Ultralight materials: At least two-thirds of fuel use by a typical consumer vehicle is caused by its weight. Thanks to advances in both metals and plastics, ultralight vehicles can be affordably manufactured with today's technologies and can roughly halve fuel consumption without compromising safety, performance or cost effectiveness.

''Plug-in'' hybrid electric vehicles: Plug-in hybrid electric vehicles are also powered by a combination of electricity and liquid fuel. Unlike standard hybrids, however, plug-ins draw charge not only from the engine and captured braking energy, but also directly from the electrical grid by being plugged into standard electric outlets when not in use. Plug-in hybrids have liquid fuel tanks and internal combustion engines, so they do not face the range limitation posed by electric-only cars. Since fifty-percent of cars on the road in the United States are driven 20 miles a day or less, a plug-in with a 20-mile range battery would reduce fuel consumption by, on average, 85%. Plug-in hybrid electric vehicles can reach fuel economy levels of 100 miles per gallon of gasoline consumed.

Flexible fuel vehicles (FFVs): FFVs are designed to bum on alcohol, gasoline, or any mixture of the two. About four million FFV's have been manufactured since 1996. The only difference between a conventional car and a flexible fuel vehicle is that the latter is equipped with a different control chip and some different fittings in the fuel line to accommodate the characteristics of alcohol. The marginal additional cost associated with such FFV-associated changes is currently under $100 per vehicle. That cost would be reduced further as volume of FFVs increases, particularly if flexible fuel designs were to become the industry standard.

Flexible fuel/plug-in hybrid electric vehicles: If the two technologies are combined, such vehicles can be powered by blends of alcohol fuels, gasoline, and electricity. If a plug-in vehicle is also a FFV fueled with 80% alcohol and 20% gasoline, fuel economy could reach 500 miles per gallon of gasoline.

If by 2025, all cars on the road are hybrids and half are plug-in hybrid vehicles, U.S. oil imports would drop by 8 million barrels per day (mbd). Today, the United States imports 10 mbd and it is projected to import almost 20 mbd by 2025. If all of these cars were also flexible fuel vehicles, U.S. oil imports would drop by as much as 12 mbd.

Fuels

Fuel additives: Fuel additives can enhance combustion efficiency by up to 25%. They can be blended into gasoline, diesel and bunker fuel.

Electricity as a fuel: Less than 2% of U.S. electricity is generated from oil, so using electricity as a transportation fuel would greatly reduce dependence on imported petroleum. Plug-in hybrid vehicles would be charged at night in home garages—a time-interval during which electric utilities have significant excess capacity. The Electric Power Research Institute estimates that up to 30% of market penetration for plug-in hybrid electric vehicles with 20-mile electric range can be achieved without a need to install additional electricity-generating capacity.

Alcohol fuels: ethanol, methanol and other blends:

Ethanol (also known as grain alcohol) is currently produced in the U.S. from corn. The industry currently has a capacity of 3.3 billion gallons a year and has increased on the average of 25% per year over the past three years. Upping production would be achieved by continuing to advance the corn-based ethanol industry and by commercializing the production of ethanol from biomass waste and dedicated energy crops. P–Series fuel (approved by the Department of Energy in 1999) is a more energy-efficient blend of ethanol, natural gas liquids and ether made from biomass waste.

Methanol (also known as wood alcohol) is today for the most part produced from natural gas. Expanding domestic production can be achieved by producing methanol from coal, a resource with which the U.S. is abundantly endowed. The commercial feasibility of coal-to-methanol technology was demonstrated as part of the DOE's ''clean coal'' technology effort. Currently, methanol is being cleanly produced from coal for under 50 cents a gallon.

It only costs about $60,000 to add a fuel pump that serves one of the above fuels to an existing refueling station.

Non-oil based diesel: Biodiesel is commercially produced from soybean and other vegetable oils. Diesel can also be made from waste products such as tires and animal by-products, and is currently commercially produced from turkey offal. Diesel is also commercially produced from coal.

Policy Recommendations

Provide incentives to auto manufacturers to produce and consumers to purchase, hybrid vehicles, plug-in hybrid electric vehicles and FFVs across all vehicle models.

Provide incentives for auto manufacturers to increase fuel efficiency of existing, non-FFV auto models.

Conduct extensive testing of next-generation fuels across the vehicle spectrum to meet auto warranty and EPA emission standards.

Mandate substantial incorporation of plug-ins and FFVs into federal, state, municipal and covered fleets.

Provide investment tax incentives for corporate fleets and taxi fleets to switch to plug-ins, hybrids and FFVs.

Encourage gasoline distributors to blend combustion enhancers into the fuel.

Provide incentives for existing fueling stations to install pumps that serve all liquid fuels that can be used in the existing transportation infrastructure, and mandate that all new gas stations be so equipped.

Provide incentives to enable new players, such as utilities, to enter the transportation fuel market, and for the development of environmentally sound exploitation of non-traditional petroleum deposits from stable areas (such as Canadian tar sands).

Provide incentives for the construction of plants that generate liquid transportation fuels from domestic energy resources, particularly from waste, that can be used in the existing infrastructure.

Allocate funds for commercial scale demonstration plants that produce next-generation transportation fuels, particularly from waste products.

Implement federal, state, and local policies to encourage mass transit and reduce vehicle-miles traveled.

Work with other oil-consuming countries towards distribution of the above-mentioned technologies and overall reduction of reliance on petroleum, particularly from hostile and potentially unstable regions of the world.

A NEW NATIONAL PROJECT

In 1942, President Roosevelt launched the Manhattan Project to build an atomic weapon to be ready by 1945 because of threats to America and to explore the future of nuclear fission. The cost in today's prices was $20 billion. The outcome was an end to the war with Japan, and the beginning of a wide new array of nuclear-based technologies in energy, medical treatment, and other fields.

In 1962, President Kennedy launched the Man to the Moon Project to be achieved by 1969 because of mounting threats to U.S. and international security posed by Soviet space-dominance and to explore outer space. The cost of the Apollo program in today's prices would be well over $100 billion. The outcome was an extraordinary strategic and technological success for the United States. It engendered a wide array of spin-offs that improved virtually every aspect of modern life, including but not limited to transportation, communications, health care, medical treatment, food production and other fields.

The security of the United States, and the world, is no less threatened by oil supply disruptions, price instabilities and shortages. It is imperative that America provide needed leadership by immediately beginning to dramatically reduce its dependence on imported oil. This can be done by embracing the concepts outlined above with a focus on fuel choice, combined with concerted efforts at improving energy efficiency and the increased availability of energy from renewable sources.

The estimated cost of the 'Set America Free' plan over the next 4 years is $12 billion. This would be applied in the following way: $2 billion for automotive manufacturers to cover one-half the costs of building FFV-capability into their new production cars (i.e., roughly 40 million cars at $50 per unit); $1 billion to pay for at least one out of every four existing gas stations to add at least one pump to supply alcohol fuels (an estimated incentive of $20,000 per pump, new pumps costing approximately $60,000 per unit); $2 billion in consumer tax incentives to procure hybrid cars; $2 billion for automotive manufacturers to commercialize plug-in hybrid electric vehicles; $3 billion to construct commercial-scale demonstration plants to produce non-petroleum based liquid fuels (utilizing public-private cost-sharing partnerships to build roughly 25 plants in order to demonstrate the feasibility of various approaches to perform efficiently at full-scale production); and $2 billion to continue work on commercializing fuel cell technology.

Since no major, new scientific advances are necessary to launch this program, such funds can be applied towards increasing the efficiencies of the involved processes. The resulting return-on-investment—in terms of enhanced energy and national security, economic growth, quality of life and environmental protection—should more than pay for the seed money required.

Ms. CANTWELL. Thank you, Mr. President.

Mr. President, I thank the Senator from Louisiana for her comments and for her focus on the fact that the amendment is basically agnostic about where we get future supply. You can get it from more domestic production of oil or natural gas. I have been a big supporter of more natural gas production, particularly from Alaska, because I think it is so important to our country moving ahead.

I appreciate her chart showing what States are involved in energy production because we in Washington State are getting 70 percent of our electricity from a hydro system. She mentioned, yes, you can get energy from damming rivers. Well, that is exactly what we have done in the State of Washington and many parts of the Northwest. It has cost our environment, but yet we get 70 percent of our power from that.

We have one nuclear powerplant in our State. We have one coal plant in our State. We have a few natural gas-fired plants in our State. We have four major refineries that take crude oil and convert it to petroleum products, such as gasoline, jet fuel, diesel, and asphalt. So we in Washington State are involved in all those activities.

The fact is, we do not have significant oil and natural gas off the coast of Washington. I know that is something that is being discussed. But the Minerals Management Service Report that was conducted basically says there is not a lot of natural gas off the coast of Washington. So I am not in the same position as the Senator from Louisiana.

I think you have to take into consideration in this debate what some of my staff call the ''accidents of geology;'' that is, that Saudi Arabia happens to sit on 25 percent of the world's oil reserves, and we in the United States only sit on 3 percent. That is a fact of geology.

So the fact that Louisiana has oil and gas and Washington does not is another fact of geology. But I tell you that we do play our role in Washington State. We help keep the lights on in California. We were forced to do so by emergency order by the U.S. Government during a drought, at a cost to ratepayers in Washington State. So we do play our part in providing energy supplies around the region.

But this is an issue about regional diversity and about getting off our over-dependence on foreign oil. I think the Senator correctly articulated what this amendment does; and that is, it basically sets a goal and says it is most important to get off the foreign dependence, to start reducing it. I appreciate that because she came up with the original language and I think is concerned that we do set goals. So I appreciate her comments.

I would like to add to the record, if I could—I know my colleagues from Colorado and Illinois are on the floor and want to speak. But we have had questions about whether we can get a supply of biofuels. I know a lot of my Midwestern colleagues believe in the biofuel section of this bill.

Mr. President, I ask unanimous consent to have printed in the RECORD the Executive Summary of the USDA and Department of Energy report entitled ''Biomass as Feedstock for a Bioenergy and Bioproducts Industry: The Technical Feasibility of a Billion-Ton Annual Supply.''

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

BIOMASS AS FEEDSTOCK FOR A BIOENERGY AND BIOPRODUCTS INDUSTRY: THE TECHNICAL FEASIBILITY OF A BILLION-TON ANNUAL SUPPLY

EXECUTIVE SUMMARY

The U.S. Department of Energy (DOE) and the U.S. Department of Agriculture (USDA) are both strongly committed to expanding the role of biomass as an energy source. In particular, they support biomass fuels and products as a way to reduce the need for oil and gas imports; to support the growth of agriculture, forestry, and rural economies; and to foster major new domestic industries—biorefineries—making a variety of fuels, chemicals, and other products. As part of this effort, the Biomass R&D Technical Advisory Committee, a panel established by the Congress to guide the future direction of federally funded biomass R&D, envisioned a 30 percent replacement of the current U.S. petroleum consumption with biofuels by 2030.

Biomass—all plant and plant-derived materials including animal manure, not just starch, sugar, oil crops already used for food and energy—has great potential to provide renewable energy for America's future. Biomass recently surpassed hydropower as the largest domestic source of renewable energy and currently provides over 3 percent of the total energy consumption in the United States. In addition to the many benefits common to renewable energy, biomass is particularly attractive because it is the only current renewable source of liquid transportation fuel. This, of course, makes it invaluable in reducing oil imports—one of our most pressing energy needs. A key question, however, is how large a role could biomass play in responding to the nation's energy demands. Assuming that economic and financial policies and advances in conversion technologies make biomass fuels and products more economically viable, could the biorefinery industry be large enough to have a significant impact on energy supply and oil imports? Any and all contributions are certainly needed, but would the biomass potential be sufficiently large to justify the necessary capital replacements in the fuels and automobile sectors?

The purpose of this report is to determine whether the land resources of the United States are capable of producing a sustainable supply of biomass sufficient to displace 30 percent or more of the country's present petroleum consumption—the goal set by the

Advisory Committee in their vision for biomass technologies. Accomplishing this goal would require approximately 1 billion dry tons of biomass feedstock per year.

The short answer to the question of whether that much biomass feedstock can be produced is yes. Looking at just forestland and agricultural land, the two largest potential biomass sources, this study found over 1.3 billion dry tons per year of biomass potential (Figure 1)—enough to produce biofuels to meet more than one-third of the current demand for transportation fuels. The full resource potential could be available roughly around mid–21st century when large-scale bioenergy and biorefinery industries are likely to exist. This annual potential is based on a more than seven-fold increase in production from the amount of biomass currently consumed for bioenergy and biobased products. About 368 million dry tons of sustainably removable biomass could be produced on forestlands, and about 998 million dry tons could come from agricultural lands.

Forestlands in the contiguous United States can produce 368 million dry tons annually. This projection includes 52 million dry tons of fuelwood harvested from forests, 145 million dry tons of residues from wood processing mills and pulp and paper mills, 47 million dry tons of urban wood residues including construction and demolition debris, 64 million dry tons of residues from logging and site clearing operations, and 60 million dry tons of biomass from fuel treatment operations to reduce fire hazards. All of these forest resources are sustainably available on an annual basis. For estimating the residue tonnage from logging and site clearing operations and fuel treatment thinnings, a number of important assumptions were made: all forestland areas not currently accessible by roads were excluded; all environmentally sensitive areas were excluded; equipment recovery limitations were considered; and recoverable biomass was allocated into two utilization groups—conventional forest products and biomass for bioenergy and biobased products.

From agricultural lands, the United States can produce nearly 1 billion dry tons of biomass annually and still continue to meet food, feed, and export demands. This projection includes 428 million dry tons of annual crop residues, 377 million dry tons of perennial crops, 87 million dry tons of grains used for biofuels, and 106 million dry tons of animal manures, process residues, and other miscellaneous feedstocks. Important assumptions that were made include the following: yields of corn, wheat, and other small grains were increased by 50 percent; the residue-to-grain ratio for soybeans was increased to 2:1; harvest technology was capable of recovering 75 percent of annual crop residues (when removal is sustainable); all cropland was managed with no-till methods; 55 million acres of cropland, idle cropland, and cropland pasture were dedicated to the production of perennial bioenergy crops; all manure in excess of that which can be applied on-farm for soil improvement under anticipated EPA restrictions was used for biofuel; and all other available residues were utilized.

The biomass resource potential identified in this report can be produced with relatively modest changes in land use, and agricultural and forestry practices. This potential, however, should not be thought of as an upper limit. It is just one scenario based on a set of reasonable assumptions. Scientists in the Departments of Energy and Agriculture will explore more advanced scenarios that could further increase the amount of biomass available for bioenergy and biobased products.

Ms. CANTWELL. The reason I am asking to do that is because this report, which was done by the Oak Ridge National Laboratory, the Tennessee research facility that is part of our national lab system, has said we currently have enough forestland and agriculture land in our country to produce biofuels to meet more than one-third of our current transportation demand. We are already doing research at these labs. They are already calculating the numbers. They are already saying we have enough forestland and timberland in our country to produce one-third of our current demand for transportation fuels. So I think this report is very telling that we can and are on our way. It is a matter of us setting the goal.

I know my colleagues talked earlier a lot about CAFE standards. One of the charts that was presented was supposedly information from the Energy Information Administration about CAFE standards. The Energy Information Administration does not have any idea where those numbers came from, and they understand this amendment does not say anything about CAFE standards. It says basically we ought to set a national goal.

It is important to set the national goal to get off our overdependence of foreign oil because this is who owns the foreign oil. These are the state-owned facilities. These are the countries: Saudi Arabia, Iran, Iraq, Kuwait, Venezuela, Libya. These are the places that have the majority of the world's oil reserves. So our policies for the future are going to be subject to factors involving these countries, so long as we are so dependent on foreign oil.

Now, it is in our economic and security interests to diversify. I think the underlying bill gives us lots of tools to do that, but it does not set a goal to reduce the amount we are dependent on foreign oil.

My amendment would say, let's reduce the amount so that in future years we actually have a reduction—not the 58 percent we are importing today, and not the 68 percent of foreign fuel we are going to import in 25 years, but actually reduce that down to 56 percent so that the trend line is going in the other direction. Let's become less dependent on foreign oil than we are today. That is the goal of my amendment.

I appreciate that my colleagues from Colorado and Illinois are also here to speak on that, so I yield to the Senator from Colorado.

The PRESIDING OFFICER. The Senator from Colorado.

Mr. SALAZAR. Mr. President, at the outset of my statement on this energy legislation, I want to provide my laudatory comments to the chairman of the committee, Senator DOMENICI, and the ranking member, JEFF BINGAMAN, for their great work in pulling together what is a great piece of legislation. I also want to say thank you to Alex Flint, Lisa Epifani, Sam Fowler, and Bob Simon for their good work as staff members on the committee.

I believe the Energy legislation is a very good first step, and I think the bipartisan nature in which that committee considered the legislation is a good template for other work this Senate Chamber engages in. I believe the keystones of energy conservation, renewable energy, new technologies, and balanced development are all very important parts of this legislation. It is my hope this Senate and the House of Representatives are able to deliver energy legislation to the President for his signature in the near future.

I will speak more broadly about the Energy bill and its importance to America because I do think it is one of the two most important things we are working on on behalf of our Nation today.

I believe the energy challenge we face in America and the health care challenge that is bankrupting America's families and businesses are the two most important things we could be working on as a Senate. But today, and for at least the week, perhaps several weeks ahead, Senators DOMENICI and BINGAMAN will lead us through the discussion on what we are going to do with respect to the energy imperative.

I rise this evening to specifically address the amendment that has been offered by the Senator from Washington to establish a goal to reduce by 40 percent the amount of oil the United States is projected to import in 2025. This amendment requests an annual report be completed that provides information about the progress the United States has made in achieving the goal.

When this goal is met, the United States would be positioned to reduce imports by 1.5 million barrels per day compared to 2005 import numbers. Those savings would be equivalent to the amount of oil the United States is currently importing from Saudi Arabia. Section 151 of the Senate Energy bill as written contains an oil savings provision. That provision would direct the President to implement measures sufficient to reduce by 2015 the country's projected demand for oil by 1 million barrels a day.

Assuming that all those savings came from import reductions, the United States would still be importing 14.4 million barrels a day. That is over a million barrels a day more than we import today. It strikes me as odd to be importing more oil and calling it oil savings. It sounds a bit like Washington doublespeak.

We need to work toward real energy independence, not away from it. We need to import less oil, not more. We have to stop putting so much money in the hands of regimes hostile to the United States in the most unstable regions of the world. We have to do everything we can to set America free from our overdependence on foreign oil.

I rise in support of this amendment because it truly represents oil savings. The amendment would reduce our oil imports by 1.5 million barrels per day less than we are importing right now. This is progress. This is the right kind

of vision for America's future, a vision of energy independence, a vision of an America free of foreign oil. These oil savings can be easily achieved if we have the vision and the courage to do it. More use of renewable fuels, more efficient vehicles, and the intent to actually do something are substantial keys to setting America free through this energy legislation.

I urge my colleagues in the Senate to adopt the Cantwell amendment to the energy legislation.

I yield the floor.

The PRESIDING OFFICER. The Senator from Illinois.

Mr. DURBIN. Mr. President, I rise in support of the Cantwell amendment and ask unanimous consent to be added as a cosponsor.

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

Mr. DURBIN. Mr. President, I thank Senator CANTWELL for her leadership on this amendment. It is going to precipitate a debate which shows the difference in outlook between the two political parties. The goal that Senator CANTWELL has spelled out is to reduce America's dependence on foreign oil. She believes that we are capable as a nation, through our innovation, through hard work and bipartisanship, to come up with ways to conserve energy, to find alternative fuels, to find environmentally responsible places to seek new oil sources in the United States; that it is possible for us to lessen dramatically our dependence on foreign oil, 40 percent in the next 20 years. That is her vision.

Does it mean changing the way we live? Slightly. Of course, it does. But it is not too great a sacrifice. Senator CANTWELL's vision looks to an America that is no longer going hat-in-hand to OPEC saying: Please give us your oil. We cannot survive without it. Understanding that at any given moment they can cut off oil supplies and we could watch prices skyrocket as they recently have. That is her vision. It is one I share. It is a vision that challenges America to look forward in a positive way, look forward to change which lessens our dependence on oil-producing countries around the world.

In 1973, we imported 28 percent of the oil we used. Today, we are up to 58 percent. If we don't change our ways in the next 20 years, we will be up to 68 percent. When we are so dependent on foreign oil, we give up our freedom. We allow other governments that provide the oil to tax our economy, tax our businesses, tax our lives. We give up our freedom to those who turn on and off this energy spigot and make a difference.

When I was a little boy, years and years ago, growing up in East St. Louis, IL, I had a great aunt. She was a wonderful lady who, when I knew her, was very old. She used to tell us stories about growing up in her lifetime. It was Aunt Mame. I always thought it was curious, as a little boy, that she never referred to the vehicles in the driveway as cars or automobiles. She always called them machines. I thought, who in the world would call that a machine? She explained to me that in her lifetime, these machines had appeared out of nowhere, taking the place of horses and buggies. Getting into a car, which she called a machine, was a big deal for Aunt Mame. I used to laugh, after I left her, with my cousins and say: Can you believe she calls those machines? It reflected her mindset. To her, the concept of a car would always be something new and foreign.

I listened today while Republican Senators, such as the Senator from Missouri, came to the floor and said they cannot visualize or imagine a different kind of car in the future that would be more fuel efficient. They just can't see it. In fact, the Senator from Missouri, when asked what that car would look like, said it would look like a golf cart. That doesn't demonstrate the same kind of vision of our future.

We hear from the other side that the idea of reducing our dependence on foreign oil is a bad idea. They are wedded to the concept that we will continue to be dependent on foreign oil. The idea of challenging America to come up with more fuel-efficient cars and with other ways to save oil is something they don't believe in. They just don't have confidence that American creativity and ingenuity can rise to that challenge. It is a negative and dismal outlook, and they also believe that American drivers and consumers are so selfish they would never consider giving up their Hummers, or their huge cars, if it meant less dependence on foreign oil.

I see the world a lot differently. This Nation comes together time and again, sending our best and brightest and bravest over to fight in wars, rallying around the war on terrorism after 9/11. We do rise to the challenge. That is what we are all about. The Cantwell amendment lays down that challenge.

In the underlying bill, almost 800 pages long, section 151 states:

> The President shall develop and implement measures to conserve petroleum and end uses throughout the economy of the United States sufficient to reduce total demand for petroleum in the United States by 1 million barrels per day in the amount projected for calendar 2015.

This is not a new provision. It is a good one, but it is not a new one. It was offered by Senator LANDRIEU of Louisiana the last time we had an energy bill. It passed 99 to 1. Only one Senator thought this was a bad idea. Ninety-nine Senators believed reducing our dependence on foreign oil was a good idea. This amendment was an important first step.

But if the United States reached the savings included in this provision of the bill, we would still be importing 14.4 million barrels per day to sustain the economy. That is over 1 million barrels a day more than we import today, allowing America's foreign oil dependence to continue to grow. We can do better. We can slow our growth in demands on foreign oil. We can reduce America's use of foreign oil.

First, we have to agree on a national goal. That is what the Cantwell amendment is all about, a goal that recognizes our national security, our economic prosperity, our environmental integrity, and makes sure that Americans have good jobs. Those are our high priorities. We must agree that sending billions of dollars annually to foreign governments to feed our thirst for energy instead of reinvesting that money in the United States shortchanges our own economy and our future. We must agree that sending our daughters and sons, sisters and brothers, fathers, uncles, mothers, and aunts into regions of the world, whether to establish a national presence or to advance freedom or for the sake of securing our future energy supply can be shortsighted and wrong.

To be drawn into a war to protect a foreign source of oil is to say it is too much to ask someone to change the car they drive, but not too much to ask them to send their son into combat. I, frankly, think that is an easy choice. I believe it is wrong for us to see the world in those terms, that we accept this dependence on foreign oil. That is why I strongly support this amendment.

This amendment seeks to establish a goal to reduce our projected foreign imports by 40 percent over the next 20 years, and 7.6 million barrels a day would be saved. Do you know where that gets us? If we meet that goal in 2025 and reduce foreign imports, we will just begin to reduce our foreign imports overall. Today, the United States imports over 13 million barrels per day of foreign petroleum. That is the 4-month average for this year.

In 2025, after reaching this goal, we will import 11.8 million barrels per day, a decrease of only 1.5 million barrels per day of our current imports.

Energy independence is about reducing imports of foreign oil, not slowing the growth of our dependence or toeing the line. As long as oil remains the sole major fuel source for the American economy, dependence on foreign imports will remain a geologic and economic fact of life.

Last year, I participated in a discussion entitled ''New Energy for America, Jobs, Security and Prosperity for the 21st Century.'' The discussion focused on the need to move America in a direction toward more jobs, security, and prosperity. The speakers included labor leaders, business leaders, lawmakers—all with a different message, but basically saying the same thing: We need to move America in a new direction.

I have been encouraged by new coalitions, such as Set America Free, the Energy Futures Coalition, and the Apollo Alliance, which incorporate unique bedfellows into the same common goals. In a bipartisan nature, these groups have shared resources and

ideas because they share the same values: Put America first. Make America secure and less dependent upon foreign oil.

I appreciate the bipartisan fashion in which Senator DOMENICI and Senator BINGAMAN and the members of the committee crafted this bill, and I hope this amendment becomes a bipartisan amendment.

I want to note there are a couple provisions in the bill that take small steps in the right direction, such as the renewable fuels title and the provision to increase the efficiency of heavy-duty trucks by reducing the use of diesel power during idling. These are all good things. But we can do more.

I will offer an amendment on CAFE standards at a later point. That is not what the Cantwell amendment is about. I have heard the argument that the amendment is a backdoor way to increase CAFE, that that is where the Cantwell amendment is headed. But it is not. It is about setting a goal, without a prescribed recipe, understanding that we all may believe there are different means by which America can best meet this goal. We all understand it must be our goal.

How can we be stronger as a Nation while being dependent upon foreign oil? How can we talk about growing our economy if we have to beg the OPEC cartel for the oil we need? It is a fact of life. If you look at the oil resources that are available around the world, it is pretty obvious. Look at this chart. North America. When you look at 2002, we have about 4 percent of the global reserves when it comes to oil. By 2020, it is going to be 1 percent. The lion's share of the global resources is not in America, it is in the Middle East and North Africa. So even if we use all of the current available resources and can bring them forward in an environmentally sensible way, we could not get close to our energy demands. We are always going to be dependent on some other source from some other part of the world. That is why I think we have to move toward those developments in the use of energy which reduce our dependence.

Also, let me say this about China. You cannot talk about the world economy and ignore China. You don't see China on this list of producers. It happens to have a growing economy that also is dependent on foreign oil. But China gets it and the United States does not. Let's take one example. Fuel efficiency in cars. Today, China has higher fuel efficiency in cars and trucks than the United States. They get it. They understand it. If they are dependent on foreign oil, they are going to put vehicles on the road that are more fuel efficient. The United States does not. Why? It is worth a moment's discussion.

I listened to the Senator from Missouri speak earlier about the automobile industry opposing fuel efficiency, opposing this idea of lessening our dependence on foreign oil. There was a time in my lifetime when American automobile manufacturers led the world—not only in inventing the earliest vehicles, but in developing them, setting the standard for the world. Sadly, that is not the case today. Just a week or so ago, General Motors announced 25,000 employees were being laid off. Last quarter, General Motors lost a billion dollars. When you look at the legacy cost to General Motors, there is a serious concern about whether this former automobile giant can survive. When you also consider the fact that Toyota announced last week that it would raise the prices of cars in the United States so as to allow General Motors to raise its prices and stay in business—think of it, the Japanese automobile manufacturer is going to come to the rescue of General Motors for fear they would go out of business. You wonder why.

How can a country that is so good, with an industry that once led the world, be in such bad shape? I think the answer is fairly clear. Detroit and the automobile manufacturers of our country focus on making more cars this year of the same kind they made last year. They lack the vision to look to the future of what we could do, in terms of making a new generation of automobiles and trucks to serve America's economic and family needs, without sacrificing safety. They think it is an impossible dream. While they sit and puzzle over the future, lamenting the possibility of change, sadly, other automobile manufacturers are doing much more.

My wife and I decided to buy a new car a few months ago. I wanted to buy an American car. We decided we didn't need a big SUV. We joke in our house that if you want to drive a Hummer, you ought to join the Army. We decided to get a modest size car to fit our family needs. We wanted it to be fuel efficient. Do you know what? The choices are pretty limited. There are not many American-made cars that fit the standard. We heard about the Ford Escape hybrid and bought one. It is good, but it is not great. I am glad we are doing a little bit to try to reduce our dependence on gasoline in our family and on oil imports as a Nation. That hybrid was introduced in the market 2 years after the Japanese came out with their car.

At a time when there is overwhelming demand for Japanese hybrid automobiles, Detroit still doesn't get it. They are not building that same type of vehicle to compete. I don't understand it. They seem to always miss the new trend and try to convince us to stick with the old model cars that used to be sold.

One of the aspects about this whole debate is security. In a paper that former CIA Director James Woolsey gave to me at a press conference a day or two ago, he identified six technologies that, with vigorous Government support, could dramatically change the nature of our fuel use in America over the next 20 years. I will not go through the list, but they are things that are already available. So when some Senators come to the floor and say we cannot imagine how we lessen dependence on foreign oil without dramatically tripling the fuel efficiency of cars, they haven't taken the time to do the research. If they did, they would understand there are plenty of technologies available today to reach those goals. ''I am not sure every one of these is going to be implemented,'' Mr. Woolsey advised, but at least it gives a starting point to make the changes.

The right mix and standards and incentives are out there. I believe we can find the right set of financial incentives and standards that meet our goal. There are a lot of cynics. They probably had a lot around when Henry Ford said you don't need a horse to get around. But the fact is we know we can rise to this challenge as a nation.

I fully appreciate that in 10 years we may make technological advances we cannot fathom today. I didn't think I would be driving a hybrid vehicle a few years ago or carrying around 2,300 songs on an IPOD in my pocket. You cannot think small in America. You have to think big. Sadly, the naysayers and negative voices on the other side of the aisle cannot envision America growing with this technology and becoming more fuel efficient. I think there are creative and visionary people on both sides of the aisle. I hope they will support this amendment.

We can test the innovation of America, and I know we can rise to that challenge. We burn 10,000 gallons of oil per second today in the United States—10,000 gallons per second. We use four times more oil than any other Nation, even though we know that the United States contains just 3 percent of the world's proven oil reserves.

Two-thirds of the world reserves are located in the Persian Gulf region. In fact, the Saudi state-run oil company alone has 30 times the reserves of ExxonMobil, the largest American company. Today, nine out of ten reserve-richest companies in the world are owned by foreign governments.

Do you understand how that makes the United States subservient to these governments when it comes to our economic future? They own the oil we need to exist, and unless we start weaning ourselves from this dependence on foreign oil, it will just get worse.

A study published by the Rocky Mountain Institute found that in 2000, oil imports cost $109 billion and comprised 24 percent of that year's goods and services trade deficit. In 2003, that figure rose to $10 billion a month, $120 billion. What could we do with $10 billion fed into the U.S. economy instead of into these oil-rich nations around the world?

On the Web site for the Set America Free Coalition, there is a link called, ''The True Cost of Oil.'' This is often a

sensitive subject. Whenever externalities are calculated into the overall cost, there is often wiggle room for debate. However, on this Web site, Set America Free has a link to the National Defense Council Foundation's summary of the hidden cost of imported oil.

The report finds that the economic impact of U.S. dependence on imported oil includes almost $49 billion in annual defense outlays to maintain the capability to defend the flow of Persian Gulf oil, the equivalent of $1.17 to the price of every gallon of gasoline; the loss of 828,000 jobs in the U.S. economy because we are depending on foreign oil; and the loss of $159 billion in GNP, not to mention $13.4 billion in Federal and State revenues. Total economic penalties from our importation of oil, $297 billion to $304 billion every year. And the voices on the other side objecting to this Cantwell amendment are content to let those figures grow. I think that is just plain wrong.

One final striking figure is the cost of periodic oil shocks the U.S. economy has experienced over the last three decades. They estimate they have cost us $2.2 trillion to $2.5 trillion.

Today, vulnerabilities in oil infrastructure could easily send oil prices skyrocketing.

We all know about terrorism and terrorism in the Middle East. Unstable governments in Iraq and Saudi Arabia can certainly threaten the U.S. supply, not to mention Iran.

Finally, I would like to note that the money we spend annually in the Middle East to feed our oil thirst goes directly to the production of hate literature throughout the region. So today, while American men and women are fighting in Iraq, the U.S. consumers continue to send billions of dollars overseas funneled off to support operations that completely undermine our service men and women overseas.

Can we not see the connection here, that in this same Middle East, where we are sacrificing and have lost 1,700 American lives in combat, our enemies are being fed by our dependence on foreign oil?

We have seen the dramatic surge in Chinese economic growth at a rate of 7 percent a year. This week's U.S. News & World Report cover story is, ''The China Challenge: What the Awakening Giant will Mean for America.'' China is the world's most populated country, with 1.2 billion. In 2003, China overtook Japan as the second largest oil-consuming nation in the world, and projections are that the Chinese demand for oil will double by 2025.

Mr. President, I see that the majority leader is on the floor. He has asked to be recognized. I yield the floor to the majority leader for whatever purpose and then reclaim my time after he is finished.

The PRESIDING OFFICER. The majority leader.

Mr. FRIST. Mr. President, I apologize for the interruption. A number of people have called asking for the schedule for tonight in terms of voting. We will be voting on the Cantwell amendment sometime tomorrow morning, and we will not have rollcall votes tonight.

I have one unanimous consent request.

EXECUTIVE SESSION

EXECUTIVE CALENDAR

Mr. FRIST. Mr. President, I ask unanimous consent that the Senate immediately proceed to executive session to consider the following nominations on today's Executive Calendar: No. 58, David Garman to be Under Secretary of Energy, and Nos. 137, 138, and 139. I further ask unanimous consent that the nominations be confirmed and the motions to reconsider be laid upon the table.

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

The nominations considered and confirmed are as follows:

DEPARTMENT OF ENERGY

David Garman, of Virginia, to be Under Secretary of Energy.

UNITED STATES POSTAL SERVICE

Carolyn L. Gallagher, of Texas, to be a Governor of the United States Postal Service for the remainder of the term expiring December 8, 2009.

Louis J. Giuliano, of New York, to be a Governor of the United States Postal Service for a term expiring December 8, 2005.

Louis J. Giuliano, of New York, to be a Governor of the United States Postal Service for a term expiring December 8, 2014 (Reappointment).

NOMINATION OF BEN S. BERNANKE TO BE A MEMBER OF THE COUNCIL OF ECONOMIC ADVISERS

Mr. FRIST. Mr. President, I ask unanimous consent that the Senate proceed to consideration of Calendar No. 151.

The PRESIDING OFFICER. Without objection, the clerk will report.

The legislative clerk read the nomination of Ben S. Bernanke, of New Jersey, to be a member of the Council of Economic Advisers.

Mr. BUNNING. Mr. President, I rise today to state my opposition to the nomination Dr. Ben S. Bernanke to be a member of the President's Council of Economic Advisors.

Mr. Bernanke is a member of the Board of Governors of the Federal Reserve, and he has previously come before the Senate Banking Committee. I voted for his nomination in committee and on the Senate floor to become member of the Board of Governors. I supported him based on our conversation in a private meeting we had in my office. As Members of the Senate and those who follow the Senate know, I have had some concerns about the Federal Reserve.

One of my biggest concerns is that the Federal Open Market Committee—FOMC—suffers from group think which seems to have no cure—because it seems to me that no one ever challenges Chairman Alan Greenspan.

I think for the FOMC to function properly, members must be true to their convictions and challenge the chairman. No chairman should be able to dominate without dissent. There must be intellectual sparring so all of the committee members are heard and the FOMC can come up with the best decision for our country. The FOMC needs independent voices.

Governor Bernanke promised me he would be an independent voice. He promised me he would stand up to the chairman if the thought he was wrong or was being rolled. He promised that he would be that independent voice on the FOMC that would challenge the chairman if he thought he was wrong.

Sadly, I have not seen very much evidence of his independence—or anyone else's independence for that matter. I have not seen him ever vote against the chairman. I have not seen him use his bully pulpit to challenge the chairman. As far as I can tell, they have not had a major disagreement. I find it hard to believe that he and Chairman Greenspan think exactly the same about all of these diverse and important opinions within the FOMC.

I As important as I think it is for a member of the FOMC to be independent, it is more important for the head of the President's Council of Economic Advisors—CEA—to be independent. The chairman of the CEA must stand up to the President when he believes the President is wrong. He must challenge him. And based on his performance at the FOMC, I am not convinced that Mr. Bernanke will do that.

Because he has not convinced this Senator that he will be an independent voice, I regretfully cannot support his nomination.

Mr. FRIST. Mr. President, I know of no further debate on this nomination, and we are ready for the Chair to put the question. However, I note for the RECORD that Senator BUNNING is opposed to this nomination and would have voted in the negative. We appreciate him allowing us to go forward and duly note his opposition.

The PRESIDING OFFICER. The question is, Will the Senate advise and consent to the nomination of Ben S. Bernanke, of New Jersey, to be a member of the Council of Economic Advisers?

The nomination was confirmed.

Mr. FRIST. I move to reconsider the vote, and I move to lay that motion on the table.

The motion to lay on the table was agreed to.

Mr. FRIST. Mr. President, I ask unanimous consent that the President be immediately notified of the Senate's actions and that the Senate then return to legislative session.