Roscoe Bartlett
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The SPEAKER pro tempore. Under the Speaker's announced policy of January 18, 2007, the gentleman from Maryland (Mr. *Bartlett*) is recognized for 60 minutes as the designee of the minority leader.

Mr. BARTLETT of Maryland. Mr. Speaker, I came early to our office yesterday morning, and I opened the door and took the newspapers inside and put them out on the reading table. And as I took them out, seven of them, four newspapers and three of the kind of inside-the-beltway papers, I noted the lead story above the fold. In the Sun there were two stories: ``Demand Eats Supply, swiftly rising food prices are undoing progress in fighting hunger globally"; and another above the fold headline: ``Energy Bill Aid Payouts on Rise." Then I picked up the Washington Times and noticed an above the

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fold headline, ``Bush Lays Gas Blame on Congress." And then I picked up the Washington Post, a major headline above the fold: ``Syphoning Off Corn to Fuel Our Cars." And then the Wall Street Journal, the biggest headline above the fold, with a graphic and picture above it: ``Grain Companies' Profit Soar As Global Food Crisis Mounts."

And then I took the three inside-the-beltway newspapers to put them on the reading table, and I looked at the headlines there, on the front page: ``Gas Prices Fuel Effort to Jam GOP." ``Alexander Eyes Energy Agenda." The first of those was Politico; the second was Roll Call. And the third, The Hill: ``Politics at the Pump."

So, Mr. Speaker, the seven papers that our office gets, every one of them yesterday had as their leading story above the fold something about energy prices and food prices, which, of course, are related.

Also appearing today, and I wanted to make sure that we didn't miss this New York Times column by Thomas Friedman, a very well-known author and commentator, which describes America's energy problems as the predictable consequences of an energy strategy that would be exacerbated by the most popular proposed changes to “maximize demand, minimize supply, and buy the rest from the people who hate us most.” In a little

bit, I will read some other excerpts from this very interesting op ed piece by Thomas Friedman.

I have here a little book which came across my desk, signed by one of the authors to Representative *Roscoe Bartlett*: ``You are a political voice in the dark. Please continue trying to shed light on this critical issue." And the critical issue he's talking about is explained in the title of his book, ``A Very Unpleasant Truth ..... Peak Oil Production and Its Global Consequences." And I turned to the little page that talked about who the authors are, about the authors: W.D. Lyle, Jr. holds a Ph.D. in engineering from Purdue University. L. Scott Allen holds a Ph.D. in physics from SMU. Both are retired scientists from the Exploration and Producing Technical Center of a large international oil company. They have been awarded over 40 patents and coauthored or authored more than 50 technical papers with contributions appearing in a variety of journals such as Science, Geophysics, Nuclear Science and Engineering, and the Journal of Petroleum Technology. Both authors, it says, live in the Dallas area. So those are obviously well-respected authorities in their fields.

And I turned to chapter 6: ``What About Alternative Energy Sources and What Should We Do Now?" And it begins by saying, ``What must we do now to prepare for and respond to the inevitable and impending energy crisis?"

And, Mr. Speaker, the seven papers that I just referred to and the headlines on all of them about energy and food would indicate that maybe, just maybe, we're on the cusp of this crisis.

And then he says, ``The first and most important thing that needs to be done is to educate and convince the public that a problem even exists."

Long before I got this book, more than 3 years before I got this book, I thought also that that was the most important thing that needed to be done. And so, Mr. Speaker, I think this is the 43rd time I have come to the floor to spend an hour talking about the challenge. Really it was to explain to the American people the challenge that we face, to educate and convince the public that a problem even exists. Well, I think these seven headlines indicate that at least the editors of those papers thought that a problem existed because they were all talking about the high price of energy and its consequences on food prices.

But education is not the only thing that I have been doing. I have been personally involved in at least four activities, which I think will help to advance America on the path that we need to be treading. I'm sponsoring, in conjunction with the SMART Organization, a Smart Green Showcase on July 18 of this year in Frederick, Maryland, that will offer smart energy solutions for homeowners and small business owners. There is a lot of information out there. There's a lot of new technology that just isn't widely known. Practical ways you can use less energy, save money, and help our country transition to domestic, cleaner, and renewable energy sources. The conference will provide educational and networking opportunities for homeowners and representatives of large and small businesses, academic and nonprofit organizations.

This Smart Green Showcase has its own Web site, and I would encourage you to go to that Web site, *www.smartgreenconference.com*, for a fuller explanation of what will be shown at this Smart Green Showcase.

In the next few days, I will submit a bill that is a companion bill to a Senate bill, S. 2821, that was introduced in the Senate on the 3rd day of last month by Senator *Maria Cantwell* and Senator *John Ensign*, and almost half of the Senators have already signed onto this bill.

[Time: 17:00]

I have a brief summary of the bill, and because what it does is so important to where I think we need to be going, I am going to take just a moment to read this brief summary. This Clean Energy Tax Stimulus Act of 2008 amends the Internal Revenue Code to extend certain tax incentives for energy production and conservation. It extends through 2009 the tax credit for production of electricity from renewable sources. For example, biomass, geothermal energy, landfill gas, and trash combustion.

It includes marine and hydrokinetic renewable energy as a resource eligible for such credit. It allows sales of electricity produced from renewable resources to regulated public utilities. This one is really very important to encourage everybody, even every homeowner, to produce electricity. If they are not using it, sell it back to the power company.

It extends the Energy Investment Tax Credit for solar energy through 2016 for fuel cell and microturbine property through 2017. It repeals the dollar per kilowatt limitation for fuel cell property under the Energy Investment Tax Credit. It allows public electric utilities to qualify for such credit.

It extends through 2009 the tax credit for residential energy-efficient property expenditures. It repeals the 2000 limitation on the tax credit for solar electric property. It allows an offset against the alternative minimum tax of tax credit amounts. It extends through 2009 the tax credit for investment in clean, renewable energy bonds, increases the national limitation amount for such bonds.

It extends through 2009 deferral provisions relating to the recognition of gain by certain electric utilities, and extends to 2009 the tax credit for nonbusiness energy property. It includes residential biomass fuel stoves, that is pellet stoves, as eligible energy property for purposes of such credit.

It extends through 2010 the tax credit for energy-efficient new homes. It extends through 2009 the tax deduction for energy-efficient commercial buildings, and increases the allowable amount of such deductions. Finally, it extends the tax credit for energy-efficient appliances, to include appliances produced in 2008, 2009, and 2010, and it

revises and updates energy efficiency standards for such appliances in accordance with the Energy Independence and Security Act of 2007.

As shown on the first chart here, I also have a Self-Powered Farm Energy Bill, H.R. 80. This is really a very significant approach to addressing our energy problems because we are going to have to turn more and more to our farmers for energy and products that are produced by energy, that in the future will have to be produced with less energy. This bill would support Federal research, development, demonstration, and commercial application activities to enable the development of self-powered farms that are net producers of both food and energy. They should be capable of independence from offsite sources of energy. A farm standing all alone.

Mr. Speaker, if our farms can't be energy independent, we really, really have a huge challenge for the future. I think this is very doable, and this bill will offer awards, rewards to those who do that. Offsite sources of energy, fuel and raw materials for fuel. A community resource for food and energy or raw materials for fuel would minimize or eliminate ongoing operating expenditures to offsite entities for fossil fuel-derived energy, employ sustainable farming practices for long-term soil fertility. We mustn't forget that what

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we do to make our farms energy independent and to get energy from our farms, that we must be really concerned about sustainability. It would be easy for a few years to mine the soil, that is take out of the soil more than you're putting back. But if it is not sustainable, it will not be useful for the long term.

Employ sustainable farming practices for long-term soil fertility and produces at least two times as much energy, including fuel or raw materials, or fuel, as it consumes both onsite and in the transfer of farm products to market.

The next chart shows an additional bill, H.R. 670, that I have introduced, American Energy for America's Future, the bipartisan DRIVE Act, Dependence Reduction through Innovation in Vehicles and Energy Act. What this does is to encourage transition from depending so much on liquid fuels from oil for transportation and move to electricity for transportation.

And the reason for this, Mr. Speaker, is pretty obvious, if you stop to think about it. We use two kinds of energy largely in our lives today; electricity for many, many things, but not much for transportation. Most of our transportation comes from fossil fuels, from oil, and some gas. You see city buses advertising that they are running on clean natural gas.

We have lots of opportunities to produce more electricity. We can do more solar. France produces 75, 80 percent of their electricity from nuclear. We have enormous opportunities to grow wind and solar. They are now growing at something like 30 percent a year. That is incredible growth rate. But they started very small. So even with that big growth rate, they are still producing a very minimal amount of energy to the grand mix of energy.

We can get a lot more energy in those parts of our country where you're close enough to the molten core of the Earth to get true geothermal energy. You go to Iceland, I have been there, and I did not see a single chimney in Iceland. They may have one. I didn't see it. They get essentially all of their energy there from geothermal energy. That is tapping the molten core of the Earth, which will heat water, and you can do lots and lots of things with it, and hot water.

Then, of course we have lots of opportunities for microhydro, without the kind of impact on the environment that our macro hydro has had with these huge dams and we try to compensate with fish ladders and so forth, compensate for the damage we have done to the environment with fish ladders and so forth so the fish who are spawning can get around to them. So we have lots of

opportunities for producing electricity.

Our options for producing more liquid fuels are far more limited. So this is a very important bill. We are going to be talking for the rest of our few moments together today about these opportunities for producing more liquid fuels. You will see that they really are limited. We really do have a challenge there.

So to the extent that we can move transportation dependency from oil to electricity, we will have done a great deal to minimize our dependence on oil and free ourselves from dependence on oil, as the President appropriately said in his State of the Union Message, from people who don't even like us.

I wanted to just spend a couple of moments reading some additional comments from Thomas Friedman's article. I don't read this because I necessarily agree with everything he says, but I read it because I think that it's very important, as this little book said, that the American people understand the seriousness of the challenge that faces us.

So let me read a few more excerpts from his article that appeared today in the New York Times. The title of his little op-ed piece is called: Dumb as We Wanna Be. ``Here's what's scary: Our problem is so much worse than you think. We have no energy strategy. If you are going to use tax policy to shape energy strategy, then you want to raise taxes on the things that you want to discourage, gasoline consumption and gas-guzzling cars, and you want to lower taxes on the things you want to encourage, new renewable energy technologies. We are doing, he says, ``just the opposite."

``The McCain-Clinton gas holiday proposal is a perfect example of what energy expert Peter Schwartz of Global Business Network describes as the true American energy policy today." Then I quote again, ``Maximize demand, minimize supply, and buy the rest from the people who hate us the most."

Then additional excerpts from the article go on to say, ``This is not an energy policy. This is money laundering. We borrow money from China and ship it to Saudi Arabia and take a little cut for ourselves as it goes through our gas tanks. No, no, no. We'll just get

the money by taxing Big Oil. Even if you could do that," he says, ``what a terrible way to spend precious tax dollars.

``For almost a year now, Congress has been bickering over whether and how to renew the investment tax credit to stimulate investment in solar energy and the production of tax credit to encourage investment in wind energy. The Democrats wanted the wind and solar credits to be paid for by taking away tax credits from the oil industry. President Bush said he would veto that. Neither side would back down. Stalemate."

You know, as I said, I read this not because I necessarily agree with everything he says, but I read it because it is a very important voice that is saying what I have been trying to say for more than 3 years now, Hey, we face a problem. We have really got to do something about that problem.

The next chart, this is a little cartoon which I think tells the story that many people don't believe. Just why is gas so expensive, over $3.50 a gallon now? Just why is gas so expensive? The cartoon says it with just two words, a tiny little supply and a huge big demand.

Now there are many people who believe that gas is very expensive at the pump because the major oil companies are gouging us. Many people think that gas is high at the pump because the oil from which we refine it is very expensive because the Arab world is holding back and not producing as much oil as they could produce, or somehow gouging us.

The reality is that neither one of these commonly believed reasons for our high gas prices are probably true. There may be a little gouging here and there by stations and so forth. The price of oil is not determined by our big oil companies, ExxonMobil and Shell and Royal Dutch. The price of oil is determined, as this cartoon indicates, by how much there is and how much we would like to use.

The Arabs don't determine the price of oil. They can affect the price of oil. If they could produce more oil, they could drive down the price of oil by increasing the supply so it would be more consistent with the demand, and that would reduce the price of oil. There is increasing evidence that they could not do this. That is they could not increase their supply.

Russia, a couple of weeks ago, announced that they had peaked in oil production. That they could no longer increase their production. Just last week, Saudi Arabia indicated that they had reached a maximum oil production. They have the granddaddy of all oil fields, the Ghawar, a huge field, producing 5 million barrels a day. They want to bring online a new field. I read a lot about the technicality of that field. It's very interesting, what they have done. This is the field that has a lot of potential oil in it. Khurais, I think. It's hard for me to pronounce words with k-h.

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They have hired Halliburton to drill a large number of wells, and what they plan to do, what they hope to do, is to flood that field where the oil will not flow. If you drill down in that field, you will not get any oil, although there is a great deal there, and they hope to make this oil flow by pumping water in at the periphery of the field under considerable pressure.

But this is a very delicate operation, because if they pump at too high a pressure and too large a volume and the water overflows the oil, it could seal off the little interstices through which the oil would flow and it might kill the field, so there would be no oil from the field. But hopefully they won't do this. They are very good at this technology. And if they are able to develop this field, they will get, they hope, 1.2 million barrels a day. This, they hope, will make up for the oil that

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they are not getting as the present fields they are pumping tail off. They have reached a maximum production of oil.

The next chart is a chart whose history begins in 1956 with a talk which I think will go down as the most famous speech given in the last century by M. King Hubbert to a group of oil engineers and business people at San Antonio, Texas, in 1956, 52 years ago, on the 8th day of March. This was 1956. Here we are, 1956 right here.

He told them that in 1970, this point here. This part of this chart was not available. All they had was this, rapidly increasing oil production. We were the largest producer of oil in the world, the largest consumer of oil in the world, and I think the largest exporter of oil in the world. He said in 14 years, in 1970, the United States will reach its maximum oil production. Shell Oil Company asked him, please don't give that talk. You will make us look silly and make you look silly. He gave the talk, and for a long while was an object of derision. Then, right on schedule, in 1970 we reached our maximum oil production.

Now, they didn't know that in 1970. You only know you have reached a maximum when you look back and see, gee, we were pumping more oil then than we are now. But this was clearly, clearly known by 1980, because you can see by 1980 here we are well down the other side of Hubbert's Peak.

There are a couple of things in this chart that he did not include in his analysis. He couldn't have known that we were going to get so much natural gas liquids, and he looked at only the lower 48. He didn't look at Alaska, and he didn't look at the Gulf of Mexico, where we have found huge amounts of oil.

I have been to Alaska, to Dead Horse, to Prudhoe Bay, and I have seen the very beginning of that 4-foot pipeline through which for a number of years now about one-fourth, about one-fourth of our total domestic production has been flowing.

Well, you can see that even when you add the oil which he did not include in his analysis, the oil that we got from the find in Alaska and from the Gulf of Mexico, that that was just a blip on the slide down the other side of Hubbert's Peak.

Now, we have done a number of things to try and reverse this, because we are not at all comfortable in this country having only 2 percent of the world's oil and using 25 percent of the world's oil. We have very good scientists and engineers, and we have used a lot of enhanced oil recovery. We have used discovery techniques, 3-D, seismic and computer modeling to go out and find more oil, and we have drilled more oil wells than all the rest of the world put together.

In spite of better discovery, of aggressive pumping of these fields with this enhanced oil recovery, in spite of drilling more oil wells than all the rest of the world put together, and in spite of finding oil in Alaska and the Gulf of Mexico, we today are producing about half as much oil as we produced in 1970.

I spent a few moments looking at this chart. I think it is very important to understand what M. King Hubbert predicted and what happened and the reality that no matter what we have done, we have not been able to reverse what he said would happen, and that was in 1970 we would reach our maximum oil production, and that after that, no matter what we did, oil production would fall off.

The next chart, if I can have the next chart, the next chart is a quote from one of four different reports that our government has paid for and not totally ignored, but largely ignored. They all say the same thing, by the way. This is from the first of those four reports done by SAIC, a very large, prestigious international engineering science organization. Dr. Robert Hirsch was the principal author of that, so it is frequently called the Hirsch Report. He says here on page 64, ``World oil peaking is going to happen."

Now, the same person that predicted that we would peak in 1970, in 1979 predicted that the world would be peaking about now. I have asked myself a question so many times and asked the question to others, if M. King Hubbert was so right about the United States and if he predicted that the world would be peaking about now, wouldn't it have been appropriate to have a plan B, a plan B which recognized that that might happen, and, gee, you better have some contingency plans preparing for it? When I say ``we," I mean the world. That is not what we have done.

There is no indication, as evidenced by the behavior of any company or any country, that any of these entities have been doing anything to address the huge challenge that we would have if in fact the world followed the course that the United States so predictably followed, that the world would peak about now. ``World oil peaking is going to happen," this report said. ``World production of conventional oil will reach a maximum and decline thereafter. That maximum is called the peak. Oil peaking presents a unique challenge," this report says. ``The world has never faced a problem like this. There is no precedent in history to guide us," is what this report says. There is no lesson from the past

that you can use to guide you as to what you need to be doing to get you through this challenge.

The next chart, this is a chart of data which is compiled by the two leading entities in the world that track the production and consumption of oil. Now, we store a little, very little, in our strategic reserves in this country and some other countries, but, by and large, all the oil we produce is consumed.

``Peak Oil: Are We There Yet?" These two agencies are the IEA, the International Energy Agency, a part of the UN, and the EIA, the Energy Information Administration, a part of our own Department of Energy.

The IEA, the international one, says that for the last 18 months or so we have reached a plateau in oil production. As a matter of fact, just at the end of the line they have drawn through there up and down, because it is not a constant thing, up today and down tomorrow and so forth, it is actually tipping over just slightly. The EIA, the green line, shows that from their data we have been constant and actually a little lower now, but relatively constant in oil production for the last 3 years.

Now, if in fact the world's production of oil has been flat in the last 3 years, and these are the two best recognized entities in the world for tracking this, if in fact it has been flat for the last 3 years and demand has continued to go up, what would naturally happen to oil prices?

Well, oil prices were, what, when they started, $50-some dollars a barrel. Now, they are off the chart now, about $110 today. It has dropped off a little from the $120 of last week. I think that dropoff, Mr. Speaker, is because $120 oil is just plain too costly for a lot of the world and they haven't been able to use it. They just make do with less. So we have some higher reserves than we thought, and the speculators now are speculating that the price of oil will come down for the moment because of these reserves. Of course, $110 oil, the price is off the chart here.

M. King Hubbert predicted in 1979 that the world would be peaking about now. All four of these studies, the first one I mentioned, the SAIC study, the second one, the Corps of Engineers study, the third one, the Government Accountability study, and the fourth one, one done by the National Petroleum Council, and all four of those say essentially the same thing: Peaking of oil is inevitable, absolutely inevitable; that it is either present or imminent, with potentially devastating consequences.

Now, I say again, if M. King Hubbert was right about the United States, and we spent quite some little while looking at that chart, and in spite of everything that we have done, better oil discovery, aggressive pumping of the oil, enhanced oil recovery, and although we drill more wells than the rest of the world put together, M. King Hubbert 's prediction is still true. Today we are producing about half the oil we produced in 1970. He predicted that the world would be peaking in oil production about now. These four studies all said that peaking of oil is inevitable. They didn't know when it would occur.

These data from the EIA and the IEA would lead you to believe, unless this is just a little plateau and it will take off again, and the next chart we will look at, if we can have the next chart now, the next chart will tell us how likely it is that this is just a little plateau and then it is going to take off again.

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If you had only one chart to look at, only one chart to use for informing yourself and talking about this subject, this would be the chart. This chart shows in the bars here going back as far as 1930 the discoveries of oil, and, boy, it was up and down. We found some big fields in some of these years, so we got some huge spikes. But notice the general trend of this. Since about 1970 it has been down, down, down, down, and that is in spite of evermore aggressive and better techniques for finding the oil.

Now, if this peak is just a plateau and is going to take off again, then you need to believe that one of two things is going to happen: Either we are going to find very quickly better ways of teasing out from the reserves we are now pumping more oil, or we are going to find more reserves of oil, more big reserves of oil.

[Time: 17:30]

The solid black line here indicates the oil that we have used. And the world was in a very happy position up until about 1980. Every year until 1980, we found more oil, sometimes a lot more oil, than we used that year. If you integrate under this curve, you will get the total volume of oil that we have used. So this area represents the volume of oil that we have used.

Now, ever since about 1980, of course, we have been finding less oil than we use, so now this area here has been filled in by reserves back here. They are still there. We know they are underground. We know we can pump them.

Now, how much more will we find in the future? Most of the experts believe that we have probably found, of conventional oil--we will talk in a few minutes about unconventional oil. Most experts believe that for conventional oil we have probably found 90 percent, 95 percent of all the oil we will find in the future. Those who made this chart suggest that future discoveries will follow a descending curve, ever less and less, as we go further and further into the future, because once you found some oil, then additional oil is more and more difficult to find. Now, this clearly won't be that smooth, it will be up and down, but they are suggesting it will follow a curve much like that.

Now, what will the future look like? What the future will look like will depend upon your perception of several things: How much more oil you think we will find; it will depend upon how aggressive you think we can be in pumping oil. But one thing is certain: You cannot pump oil you have not found.

Now, the way this chart is drawn, it doesn't go clear out until the end, of course; it goes out another 150 years. Every year, and this has been the experience in the United States, less and less oil, harder and harder to get. And now, with the world situation, not true in our country because nobody else made up the deficit for the oil we didn't pump; and so for a long while, even when our oil production was dropping off, oil was still $10 a barrel because other countries could produce it quickly and easily, and they did, so that made up for our shortfall. But that is not going to happen in the future because, as indicated by a prior chart, as indicated by all four of these studies, paid for by your government, delivered to your government, oil is going to peak.

And if the United States is a microcosm of the world, you would reasonably judge that, no matter how aggressive we become, and we have been really aggressive in our country, like drilling more oil wells than all the rest of the world put together, you still are not going to reverse that decline.

So what the future looks like, and you see the oil that you are using here above the amount of oil that you found is going to have to be filled in by reserves from here. You can use your eye and transfer these reserves there and see reasonably what that curve will look like.

The next chart presents a little schematic. Now, I will point out what is quite obvious: That this peak can be made very sharp if I compress the abscissa and expand that ordinate, that will become a very sharp curve. Here, I have spread it out so it is a very gradual curve. This is a 2 percent growth curve. That is about the rate at which the world has been increasing its use of oil. By the way, 2 percent growth doubles in 35 years; it is four times bigger in 70 years; it is eight times bigger in 105 years; it is 16 times bigger in 140 years.

This led Albert Einstein to answer a question asked by someone after we had discovered nuclear energy: What will be the next big energy force in the universe? And his response was: The most powerful force in the universe is the power of compound interest. And, of course, compound interest is compound growth.

This chart shows a 35-year growth period, the yellow. I think we are about here, and peaking is either present or imminent. And most people are looking at avoiding any problems in the future by filling the gap. If this is what you have available and this is what you would like to use, this yellow area represents the gap.

There are a lot of things out there that we can exploit to get some liquid fuels from. In their totality, most of the experts that are really seriously looking at this, in their totality, most people believe that it will be extremely difficult to produce as much liquid fuel as we now are using, let alone filling the gap. I will say that that will not bring us to any calamitous end. We have enormous opportunities for conservation and efficiency.

The other morning as I came into work, I noticed in one of the lanes in front of me a big SUV with one person in it. In the lane right next to them was a Prius with two people in

it. Now, the Prius, I have one, we get about 48 miles per gallon. That is at least three times that SUV. Isn't it? So the Prius gets three times the miles per gallon of the SUV; and there were two people in it; so that means that miles per gallon per person was six times better in the Prius with two people in it than it was in the SUV with one person in it. And the Prius is a very comfortable vehicle, and riding with someone else makes the trip to work more enjoyable. So, we have lots and lots of opportunities to increase our efficiency.

The next chart is an interesting one, because there are a lot of people who believe that somehow we are going to find a huge amount of more oil out there. In a few moments we are going to talk about some of these potentials. And there may be a lot out there. But what I am saying is that we really need to have a plan B, because there is nothing that we have done in our country which has avoided the inevitable slide down the other side of Hubbert's Peak that M. King Hubbert predicted in 1956.

This is a chart again from Robert Hirsch, and he gets this from EIA, Energy Information Administration, and they are predicting here in this chart that we will find as much more oil as all the reserves we now know to be able to be pumped.

Most experts believe that the ultimate amount of oil, the total amount that we will pump in the world from

the beginning to the end of the age of oil will be about 2 trillion barrels. Here it is 2.2. They are suggesting here that we will find another nearly 1 trillion, because this curve is based on what they call the main or expected value of 3 trillion barrels. Now, that means that they think we are going to find just about as much more oil as all the oil which we now have in reserves which can be pumped.

Now, even if that curve occurs--and this is because of that exponential growth. Even if this occurs, the peak is pushed out from here to 2016. The dotted line, by the way, and I don't know if it is even doable. The dotted line shows what would happen if you would have an aggressive, enhanced recovery and pump it more quickly. It pushes the peak out a little bit, and then you fall off a cliff after that.

This black curve, by the way, you will recognize from the big black curve on the oil chart, remember, with all the bars going up. This is the recession in the 1970s. If it weren't for that--the old saying, it is an ill wind that brings no good. And that ill wind of those Arab oil price spike hikes and the worldwide recession that followed that, that is this dip here, we actually were using less energy for a while, we really looked at our efficiency. And your air conditioner now is probably three times as efficient as it was then. Your freezer, the same thing. If we had not done that, look at this curve, look where it would be, off the chart.

There was a stunning statistic during the Carter years, and that was that

every decade we used as much oil as had been used in all of previous history. That is really different now. This slope you can see is very much less than this slope. So this was kind of a blessing in disguise, because it woke us up, and we now have a much lesser challenge than we would have had if we not had those oil price spikes and that little recession in the 1970s and this call to arms that resulted in a lot of equipment that is now a whole lot more efficient.

The next chart is a fairly recent statement by Shell Oil Company CEO van der Veer. By the year 2100, he says, the world's energy system will be radically different from today's. The world's current predicament limits our maneuvering room. We are experiencing a step change in the growth rate of energy demand. And Shell estimates that, after 2015, supplies of easy-to-access oil and gas will no longer keep up with demand. It may be a little sooner than that, as indicated by these curves from the IEA and the EIA. As a result, he says, society has no choice but to add other energy sources.

The next chart is one that kind of puts this in perspective. This looks at the industrial age.

By the way, there is a fascinating speech that was given. If M. King Hubbert's speech was the most important speech of the last century, I think the most insightful speech of the last century would be the speech given by the father of our nuclear submarine, Hyman Rickover, given 51 years ago the 14th day of this month to a group of physicians in St. Paul, Minnesota. If you do a Google search for ``Rickover'' and ``energy speech,'' it will pop up.

He noted then that we were about 100 years into the age of oil, which--and he uses just beautiful expressions, which he referred to as the golden age. And truly it has been a golden age. And he had no idea how long the age of oil will last; now we have a much better idea. But he made a very important statement. He said that, how long the age of oil lasted was important in only one regard: That the longer it lasted, the more time that we have to plan for an orderly transition to nonfossil fuels.

About 17 months ago, I was privileged to lead a codel of nine Members of Congress to China to talk about energy. Interestingly, they began their discussion of energy by talking about post-oil. Wow, I thought, these people think in terms of generations and centuries.

We are a great country, and a part of our affluence and our greatness is that we have a near-term focus, essential for our business, but I think it would be nice if we had a little longer term view, too. It is hard for our businesses to see beyond the next quarterly report; hard for elected officials to see beyond the next election. But they were talking about post-oil, and what they would be doing and what the world should be doing now and would be doing in a post-oil world.

Well, Hyman Rickover talked about 8,000 years of recorded history, and he said that the age of oil would be but a blip in the history of man. I only have here about 400 years of that 8,000 years; but if you went back to the rest of the 8,000 years, it would be flat

because we use very little energy. Here is the industrial revolution beginning with wood; and then we have coal; and, boy, did it take off when we found gas and oil.

This is the same curve that you have seen before, by the way. This is the dip in the 1970s in the lesser slope now. Here, we have compressed abscissa and expanded the ordinate, so now we have a very sharp curb compared to the very gradual one we have been looking in the past.

If I superimposed on this a graph of population growth, it would explode from roughly 1/2 billion here, following this up almost exactly to the nearly 7 billion people we have in the world today.

This reality, as the next chart shows us, introduces us to a very challenging geopolitical reality. We have 2 percent of the world's reserves; we use 25 percent of the world's oil; we import almost 2/3 of what we use. We pump four times faster than the rest of the world. We produce, from our 2 percent, 8 percent of the world's oil production. So, we are pumping and our more wells than all the rest of the world put together are working. We are pumping down our reserves faster. We represent a bit less than 5 percent of the world's population, one person in 22, and we use 1/4 of the world's energy.

The next chart speaks a little more to this geopolitical challenge that we face. If you look at the top ten owners of oil, that is the bar on the right here, it is mostly countries that own it: Saudi Aramco, National Iranian Oil, Iraqi National Oil, and so forth.

[Time: 17:45]

And Luke Oil which is kind of private in Russia has only 2 percent. These are the top ten.

If you now look at the top ten producers of oil, they are really big guys: ExxonMobil, Royal Dutch, BP. They produce only 22 percent of the oil. Most of the oil is produced by countries rather than companies.

The next chart speaks further to this geopolitical challenge that we face. This shows what China is doing around the world. The dollar signs indicate where we own some oil. You don't see very many of them here. This symbol indicates where China owns oil, a lot of it in Russia. Notice they have bought up oil all over the world.

The next chart speaks again to this geopolitical challenge that we have. This is what the world would look like if the size of the country was relative to the amount of oil they have. Very interesting. Saudi Arabia dominates the landscape. They should, they have 22 percent, more than a fifth of all of the oil in the world. Iraq, Kuwait, and you have to get a magnifying glass to see the United Arab Emirates on a map. Russia, not a giant compared

to the others, but they are an aggressive pumper of oil. I think they are now the number two producer of oil in the world.

Venezuela, it dwarfs our part of the world. Bigger than everybody else in this part of the world, but notice we get most of our oil from Canada. Our third largest producer of oil is Mexico. Together they have about as much oil as we have. Canada doesn't have very many people, and they are too poor in Mexico to use the oil and so they can export the oil. But this speaks again to the geopolitical challenge that we face.

The last chart, I just wanted to look at the sources from which we are going to get liquid fuels. I have argued that because we face this huge challenge in the future, and because it is going to be very difficult to produce as rapidly as we would like to, the liquid fuels to replace what won't be there as we slide down the other side of the world, Hubbert's peak, that it would be nice to have in reserve a little bit of the oil we know that is out there which is why I have not been enthusiastic about drilling in ANWR or offshore or on our public lands.

Maybe it is because I have 10 kids and 16 grandkids and two great-grandkids. And I came to Congress because I was afraid that my kids and grandkids weren't going to live in the same kind of country that I grew up in. I thought we had too much government, it taxed too much, it regulated too much, and it spent way too much. I would just like for my kids and my grandkids and great-grandkids to have the same opportunity I have had, and energy is so important in our world. So I have been resistant to immediately drilling in ANWR and offshore and on our public lands because it is like money in the bank that is yielding huge interest rates. I don't think you ought to rush to the bank and pull it out and spend it. It will be even more valuable later.

We will get a little of this and a little of that. There is no magic bullet out there. I am sure everybody is familiar with what happened with corn ethanol. We are using so much corn for ethanol, it has raised the price of food around the world. Farmers have diverted land from wheat and soybeans to corn. Rice harvests are down. Costco, I understand, will sell you only one bag of rice now.

Mr. Speaker, let me close by saying I am kind of exhilarated by this. There is no exhilaration like meeting and overcoming a big challenge, and I think America is up to this. With leadership, I think we can once again become an exporting country. We have the technology and the know-how. We are the most innovative, creative society in the world. I think when America understands this challenge, they will be up to the challenge, and America will lead the world in moving from fossil fuels to renewables.

I think I will be here a week from today, and what I want to do at that time is spend most of the time talking about realistic expectations from all of these alternative sources of liquid fuels.

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