is proof that the whole world is on our side about developing nuclear weapons.

The World Bank loans to Iran are harmful not just from an economic perspective, they are harmful to us from a political perspective as well. We should change our laws dealing with Federal procurement, State procurement and Federal corporate assistance to achieve one thing. We should turn to any corporation seeking a big contract with the Federal Government or seeking the assistance of any of our programs designed to help business, whether it be the Export-Import Bank or a whole host of other programs.

We should ask the other question, does your corporation or any of its affiliates invest in the Iran oil sector, loan money to the Iranian government, sell munitions to the Iranian government? Imagine the effect this will have if we make it clear that if you are a Nebraska corporation owned by an Italian corporation, and the Italian corporation is investing in the oil sector of Iran, that means we are not going to give you the contract, we will give it to somebody else.

A number of States have tried to do this, and they have been threatened by the Federal Government. We have passed through this House, and it has made it through the Foreign Relations Committee in the Senate, a bill dealing with OPIC, the most unfortunately titled Federal agency, the Overseas Private Investment Corporation, and said that if you want the assistance of this agency, you have to certify that neither your corporation nor any of its affiliates are engaging in those wrongful transactions with the Iranian government. Clearly, we should not be giving assistance to those who are aiding Iran's nuclear program or aiding the Iranian government in one of the key pressure point areas, munitions, investment in the oil sector, loans to the government.

Now we have the issue of divestiture. We need to encourage private investors and government pension plans and private pension plans to sell their stock in corporations that are engaging in those transactions with the Iranian government, investments in the oil sector, loans to the government, sale of munitions.

A number of States, especially the State of Florida, my own State of California, have decided to divest from such companies. But when they do so, they face frivolous lawsuits, lawsuits from people saying, ''oh, you have to invest for the maximum possible return, and you can't think of national interest when you do so.''

Now, get this, because my colleagues have seen how the Administration has been opposed to frivolous lawsuits and any lawsuit they claim is frivolous, they have been against lawsuits on everything except one thing, they are in favor of frivolous lawsuits against State governments who choose to divest, against private pension plans that choose to divest. Why? Because their hatred of trial lawyers is exceeded by their hatred of investors who would try to influence the very companies in which they have made an investment.

It is absolutely shameful for us to make it more difficult for good Americans to push the companies that they partially own into doing the right thing. We should go further.

Later this month, I will introduce legislation to change our tax code so that those who are divesting from companies doing business in those bad areas, as I have identified, or those areas we would like to discourage with regard to Iran, we will say, if you sell your stock in such a company, and reinvest the proceeds in a company that is clean, then you should get a carryover basis. We are not going to use that as a taxable event, because divestiture should be encouraged, not taxed. We need to turn to all the corporations in the world and say do not invest in the Iran oil sector, do not lend money to that government, do not sell the munitions, otherwise, we will encourage our companies, we will encourage our investors, we will encourage our pension plans, we will encourage our individual investors to stop investing in your company. We will not give aid to any of your subsidiaries, and we will not make them eligible for Federal contracts. This will provide real pressure on the Iranian government.

But that's just the economic toolbox. We also have the diplomatic toolbox as well. It is even more powerful, it is even less used. We have never offered Russia anything in return for real cooperation on the issue of Iran's nuclear program. We have not provided linkage between issues Russia cares about and what we care about, which ought to be preventing Iran from developing nuclear weapons.

We have made it clear to Russia that what we do with regard to Chechnya, Abkhazia, Moldova, Estonia or anything else is not linked to what Russia does with regard to Iran.

Likewise, we have made it clear to China that what we do with regard to Taiwan or currency manipulation or trade will have nothing to do with what China does in the U.N. or elsewhere with regard to Iran's nuclear program.

If we could get Russia and China to support us at the U.N., then instead of stupid little sanctions designed to fool people around the world, we could get real U.N. sanctions. What would that mean? Imagine a U.N. ban on sending refined oil products into Iran. Now, Iran has plenty of petroleum, but they don't have the refinery capacity. They import nearly half of the gasoline they burn.

If the United Nations would prohibit every country in the world from sending them that refined petroleum, you would have an immediate impact on the streets of Tehran. You would be able then to turn to the Iranian people, to turn to the Iranian elites and say that you, indeed, face economic and diplomatic isolation unless you abandon your nuclear weapons program.

We need to prioritize. We need to link what is important to us to what is important to others. We need to use all the tools in our toolbox, and we need to use them immediately. Otherwise, we will not achieve the level of security from nuclear attack that the American people deserve.

I am not saying that we can make America invulnerable, but I am saying that it is our duty here in the Federal Government and as foreign policymakers to do everything we can to achieve that objective.

I have concluded. I did mention that I would perhaps talk about threats that face us in the second and third quarters of the 21st century. I will leave that to another speech. I yield back.

□ 1930

## PEAK OIL

The SPEAKER pro tempore (Mr. MAHONEY of Florida). 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, several days ago I came into the office early and I found at my door the usual package of newspapers and I opened them up and was placing them out on the table, and I noticed the headlines. And this is every paper that was at my door that morning. There were four newspapers and there were three inside-the-Beltway newspapers intended primarily for those interested in the Congress. I want to go through the headlines in every one of those papers.

Here is the Baltimore Sun, and they had two headlines above the fold both related to energy, ''Demand Eats Supply,'' and ''Energy Bill Aids Payouts on Rise.''

Then I went to the Washington Times and there was a headline, ''Bush Lays Gas Blame on Congress.''

And then I went to the Wall Street Journal and the Wall Street Journal headline was ''Grain Companies' Profits Soar as Global Food Crisis Mounts.''

Then I turned to the U.S. News part of the Wall Street Journal and what do you know, above the fold there were two more headlines, ''Bush Prods Lawmakers on Economy and Energy Prices,'' and ''GOP Senators Urge Halt to Oil Reserve.''

Then I noted the three papers that are kind of inside the Beltway papers: Roll Call, ''Alexander Eyes Energy Agenda''; The Hill, ''Politics At the Pump''; and Politico had ''Gas Prices Fuel Effort to Jam the GOP.''

So every one of these seven papers that were on my doorstep that morning had headlines talking about energy. Now I noted just a few days before that

there was a New York Times op-ed piece by Thomas Friedman. This is what he says about energy. Here is what is 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 just the opposite, he says.

The 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, and I quote, ''Maximize demand, minimize supply, and buy the rest from the people who hate us most.''

This is not an energy policy. This is money laundering, he says. 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 will just get the money by taxing Big Oil. Even if you could do that, what a terrible way to spend precious tax dollars, he says.

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. And a little later I will go over this bill that has already passed the Senate, and we have introduced it in the House now.

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, he says.

I first came to this floor to talk about this subject more than 3 years ago. It was, I believe, the 14th day of March in 2005. I noted then that we have known, we had known at that time for 25 years that we would be facing this crisis. Now it is 28 years. We have known for 28 years that we would be facing this crisis. I will present the evidence for that in just a moment, and I think the evidence is absolutely unassailable. Anybody who looked at the evidence would have to conclude that there was a reasonable, indeed probably a high probability that we would be here today with oil at over $100 a barrel.

This all started in 1956 on March 8 when an oil geologist from the Shell Oil Company gave a speech that I think may shortly be recognized as the most important speech given in the last century. He gave that speech in San Antonio, Texas, to an audience of people interested in oil. What he told them was at that time absolutely audacious and incredible. He told them in just 14 years the United States is going to reach its maximum oil production and no matter what you do, after that the production of oil will decrease year by year.

At that time the United States was 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. So this was absolutely audacious to suggest that the king of oil in just 14 short years would reach its maximum ability to produce oil.

He was a pariah for a number of years, and then in 1970, when right on schedule as this chart shows, when right on schedule the United States reached its maximum oil production, he became a legend in his own time. He made his prediction in 1956. You see how much oil we were producing then. In 1970 we were producing a lot more oil. And right on schedule, just as he predicted, the United States after that produced less and less oil each year, in spite of several things, Mr. Speaker. In spite of finding a lot of oil in Alaska. And notice just a little blip down the slide of what is called Hubbert's peak as a result of this enormous find in Alaska. I have been to Prudhoe Bay, a 4-foot pipeline through which for a number of years a full 25 percent of all our domestic production flowed. And then a big find some years later in the Gulf of Mexico. I remember the hype over that find. You see the yellow there, just a blip in the slide down the other side of Hubbert's peak.

So not only did we find a lot of oil that M. King Hubbert had not included in his prediction, his prediction included only the lower 48 States, in spite of this large find of oil in Alaska and the large find of oil in the Gulf of Mexico, and in spite of increasing amounts of natural gas liquids, we today produce about half of the oil that we did in 1970.

Another thing that we have done, we have drilled more oil wells than all of the rest of the world put together. In spite of doing that, in spite of ever-better techniques for finding oil, computer modeling and 3–D seismic, in spite of ever-better techniques for getting the oil, enhanced oil recovery, nothing we have done has proved M. King Hubbert a liar. He said we would peak in oil production in 1970, and we did. And we have been sliding down the other side of Hubbert's peak ever since.

In 1979 he predicted using the same analytical techniques which aren't all that hard to understand. He noted that in an individual oil field, that the production of the field increased and increased and increased until it reached a maximum which was when about half the oil was exhausted. After that, the last half which reasonably would be more difficult to get, was more difficult to get and production was slower. And so he rationalized that if he could add up all of the little oil fields in the United States and make a good prediction as to how many more we would find, he could have one big bell curve which is basically the shape of that curve, and he could then predict when the United States would reach its maximum oil production. He was right on target.

Using that same technique, he predicted that the world would be peaking in oil production about now. Now I say that we have known this for 28 years. I say that because by 1980 it was very obvious that M. King Hubbert was right about the United States. We were already well over the peak and sliding down the other side of what is called Hubbert's peak. What did we do? We have done as a world, as a country, absolutely nothing to prepare for the inevitability that M. King Hubbert would probably be right about the world because he was right about the United States.

Now as the next chart shows, the two entities which track oil production and consumption, and it is essentially the same thing, very little oil is stored in the world compared to the amount that we use, that is the EIA, the Energy Information Administration, a part of our Department of Defense, and the IEA, the International Energy Association, both of those track very well the production of oil. And you can see they have the production of oil about flat for the last 3 years.

Now when I first came here, and I think that was 43 times ago, I think this is the 44th time I have been to the floor, when I was here in 2005, oil was about $50 a barrel, a little over $50 a barrel. Using the predictions of M. King Hubbert, I with some confidence have been saying now for these 43 times, 44 times including tonight, that we were going to get here, that the world was going to reach maximum oil production.

□ 1945

And we ought to have been preparing for this. And since we hadn't been preparing in the past, we ought to start preparing for this with some realistic measures.

Notice what happened to the price of oil. Of course, when you have a static production and an increasing demand, the supply/demand mechanism which controls the pricing of almost everything in our world, caused an increase in the price of oil. Now, it would be well off the top of our chart here. We're now at $123, $124 a barrel. That's well off the top of the chart here. As far as I know, these lines are extending out flat. There is no increase in oil production.

The next chart, this chart shows the discoveries of oil through the years, and it shows the use of oil through the years. Now, if you had only one chart that you could look at, this chart, I think, conveys more information than any other. And even without M. King Hubbert's predictions, I think that you would conclude that we're probably going to max out in oil production about now. Because look what we have here.

We have discoveries back through the 1940s and the 1950s, and boy did we discover it in the 1960s and the 1970s, and then another surge around the 1980s. But down, down, down since then. And

that's in spite of ever better technologies for discovering oil, ever more interest in discovering oil. It's been down, down, down.

Now, obviously, if you add up all of these bars, you will know the total amount of oil that we have discovered. That is frequently done by simply drawing a smooth curve over those bars. That tells you that the area under the curve represents the total volume. I say that because there's another curve here which is very important, and that is the consumption curve.

Notice that early on in the 1960s, boy, in the 1970s, we were finding enormously more oil than we were using. So every year we had bigger and bigger reserves behind us that we could rely on. And then about 1980, when the discovery of oil was down, and we were using more and more oil, ever since about 1980, we have been using more oil than we found. Well, we could do that because we had extra back here that we hadn't used. So we simply could borrow from this and pump it here and fill that volume with it.

I want to point out something about this curve which is really very interesting. You notice how steep the curve is here. This is up through the Carter years. Now, had we continued on that trajectory, we would now be well off the top of this chart.

The oil price spike hikes of the 1970s, and the recession that occurred then, notice the little dip there, were really blessings in disguise. There's an old saying that it's an ill wind that blows no good.

I lived through all of those gas lines, even, odd, the end of your license plate, the day you could fill up your tank.

But look what happened as a result of that wake up call. Boy, are we more efficient now than we were then. Look at the slope of this curve as compared to the slope of this curve. And we're getting even more and more efficient. This is an exponential rise. And it would be off the top of the chart.

As a matter of fact, there was a stunning statistic during the Carter years. Every decade the world used as much oil as it had used in all of previous history. Now, that's stunning, because what that says is that when you used half of it, only 10 years will remain. We're very much better off.

By the way, oil's not going to run out in 10 years or 20 or 30. We have another 150 years of oil, gas and coal, but at ever decreasing amounts, ever more difficult to find, ever more expensive.

When we talk about peak oil and the energy crisis, that does not mean we're running out of oil. What that means is we're running out of our ability to produce oil as fast as we would like to use it.

Well, what will the future look like?

Now, I said if you had only this chart to look at you could make some really educated guesses about what the future is going to look like, because you cannot pump what you have not found. And unless you think that there's going to be some startling new discoveries in the future, it's been down, down, down, for 30 years. Unless you think there's going to be some startling new discoveries in the future, these are the reserves that we have to fill in the volume here about what this chart suggests we might find.

Now, it won't be smooth like that. It will be up and down, but it might be reasonably that kind of a slope.

So I think that even without the predictions of M. King Hubbert, just looking at this oil chart, it would be very easy to conclude that we probably, very soon, if not now, would have reached the maximum production of oil.

The next chart looks at some of the geopolitical consequences of this. This is the world according to oil. This is what the geography of the world would look like if the size of the country was related to how much oil it had. Some really interesting things here.

Saudi Arabia dominates the landscape. They should. They have 22 percent of all the known reserves of oil in all the world. And notice, their near neighbors, Iraq, Kuwait, Iran, second, third and fourth. United Arab Emirates. You almost have to have a magnifying glass to find them on the map, and there they are. Look how huge they are in terms of the amount of oil they have. And then Northern Africa.

Here we are, the United States. The yellow means that we're a big user of oil. Our small size means we don't have much. And notice the people from whom we get most of our oil. Canada is our Number 1 supplier. They have much less oil than we. But they don't have very many people so they can ship oil to us.

Mexico, until about a month ago, was our Number 2 supplier. But their largest oil field, which is the second largest oil field in the world, Cantoral, is now in steep decline, about 8, 10 percent a year. Now our Number 2 supplier is Saudi Arabia.

Mexico. But notice that Mexico and Canada together have little more oil than we have. And we have only 2 percent of the known reserves in the world. Maybe they have 3 percent. Maybe all three of us together here have 4, 5, 6 percent of the oil in the world. That's all.

Even more alarming, notice the size of China and India. Here they are. 1.3 billion people and 1.1 billion people, more than a third of the world's population, and they have less oil than the United States has.

When you go to China, and I did with 8 other Members of Congress about 16 months ago, and they begin their discussion of energy by talking about post-oil. So China knows that they have to transition.

The next chart is kind of a bar chart which shows the same thing, pretty much, that we saw in that chart. If you take the 10 largest owners of oil in the world, 98 percent of all that oil belongs to countries rather than companies. Saudi Aramco, National Iranian, Iraqi National Oil, Kuwait Petroleum Company and so forth. Only 2 percent by Lukoil, that's a big Russian oil company.

Now, if you look at the 10 producers of oil, 78 percent of the first 10 producers of oil, all that oil comes from countries, not companies, again, these nationally owned oil companies. And only 22 percent comes from the big three.

There's obviously a lot of angst over the high price of oil, and people are looking around for who to blame. And there are a lot of people who blame the big oil companies. They're gouging us.

There are a lot of people who blame the OPEC countries, and many of them are here; because they say they're holding back on oil to drive the prices up. Probably neither one of those things are true. There is pretty good evidence that OPEC is pumping oil about as fast as it can pump oil.

Russia, not a part of OPEC, but a big producer, noted several weeks ago that they had reached their maximum oil production.

Saudi Arabia, just last week admitted to maximizing out on oil production. They're trying to bring a new field on-line, the Kuras field. It's a very technical field. It may get 1.2 million barrels a day. That's a lot. But they may get nothing. They've spent billions of dollars drilling wells. They're going to have to flood the field with seawater under pressure because that oil is so tightly held in the rocks that it won't flow. And if they do is just right they can get the oil to flow in large amounts, and they may get for quite a number of years, 1.2 million barrels a day. But that's kind of iffy.

But even if they get that and get it on-line, it will barely maintain their present oil production. It will not increase their oil production.

The next chart speaks again to this geopolitical situation. This is the chart which shows who is buying oil where in the world. And you see these symbols for Russia. Here they tried to buy UniCal in our country. They have bought a lot of the production from Canada, South America, the Middle East, Northern Africa. You see their symbol all over the map.

Why are they buying oil? Today it doesn't make any difference who owns the oil. The person who comes, the country, the company that comes with the dollars buys the oil. It doesn't make a bit of difference.

We own only 2 percent of the oil in the world, and we use 25 percent of the oil in the world because we come with our dollars and we buy the oil from those who have it for sale.

So why would China be buying oil? You can't get inside their head, but you can make some prognostications from what you see. You go to China, by the way, and they talk about post-oil. There will be a post-oil world. It's not forever. It is finite. It will run out. And China is talking about post-oil.

But while we still have some oil, they have a policy, a 5-point plan, and everybody knows it over there, all of their leaders know it, not just the people in energy and oil and coal know it. Everybody over there talked to us about the 5-point plan.

Number 1 is conservation. That's where whatever country, and this is where it's got to begin. We have now run out of time. We have run out of excess energy. We can buy some time and free up some energy if we have an aggressive program in conservation.

Number 2 and Number 3 were alternatives, and as many of those as you can from your own country.

Number 4 may surprise you. Be kind to the environment. They know they're awful polluters, but they have 900 million people in rural areas that, through the miracle of communications, know the benefits of industrialization. And I think they see their empire unraveling the way the Soviet empire unraveled if they cannot meet the demands of these people.

So why are they buying all the oil? At the same time they're buying this, oh by the way, they're not just buying oil; they're buying good will. Would you like a soccer stadium? Is it hospitals you need, roads? So in addition to buying the oil they're buying goodwill.

At the same time that they're doing this, they are aggressively building a blue water navy. They launched many times, I don't know the exact number, maybe 10, submarines last year. We launched one.

Now, their submarines aren't ours yet, but I would note that they are graduating six times as many engineers as we graduate, and about half of our engineers are Chinese students.

I was stunned the other day when I learned that in our patent office more than 60 percent of the applications for a new patent come from Asia.

They are very aggressively building a blue water navy. Might the day come that they would say well, gee, I'm sorry, guys, but we have 1.3 billion people, the oil is ours and we can't share it.

Today there's no alternative, the way the marketplace works but that you're going to share your oil.

The next chart, and I've already mentioned some of these numbers. We have only 2 percent of the world's reserves of oil. By the way, these numbers encouraged 30 of our prominent leaders, Jim Woolsey and McFarland and Boyden Gray and 27 others, several retired 4–Star admirals and generals to write a letter to the President saying, Mr. President, the fact that we have only 2 percent of the world's reserves of oil, and we use 25 percent of the world's oil and import almost two-thirds of what we use is really a totally unacceptable national security risk.

□ 2000

We've got to do something about that. That little 2 percent we have, by the way, from that we produce 8 percent of the world's oil. So we're good at pumping oil.

As I mentioned earlier, we have drilled more oil wells than all the rest of the world put together. So it is not surprising that we're pumping down our oil reserves four times faster than the rest of the world. We have a bit less than 5 percent than the world's population, and we use 25 percent of the worlds' oil.

I'm going to next look at some of the things that I personally have been doing and some of the things that Congress has been doing, and then I am going to recognize my very good friend, Zach Wamp from Tennessee, who has come with us to share some of this time with us.

Mr. WAMP. I thank the gentleman for yielding, and I want to thank Mr. BARTLETT for this lesson. I should say Dr. BARTLETT. It is rare that a person has been in Congress for as long as you have. I first met you, Congressman BARTLETT, when you and I were running for Congress in the 1992 cycle. I did not prevail, and you did, so you got a 2-year jump on me here.

And I've been here on the floor in the past when we talked about this challenge, and my only regret tonight is that all of the Members of the House were not here to hear again your comprehensive explanation of some of these problems and the solutions and the realities, and that everyone in our country could not understand as well as you understand the realities of what we are seeing today.

I want to begin elementally by saying that the nexus between energy and national security and our environment is the most important policy challenge of our time. And all of the conflicts of the world have some relation to those three challenges. There's obviously religious undertones and whatnot, but those have been around forever. These challenges now all kind of collide. That's this nexus that I am talking about.

On the national security front, you mentioned Thomas Friedman's column, and there is one quote in it that I wanted to point out where he says, ''There are 23 countries in the world that derive at least 60 percent of their exports from oil and gas and not a single one is a real democracy. Russia, Venezuela, Iran, and Nigeria are the poster children' for this trend where leaders grab the oil tap to ensconce themselves in power.''

That makes this peak oil challenge a critical national security problem for the United States of America.

When I talk about the environment, one of the most important issues now as we face the next Congress and the next administration after this fall's election will be the American response to this global warming challenge. And I would argue this: We can't deny the problem. We can't bury our head in the sand from the problem. We should not ignore it, but we better be very careful that we don't over-regulate our free society as we respond to it.

The world needs to see us proactively addressing this problem, but I would say the best way we can do it is deploy the technologies, use the innovation, parlay and capitalize on our free-enterprise system to solve these problems for the world, much in the same way that the information revolution in the last 30 years in this country was led by the United States of America and the likes of Microsoft; and in doing so, a robust U.S. economy erupted that led to a balanced budget in this modern era that was unprecedented where revenues actually surpassed expenses.

So we see energy and the environment and national security all come together.

Now, earlier tonight I talked about an all-of-the-above approach that I promote that we should promote because the capacity needs, both from transportation and fuels and electricity are so great, even today but even more so in the future, the capacity needs are so great with this demand that we have to not, in my view, leave anything off the table but have an all-of-the-above solution.

But I want to zero in, because you have rightly talked about these issues of conservation, efficiency, new technologies, renewables; and I want to highlight a few because I said earlier tonight on the floor, I'm a conservative. I think conservatives should promote conservation. That's a logical thing to say and to do. And that should be first and foremost, and it is not wimpish, as I said earlier, for us to promote conservation. It's smart. It reduces demand and lowers price. That's what we have to see. And it should be led by the top, and it should be a grassroots call for us to be as efficient as possible in all aspects of our life, frankly.

We have sat on the couch for a generation knowing these problems existed, and we haven't acted, and there's plenty of blame to go around. I don't want to come to the floor and blame everybody. There's a lot of that that goes on. Frankly, that's one reason people tune out Washington so much is there's too much of a blame game going on here. American people want these problems solved, but I really believe we should look at these incredible technologies that we have.

So let's talk a little bit about transportation because there's a Farm Bill coming. There's a lot of talk about alternative fuels.

I believe in the south that cellulosic ethanol will be part of the solution, but it's a bridge, in my view. Even at best, it's a bridge to the future. It's not the permanent solution. The fuel mix could certainly be improved, and cellulosic ethanol doesn't destroy our agriculture and our food capabilities and pricing like corn-based ethanol does, so that obviously has been a net loser for the environment; it has been a net loser for agriculture; it has been a net loser economically in some ways.

But cellulosic ethanol, say switchgrass that you don't eat, it could actually be productive in creating an alternative fuel. But that's a bridge to the future because if you ask the automotive industry leaders, they will tell you that in a couple of years, the price points on plug-in hybrids will be such that Toyota and General Motors in 2010 will have a cost-competitive plug-in hybrid.

So the vehicles of the future are going to run probably for a while on some form of electricity, some kind of a battery, an ion lithium battery. The technologies are developing very quickly. Imagine plugging your car in in your garage overnight and having it charged where you can take it 400 miles before recharging it and getting an equivalent horsepower of 260 to 280 horsepower. People would be excited about that if they could afford it. Right now the price point on a hydrogen fuel cell car is not cost effective. It's a couple hundred thousand dollars at best, which obviously is not ready for the marketplace. That may be 15 to 25 years from now.

And there is a silver lining in the cloud. You talked, Dr. BARTLETT, about the silver lining during the Carter years, that it caused us to blunt the sharp increase in consumption. The silver lining today with these price points is that technologies are rapidly being deployed because the marketplace knows there's opportunity there.

And we were with the President of the United States yesterday discussing this, and he talked about that specifically that you're seeing the most rapid movement towards alternative transportation systems and technologies that we've seen in the modern era because people cannot afford gasoline today, and therefore, alternatives will hit the marketplace faster. And surely we could have done better in the past, but we've got to find these solutions so we're going to have some kind of electricity.

Now that brings all of the energy problems together when you're talking about electric cars because two-thirds of the oil consumption's in the transportation sector, and we've got some capacity problems in the electricity sector, and we are not bringing on nuclear plants at anywhere near the rate of European countries because we're still caught in this Three Mile Island time warp of safety and security. And the waste stream is such here that you can't permit a place to bury it, like Yucca Mountain, in a timely manner.

So we need to look at the proposition that they do in France of recycling the spent fuel back into energy. Reprocessing spent fuel. It's a closed-fuel cycle. We can do that. We should look at that. And we should bring nuclear up.

But I want to throw a new technology into the electricity production which could very well help us on transportation as we move towards battery-powered cars if they're cost effective. See, I believe the market will determine which ones come first and which one consumers will buy and which ones hit the price points quickest, and that's where people, I think, will buy.

So I think if electric cars or the plug-in hybrid is the first one there at $25,000, $35,000 for a new car, that's where consumers will go. But where is the electricity going to come from if we do this? We don't have the capacity right now to meet today's demand based on commerce and industry, let alone new transportation systems that need electricity.

And we are the most abundant source of coal. We're the Saudi Arabia of coal for the world. But we have got to, if we're going to take this leadership position on climate change and not bury our head in the sand, we've got to have clean coal technology, we've got to have carbon capture. We've got to invest there. We've got to still use coal, but it's also a finite resource, which you have identified.

Let me tell you about a new technology that's really got potential. It comes out of the Silicon Valley and the Tennessee Valley, interestingly enough, where I live. We're in a partnership with them. We have built a stationary solid oxide fuel cell system. It looks like the HVAC unit in your home. We now have a 100 kilowatt system, meaning it generates 100 kilowatts of electricity, and it runs off of one feedstock going in but no transmission system. So unlike the electricity that comes to your house, it is not connected on a grid somewhere to a power source. It's a standalone system for electricity production, but you do have to have a feedstock going in.

But this unit runs off of the feedstock as natural gas, can run off ethanol, it can run off of solar, it can run off of a variety of renewable sources; but it has to have a feedstock as you know—are you a physicist?

Mr. BARTLETT of Maryland. Physiologist.

Mr. WAMP. Physiologist. As you know it has to have a feedstock, but it has tremendous potential.

And just recently here in the House, I have promoted, and much to his credit, Dan Beard, the chief operating officer of the House, has been and viewed these systems as has the chairwoman of the Legislative Branch Appropriations Subcommittee, DEBBIE WASSERMAN SCHULTZ, been in consultation with us about the notion that in just a couple of years, we could take an entire House office building in Washington, D.C. and take it off of the fossil-fired powerhouse here on Capitol Hill, take it off of that coal powerhouse and put it on a solid oxide stationary fuel cell to demonstrate to the country that emissionless, completely emissionless, not nuclear, but through a new technology called a stationary solid oxide fuel cell, you could completely power and cool and heat and cool the water in a huge House office building or a 100,000 square foot commercial center with this new technology. Tremendous.

You would think every utility in the country would be interested in that because there is no transmission grid. It makes us more terrorist-proof because you can't shut down the transmission grid because everybody's got their own electricity source. And if transportation is moving towards electricity, it has tremendous potential.

I would just say that your energy efficiency, renewable energy, conservation programs should be at the forefront followed by a real understanding that we have capacity needs in this country. I, too, was in China in January. I have a great concern because what I heard and saw in China about their attitudes towards the environment is that this is indeed their industrial revolution and they're entitled to it.

The problem with them having an industrial revolution in 2008 is they're almost one-fourth of the world's population, and if they have an industrial revolution without environmental responsibility at the same time the rest of the world is being called on to reduce carbon and their carbon footprint, it's a regulatory burden to the industrialized world and it lets these developing nations, including China, off without those regulations.

That levelizes the world at our expense. That's a dangerous notion.

So back to the nexus. This is critical. You're taking excellent leadership. I want to thank you for that, and I want to thank you for the time tonight.

Mr. BARTLETT of Maryland. Thank you very much for your observations.

We're doing a number of things in the Congress. It would have been a whole lot better if we were doing them 25, 28 years ago, by the way, because what we're doing in the Congress will not be adequate to meet the challenge. But it's a start. It's what we can do.

I have a book here that came across my desk: ''A Very Unpleasant Truth . . . Peak Oil Production and Its Global Consequences'' by two very credentialed authors, both Ph.Ds from one of our large oil companies. And they say in this book, The first and most important thing that needs to be done is to educate and convince the public that a problem even exists; and that's what I have been trying to do for more than 3 years now. The public must accept, they say, that the current system based on cheap oil is not sustainable and cannot be kept intact regardless of what politicians promise.

□ 2015

Let me mention quickly four things that I'm personally involved with and personally doing.

We have a new bill just introduced last evening. It is a companion bill to S. 2821 that has enormous support that I will mention very briefly. Our bill is H.R. 5984.

In one of his columns last week, New York Times' Thomas Friedman decried the stalemate that has so far prevented the extension of renewable energy tax

credits that would otherwise expire this year. I noted that in some opening comments this evening, and this was one of the things that inspired us to pick up this Senate bill and to file it in the House.

This bill does several things: Extension and modification of the renewable energy production tax credit; extension and modification of the solar energy and fuel cell investment tax credit; clean renewable energy bonds; extension of the special rule to implement FERC restructuring policy; extension and modification of the credit for energy efficiency improvements to existing homes; extension of the tax credit for energy efficient new homes; extension of the energy efficient commercial buildings deduction; modification and extension of the energy efficient appliance credit.

So it's a broad-based bill. It has passed the Senate by 88–8. It has 43 cosponsors in the Senate. We have 35 original cosponsors in the House and two more have been added to that today.

This bill has gotten a lot of support from the community out there. The Christian Science Monitor has an article on it supporting the bill. ''Big Oil's Friends in the Senate'' is an editorial by New York Times on this subject, and here I have a list and I want to just mention a few of those because it's so important. It notes how broad the support is for this bill.

Here are letters from the National Association of Manufacturers, the United States Chamber of Commerce, the Retail Industry Leaders Association. And then I have here a letter signed by more than three pages of double column organizations, more than three pages, double column, and let me just mention a few of them.

American Council on Renewable Energy, Alliance to Save Energy, Alternative Fuels Renewable Energies Council, American Council for an Energy Efficient Economy, American Solar Energy Society, American Wind Energy Association, the Audubon Society, Babcock and Brown, Bloom Energy, Business Council for Sustainable Energy, California Energy Commission, Center for Energy and Environmental Sustainability at James Madison University. Constellation Energy, well-known locally. They provide much electricity for the Baltimore area. The Dow Chemical Company, Duke Energy, Earthjustice, Edison Electric Institute.

And so you notice the broad, broad spectrum of support for this bill from a lot of those who are concerned about the environment and those who are concerned about the simple fact that we have got to have more energy.

Environmental Defense Fund, Exelon Corporation, GE Energy, Geothermal Energy Association. Greenpeace? The Home Depot, Honeywell, Idaho Rural Council, John Deere Renewables, JP Morgan, League of Conservation Voters, Lowe's Companies, Michigan Alliance of Cooperatives. National Association of Home Builders, a very conservative organization to which I belonged in another life. National Association of State Energy Officials, National Electrical Manufacturers Association.

I'm reading, by the way, about one-tenth of all of those who have signed on.

National Wildlife Federation, Natural Resources Defense Council, Northeast Public Power Association.

Oh, my, more pages, one-and-a-half more pages. I won't bother reading those, but it's the same kinds of broad, broad spectrum.

Like Suntech, I'll mention Suntech, second largest solar cell manufacturing company in the world. Six years ago it didn't exist. I was privileged to have lunch with the young Chinese man who started it just 6 years ago, and now, it's number two in all of the world.

Another thing that I am doing personally, we are having a SMART Green Showcase in conjunction with the SMART Organization. This will be on July 18 in Frederick, Maryland, and we're going to showcase there a number of smart energy solutions for many of the problems that homeowners and small businesses have. It has its own Web site, www.smartgreenconference.com. So you can find more information on it there.

I have a bill, the Self-Powered Farm Energy Bill. We're going to give a prize to the first farm that can demonstrate that they're capable of independence from off-site sources of energy, fuel, and raw materials; a community resource for food and energy. They will have food and energy left over to provide for the community or raw materials for food. It minimizes or eliminates ongoing operating expenditures to off-site entities for fossil fuel-derived energy; employs sustainable farming practices for long-term soil fertility; and produces at least two times as much energy, including fuel or raw materials for fuel, as it consumes.

Now, if we can't do this, we're in trouble. If our farms can't be energy independent, and I think they can, and we have a prize for that farm that will get there first.

The next chart speaks to the fourth thing that I'm personally involved in. This is the DRIVE Act. The Dependence Reduction through Innovation in Vehicles and Energy is what DRIVE stands for. The purpose of the bill is to achieve liquid fuel independence through alternative energy sources. Some of the key points include incentives for the auto industry to produce flexible fuel, hybrid and electric vehicles; the conversion of gas stations to fuel stations, where consumers can plug into an electric car to fill up on ethanol; as well as tax credits for Americans who buy flexible fuel cars.

It costs so little, maybe less than $100 to build a flex-fuel car. Every car in Brazil is flex-fuel. They could be, I think should be in our country, and we have a bill, H.R. 670, on flex-fuel vehicles, incenting the industry to move to flex-fuel vehicles. When we have the new fuels we'll be ready for it. If we haven't done that, there will only be a small percentage of the cars that could use the new fuels.

In addition to these things, I'm working with my colleague, Democratic Congressman MARK UDALL from Colorado, to distribute a new report about green collar jobs from energy efficiency and renewable energy technology. This industry is small but it is really growing. The report is called Renewable Energy and Energy Efficiency: Economic Drivers for the 21st Century. It's available for free. You can download it at www.ases.org.

Solar power grew worldwide by an average of 18 percent between 1980 and 2000. It's accelerated dramatically in recent years, growing by close to 50 percent annually since 2002. In spite of that dramatic growth, it still produces a tiny, tiny percentage of our electricity. That's because we get electricity production in huge, huge amounts, primarily from coal, 50 percent in our country, and from nuclear power and hydro power. Those are the three largest sources of energy for coal.

From a significantly larger base, wind power has also been growing rapidly. U.S. wind power capacity surged 45 percent in 2007. So lots of new jobs are being created. We need to create more.

I want to spend the remaining time, and it won't be very long, looking at the alternatives that we have and what reasonable expectations should be. And I need to come back, and we'll spend a full hour just looking at reasonable expectations.

I'd like to point to two expectations that did not turn out to be reasonable. It kind of represented the irrational exuberance that Alan Greenspan spoke about in the market.

The first of these was hydrogen, not hydrogen from renewables as the chart indicates here but hydrogen from any source. Remember, we were going to have a hydrogen economy? The President mentioned this in his State of the Union. I think we spent $1.5 billion on it. You don't hear anybody talk about hydrogen today, and that's because I think we've finally figured out that hydrogen is not an energy source. It is simply a way to carry energy from one place to another place.

There is no hydrogen out there free for the having. You have got to produce it by using more energy than you will get out of hydrogen. That is the immutable second law of thermodynamics. If you can repeal that law, you can repeal the law of gravity, and then we have a whole different world, don't we? So hydrogen is rarely, rarely mentioned now because that bubble broke.

Another bubble that broke very recently was the corn ethanol bubble. High, high hopes were held out for corn ethanol, very unrealistic expectations. I did some computations with Dr. John

Darnell, the most broadly knowledgeable scientist that I know and I'm privileged to have on my staff. We did some back-of-the-envelope computations several years ago and convinced ourselves that ethanol from corn could never make any meaningful contribution to freeing us from our need for oil.

The National Academy of Sciences has now said that if we use all of our corn for ethanol, every bit of it, and discounted it for fossil fuel input, which is huge, at least 80 percent—and you're just kidding yourself if you're burning fossil fuel in another form and pretending that you're displacing gasoline. If we used all of our corn for ethanol, discounted it for fossil fuel input, it would displace 2.4 percent of our gasoline. They noted that if you tuned up your car and put air in the tires you could save as much gas.

Well, now there's a backlash over corn ethanol. A U.N. official said that what we had done was a crime against humanity. There are other factors involved. One of the major ones is the very high cost of oil as energy, but certainly, our diversion of corn to ethanol is one of the factors that has increased the cost of food around the world. And I was shocked at how quickly these food shortages developed, and just a couple of weeks ago, you remember reading about food riots in a number of the countries in the world.

There is a new bubble that I think will break, and that is the cellulosic ethanol bubble. We will get something from cellulosic ethanol.

Oh, the National Academy of Sciences has also looked at soybeans for soy diesel, and they said that if we use all of our soybeans for soy diesel, no soybean oil for our cooking, no soy protein for feeding our cattle and so forth, if we use it all for soy diesel, it would displace 2.9 percent of our diesel.

Now, I'm going to make an observation, just an intuitive observation, the kind of thing that I think a rational person might conclude. We grow our corn and our soybeans on our best land. It's level, it's fertile. We dump all sorts of fertilizers and herbicides and insecticides on it to nurse out these huge, huge yields of corn, 250-bushels per acre.

Now, we are going to get this cellulosic ethanol from our wasteland. It's not good for growing corn or soybeans or wheat or any of these things. And just intuitively, I wonder how much more energy we could get from our wasteland, which isn't good for growing any of these crops, and we're going to get it without fertilizer, how much energy can we get from that sustainably? Well, we can get a lot the first year and the second year by simply going in and in effect raping the soil, taking off all the organic material.

But to at least some measure and in some soils to a very large measure, this year's weeds and grasses grow because last year's weeds and grasses died and are fertilizing them. It's a recycling of the nutrients that is really, really apparent in a tropical rain forest. If you take the tropical rain forest vegetation away in many places, you leave what's called laterite soils which grow very little because all of the nutrients were in circulation, in growth, death, decay, rebirth and growing again. It's all recycling.

So we're going to get some energy from cellulosic ethanol, but it is not a silver bullet. It will not solve our problem.

Here I have a look at all of the different places from which we might get energy, and I'm going to put the last chart up now because our time is just about out. I want to come back and I want to spend the full hour talking about realistic expectations from tar sands, more potential oil than all the oil in the world. Oil shales, again, in our country, more potential oil than all of the oil deposits in the world.

□ 2030

How much can we realistically expect to get from them? I'll make a very quick observation. We are very much like the young couple that has gotten a big inheritance from their grandparents and they're living lavishly. Eighty-five percent of the money they spend comes from their grandparents' inheritance and only 15 percent from what they earn. And it's going to run out before they die, so obviously they've got to do something, they've got to earn more or spend less.

That's precisely where we are. Eighty-five percent of all of the energy we use comes from fossil fuels. It will run out. It is not forever. And so this 15 percent is going to have to grow. And about half of that is nuclear, the rest of it is a broad spectrum of potential renewables here. That's going to have to grow.

By the way, I think that this is an enormously exciting challenge. I am excited about this. America is the most creative, innovative society in the world. With proper understanding and proper leadership, we really can do miracles. We put a man on the moon in less than a decade.

I think we need a program that has a total commitment of World War II. I lived through that war, I know what it was. Daylight savings time, victory guard, nobody told you you had to do it, that's just what you did because you were a patriotic American.

We need the technology focus of putting a man on the moon—and many of us remember that exciting decade—and we need the urgency of the Manhattan Project. I think once again America has become a major manufacturing and exporting country, manufacturing and exporting to the rest of the world the technologies for sustainable renewables.

Mr. Speaker, I think this is a challenging opportunity, but it will not be easy. And we have very unrealistic expectations about what we can get from many of these things. Two of the bubbles have already broken. I will predict the next bubble that will break is the cellulosic ethanol bubble. We will get something from that; it will not be the huge amounts that people expect that we will get from that. So I look forward to coming back and talking for another hour about realistic expectations: What can we realistically get from these renewable sources?

## WORLD PRESS FREEDOM DAY

The SPEAKER pro tempore. Under the Speaker's announced policy of January 18, 2007, the gentleman from California (Mr. SCHIFF) is recognized for 60 minutes.

Mr. SCHIFF. Mr. Speaker, last Saturday, May 3, was World Press Freedom Day. Two years ago, in conjunction with World Press Freedom Day, Congressman MIKE PENCE, Senator CHRIS DODD, Senator DICK LUGAR and I established the Congressional Caucus for Freedom of the Press. Since then, this bipartisan, bicameral caucus has sought to highlight the importance of free expression around the world. The caucus is a forum where Members of Congress can work to combat and condemn media censorship and the persecution of journalists worldwide.

Our caucus works to send a strong message that Congress will defend democratic values and human rights wherever they're threatened. We work to highlight abuses of press freedom and foster reforms in support of press freedom around the world. We have hosted panel discussions with press freedom experts, journalists and victims of press freedom crimes. We have written to the leaders of countries which jail journalists, impose censorship, and allow harassment, attacks and threats to occur with impunity. And we've spoken out here on the House floor and in the media to call for reforms in countries that seek to censor freedom of speech and expression.

The caucus enjoys the support of a wide range of organizations, including Reporters Without Borders, Freedom House, the Committee to Protect Journalists, the National Endowment for Democracy's Center for International Media Assistance, as well as the legendary Walter Cronkite.

World Press Freedom Day was first designated by the United Nations Educational, Scientific and Cultural Organization in 1993 as an occasion to pay tribute to repressed journalists and to reflect upon the role of the media in general in advancing fundamental human rights as codified in international law, regional conventions, and national constitutions. In keeping with that tradition, we have hosted a Special Order hour in honor of World Press Freedom Day each year since the inception of the caucus.

The Universal Declaration of Human Rights, which is a foundation of the postwar human rights movement, guarantees freedom of expression in article 19. ''Everyone has the right to freedom