HONORING VIRGINIA GRAEME BAKER

The SPEAKER pro tempore. Under a previous order of the House, the gentlewoman from Florida (Ms. WASSERMAN SCHULTZ) is recognized for 5 minutes.

Ms. WASSERMAN SCHULTZ. Mr. Speaker, I rise today to recognize the important legacy of Virginia Graeme Baker, a 7-year-old child who was the unfortunate victim of entrapment by a residential spa drain.

On June 15, 2002, Graeme attended a pool party with her entire family, her mother Nancy and her four sisters. Everyone was having a great time swimming, when all of the sudden, one of Nancy's daughters came running to tell her that Graeme was in the spa. Nancy ran to the edge of the spa, and all she saw was dark and bubbling water.

Her daughter, frantically crying and pointing into the tub, insisted that Graeme was there. Nancy jumped into the spa and saw Graeme with her eyes pinched closed, her hair and limbs moving with the current of water from all the jets on the side. Graeme was entrapped by the powerful suction of the drain spa and could not free herself.

Nancy pulled and pulled with all her strength to help her daughter. It eventually took the strength of two adults to free Graeme from the spa. It was sadly too late; Graeme passed away in the hospital later that afternoon.

I can only imagine the immeasurable grief that her mother and Graeme's entire family went through. Today, Mr. Speaker, is the fifth anniversary of Graeme's death, and I want to take this moment to acknowledge the enormous loss suffered by the Baker family.

Following Graeme's death, Nancy and her father-in-law, former Secretary of State James Baker, became and still are tireless advocates for children and children's safety. When I met Nancy, I was immediately taken by her tragic story of the loss of her daughter.

I was most affected by Nancy's incredible desire to ensure that what happened to Graeme did not happen to any other child. Nancy has channeled all of her energies into raising the issue of pool and spa drain entrapment, a hidden hazard responsible for hundreds of injuries and numerous deaths, to a national audience. Her passion is an inspiration to me, and I am proud to sponsor the Pool and Spa Safety Act, H.R. 1721, in memory of Graeme Baker.

I want to acknowledge and thank my colleague Congressman FRANK WOLF of Virginia, the lead Republican sponsor of this bill, Chairman BOBBY RUSH and Chairman JOHN DINGELL for their support of this badly needed legislation.

The progress made on the Pool and Spa Safety Act would not be possible without the hard work of the entire Baker family. I hope my colleagues, Mr. Speaker, join me in honoring Virginia Graeme Baker, a remarkable little girl, and her mother Nancy whose dedication and tenacity is truly making the world a safer place for all of our children.

PEAK OIL

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 will submit for the RECORD two short articles, one from Business Week and the other from the Washington Post, at the end of my remarks.

It's been roughly 2 years now since I have been coming to the well to talk about energy and, more specifically, about peak oil. When I first came here to do that, we had quite a discussion in our office what we would call it because it was a phenomenon that very few had any interest in or any knowledge of.

And I had heard two descriptive terms. One was peak oil, which is the one we finally decided to use, and the other was the great rollover. When we talk about it this evening, you will understand what the great rollover is. It's the rollover from adequate production. You come to the peak and then you roll over the peak and start down the other side. We wisely, I think, chose to call it peak oil because that's apparently what everybody else is calling it.

And I wanted to start this evening with two articles that a couple of years ago when I started coming here I would never have dreamed that I would be able to come to this well and one day find two articles like this in two of our major publications. One of them is from the Washington Post and the other is from Business Week, and I'd like to begin this evening by reading from these articles. It's the kind of thing that I have been saying for 2 years, and it's very satisfying to be able to read it now from somebody else's pen.

This is the one from the Washington Post called, ''A Wind-Powered Town, an Energy Bill and a Lot of Hot Air.'' You might suspect by that title that the author is Dana Milbank.

''There's a certain irony in Washington's failure to devise a modern energy policy. This is, after all,'' he says, ''the one place on earth that is powered almost entirely by wind.

''Lawmakers are growing further apart on energy legislation, as Democrats demand alternative fuels and Republicans insist on more drilling. But for both sides, the ability to talk about energy is both plentiful and renewable.

''While the Senate held its fourth day of debate on an energy bill, three congressional committees held hearings on the subject yesterday, and the House and Senate Renewable Energy Caucuses held an all-day 'expo and forum' in the Cannon Caucus Room. Democratic senators held two news conferences on the subject, Republican senators held a third, and bipartisan groups of lawmakers contributed a fourth and fifth.'' And this is all in one day.

''Not to be left out, the National Association for Business Economics, the U.S.-China Economic and Security Review Commission,'' before whom I testified this afternoon, ''the Electric Power Supply Association, the Nuclear Energy Institute, and a coalition of environmentalists all hosted energy events of their own.

''Talk about a large carbon footprint. The amount of CO_2 emitted from the mouths of all these lawmakers, lobbyists and activists was enough to cause part of Greenland to melt into the sea.

'' 'This bill's going to have a tough time,' said Senator Larry Craig . . . That's a safe guess, given that the Senate plans for about eight days of debate on the bill, and Republicans such as Craig are hinting at a filibuster that could derail the whole thing.''

''The Senate energy legislation is fairly modest. It stays away from radical policies, such as a carbon tax or a cap on carbon emissions. Its toughest provision, a plan to increase fuel-efficiency standards to 35 miles per gallon by 2020, is under siege by a bipartisan group of lawmakers from car-manufacturing States.

'' 'The Senate energy bill started out fairly weak, and we don't see the debate getting any better,' complained Eric Pica, who represented Friends of the Earth at a protest by environmentalists on the Senate grounds yesterday.

''Minutes later, Republican lawmakers assembled in the Senate television gallery to voice similarly bitter objections to the bill, for completely opposite reasons. 'It doesn't do anything to lower the price of gasoline,' argued Senator MITCH MCCONNELL, the Senate Republican leader.''

''Did that message get out? Not without some difficulty. The Republican event was squeezed in between a Senate hearing on 'the impact of rising gas prices,' and a pair of House committee sessions on biofuels and 'climate change mitigation.' Within minutes of the GOP's departure from the television studio, Democrats walked in with a rebuttal.

'' 'We do not believe in the President's theory, the Republican's theory: Drill, drill, drill, more of the same,' Harry Reid, the Senate majority leader, taunted. 'It reminds me of Iraq.' ''

Over in the Cannon Caucus Room, where the Renewable Energy Caucus was caucusing among displays of pea pellets, switch grass and filament-free lightbulbs, exhibitors were on hand to talk about landfill gas and to hand out lollipops and bumper stickers saying I love wind energy.

''It was a festive gathering, but Representative ROSCOE BARTLETT, Republican from Maryland, a champion of renewable energy, delivered a somber message about progress in the capital. 'We've been crawling at a snail's pace,' he said. 'We've been doing little more than nibbling at the edges.

Now, for the article from Business Week, and we will kind of be reading this together because I have seen it for the first time just a couple of moments before I came to the well.

It's by Eugene Linden, and it's called, ''From Peak Oil to Dark Age?'' And this is what he says.

''Oil output has stalled, and it's not clear the capacity exists to raise production.

''With global oil production virtually stalled in recent years, controversial predictions that the world is fast approaching maximum petroleum output are looking a little bit less controversial.''

I would note as an aside that a couple of years ago when I began to talk about this, I ran the risk of being relegated to the lunatic fringe. But in another life I was a scientist. I'd been concerned about this problem for 40 years, and I thought these statistics in reality were on my side.

''At first blush, those concerned about global warming should be delighted. After all, what better way to prod the move toward carbon-free, climate-friendly alternative energy.

''But climate change activists have nothing to cheer about. The U.S. is completely unprepared for peak oil, as it's called, and the wrenching adjustments it would entail could easily accelerate global warming as Nations turn to coal. Moreover, regardless of the implications for climate change, peak oil represents a mortal threat to the U.S. economy.''

This isn't some wild, left-wing publication. This is Business Week who is saying this.

''Peak oil refers to the point at which world oil production plateaus before beginning to decline as depletion of the world's remaining reserves offsets ever-increased drilling. Some experts argue that we're already there, and that we won't exceed by much the daily production high of 84.5 million barrels first reached in 2005. If so, global production will bump along near these levels for years before beginning an inexorable decline.

''What would that mean? Alternatives are still a decade away from meeting incremental demand for oil. With nothing to fill the gap, global economic growth would slow, stop, and then reverse; international tensions would sore as Nations seek access to diminishing supplies, enriching autocratic rulers in unstable oil States; and, unless other sources of energy could be ramped up with extreme haste, the world could plunge into a new Dark Age.

□ 1730

Even as faltering economies burned less oil, carbon loading of the atmosphere might accelerate as countries turn to vastly dirtier coal.

When I read this, I was reminded of the observation of one of the giants in the area, one of the experts, Kenneth Deffeyes from Princeton University, who said that the least bad outcome from peak oil would be a deep worldwide recession that might make the 1930s look like good times.

Sound familiar to what I just read? He says, if you don't like that, try the Four Horsemen of the Apocalypse or famine, pestilence and death.

''Given such unpleasant possibilities, you would think peak oil would be a national obsession. But policymakers can hide behind the possibility that vast troves will be available from unconventional sources, or that secretive oil-exporting nations really have the huge reserves they claim. Yet even if those who say that the peak arrived are wrong, enough disturbing omens—for example, declining production in most of the world's great oil fields, and no new super fields to take up the slack—exist for the issue to merit an intense international focus.''

When I read about the decline in our big oil fields, I thought of another article about 3 weeks or so ago in the Post about the second largest oil field in the world, the largest one in Mexico, the Cantrell oil field, whose discovery was quite interesting. A Mexican fisherman by the name of Cantrell kept having oil-foiled nets. When oil foiled his net, he knew where to go, because there was only one oil company in Mexico, Pemex, so he went to Pemex, look what you did to my net, give me a new one.

So they did, but he came in so many times they wondered, do we really spill that much oil? So they asked, where are you finding all that oil? He said, come, I will show you. He showed them oil bubbling up out of the ocean. They drilled there, and for a number of years that has been the second largest field in the world, producing 2 million barrels of oil per day, the Cantrell oil field. It has declined down to 20 percent, down to 1.6 million barrels a day in the last 2 years.

The reality is that it will be here much sooner for the U.S. in the form of peak oil imports. Since we import nearly two-thirds of the oil we consume, global oil for export should be our bigger concern.

In that article about 3 weeks ago in the Post, they noted that in 8 years they estimate that Mexico will be an oil importer. I think it was in that same article that noted in 10 years Iran may very well be an oil importer. Maybe it has something to do with the reason they are interested in nuclear energy.

Fast-growing domestic consumption of oil-exporting nations and increasing appetites by big exporters such as China portend tighter supplies available to the U.S., China now the number two importer in the world, with an economy growing at 11.4 percent, the last quarter for which I saw data. With our economy barely 2 percent, how soon might they be the biggest oil importer in the world?

Unless world oil production rises rapidly, but output has stalled, call it de facto peak oil or peak oil light, it means that the United States is entering an age when it will have to scramble to maintain existing import levels.

We will know soon enough whether the capacity to raise production really exists. If not, basic math and the clock will tell the story. All alternatives, geothermal, solar, wind and so forth, produce only 3 percent of the energy supplied by oil.

If oil demand rises by 2 percent, while upward remains flat, a generation of alternative energy would have to expand 60 percent a year. That's more than twice the rate of wind power, the fastest-growing alternative energy.

All this incremental energy would somehow have to be delivered to transportation, which consumes most of the oil produced each year just to stay even with the growth in demand.

Nuclear and hydropower together produce 10 times the power of wind, geothermal and solar. But even if nations ignore environmental concerns, it takes years to build nuclear plants and even identify suitable, undammed rivers.

There are many things we in the United States can do and should have been doing other than the present policy of crossing our fingers. If an oil tax makes sense from a climate change perspective, it seems doubly worthy of it if it extends supplies. Boosting efficiency and scaling up alternatives must also be a priority. Recognizing that nations will turn to cheap coal, recently 80 percent of growth in coal use has come from China. More work is needed to defang this fuel which produces more carbon dioxide per ton than any other energy source.

Even if the peakists are wrong, and I will tell you each night I pray I am wrong, because if I am not wrong we are in for a pretty rough ride. Even if the peakists are wrong, we would still be better off taking these actions. If they are right, major actions right now may be the only way to avert a new dark age in an overheated world.

Again, I would like to emphasize, these are not articles from some left-wing environment magazine. These are articles from Business Week and the Washington Post.

Now I would like to turn to the first slide here on the easel, and this is a kind of an interesting slide, I think, that points to our problem. Here is a fellow looking at the gas pump and the $3 gasoline, he is in his huge SUV there. Demand, and looking at the supply in the pump, just why is gas so expensive?

Mr. Motorist, it's expensive because of supply and demand.

One of my colleagues asked me, what can I tell my constituents who are asking me what can we do to reduce the price of gas? I told him, tell them to drive less. It will certainly reduce their cost if they are driving less, and also, if collectively we drive less, then there will be more supply and less demand, and the price of gasoline and oil will drop. They are both exquisitely sensitive to supply and demand.

The next chart is one of my favorites, and this was referred to by Hyman Rickover who gave a speech 50 years

ago, the 14th day of last month, to a group of physicians in Saint Paul, Minnesota, and I would encourage a reread of this article several times over, very, very perceptive article.

He talked about 8,000 years of recorded history, and on our chart here we have only about 400 years, the last 400 years of that 8,000 years of recorded history. If we extended it this way, the others, 7.6 thousand years, it would be the same thing, very little energy being used. You could hardly see that energy was used here. It looks like zero because of this scale, it's hard to differentiate the tiny amount of energy that prehistoric man used that's compared to the energy we use today.

Then we began the industrial revolution. We see it here with brown, which was wood, and that industrial revolution was sputtering when we found coal. Then we found gas and oil. It took off. That's the red curve there. Look how sharply that is rising.

Now, this is a compressed abscissa because we have 400 years, and we will see that curve again, and it will be very flat, but that's because we will have stretched out abscissa and made the curve look flatter.

But notice what happened up about the 1970s up there. Had that curve kept going, we will be through the ceiling right now. Notice what happened in the 1970s where we had a drop in use, a world wide recession as a result of the oil price shocks, and much increased deficiency. The efficiency of your refrigerator today is probably three times of the 1970s, and your air conditioner the same thing.

Hyman Rickover pointed out, when he gave his speech 50 years ago, that we were 100 years into the age of oil, and he wondered how long the age of oil would be. We have, today, a much better understanding of that, because in the last 50 years, we have seen the peaking of oil in our country. It occurred in 1970. The peaking of oil, and I think 35 of the 48 top oil producing countries in the world, he noted that the age of oil would occupy but a relatively brief moment in the stretch of human history, and 8,000 years of recorded history, the age of oil will occupy about 300 years.

We are not running out of oil. There is a lot of oil left. But it's going to be very difficult to get. That's going to make it very expensive, and each year we will get less and less. That happened in the United States.

Now, we work very hard to prove that M. King Hubbert was a liar. He was mentioned in one of the articles. M. King Hubbert predicted in 1956 that we would peak in 1970.

Now, we knew by 1980 that he was right, because we were already 10 years down the other side of Hubbert's speech. Our response to that was exactly the wrong response. Our response was let's see if we can't find more. So we gave tax incentives to see if we couldn't get the oil people to drill more, and it worked. They drilled more, but they didn't find more.

Now, in spite of having drilled more oil wells in our country than all the rest of the world put together, we're producing about half the oil today that we produced in 1970s, in spite of the fact that we found enormous amounts of oil in Alaska and in the Gulf of Mexico.

The next slide is a very interesting slide. This is the world according to oil.

This imagines that the size of the country would be relevant, consistent with the amount of oil that they have. So, if you are thinking about oil, who are the biggies in oil?

Obviously, Saudi Arabia dominates the landscape. They have about 22 percent, not quite a fourth of all of the oil reserves in the world.

Then there is Iran and Iraq and Kuwait. Kuwait, it looks like a little province. That's what Saddam Hussein thought, a little province that ought to belong to Iraq, so he went to take it. Tiny little country. Look at the amount of oil that it has. Here we are in the United States, pretty anemic, 2 percent of the known reserves of oil in the world.

But I want to point to something even more alarming than that. If I lived in China, look at it over there, 1.3 billion people. Today they are getting about 70 percent of all of their energy from dirty coal. They are near suffocating under it. Even worse in China, with 1 billion people and growing, soon to surpass China's 1.3 billion is India, which has only half the energy of China, and China has less oil than we do. So the world is poised if we are approaching peak oil. The world is poised for some very serious times.

The next chart is one that inspired 30 of our leading Americans, and I had the privilege of testifying with one of them yesterday, Jim Woolsey, and McFarland and Boyden Gray and 27 others, several of them, very senior four-star admirals who wrote a letter the President saying Mr. President, the fact that we have only 2 percent of the world's reserves of oil and use 25 percent of the world's oil and import almost two-thirds of what we use is a totally unacceptable national security risk. We really have to do something about that.

The President mentioned this at one of his State of the Unions, and he noted that we get this oil from countries which, as he said, which don't even like us.

Two more facts on this chart. We represent, it says here, 5 percent. We are less than that. We are one person out of 22 in the world, less than 5 percent of the world's population. We use 25 percent of the world's oil and import almost two-thirds of what we use.

The other figure on here really is an interesting one. We have only 2 percent of the world's oil reserves, but we are producing 8 percent of the world's oil.

What that means, of course, is that we are pumping our oil four times faster than the rest of the world. It's not hard to understand that when you realize we have drilled, as I said, more oil wells than all the rest of the world put together.

The next chart here, this isn't really a very good one, because you have to read the numbers and don't pay much attention to the symbols, because they make it look kind of even, but these are some data from Hyman Rickover's speech. He went through a development of civilization and, particularly, our industrial civilization, and the role that energy played, and if in fact that is going to be a bell curve kind of experience, as we go down the other side will we retrace in reverse the steps that he so well defined in the contribution of energy to the development of our civilization.

He noted that each person, I generally use about 75 watts, but that's, I guess, sitting here, and he had them sleeping, and he said that we are about 35 watts of electricity, or 1/20 of a horsepower.

□ 1745

That's how much energy we represent, 1/20th of a horsepower. In modest activity, you're something like a 70-watt bulb. That's all the energy that you are producing.

The household appliances he said that were available to the housewife of 50 years ago, it would be more than that today, wouldn't it, he said that represented the work of 33 faithful household servants is the way he expressed it. This energy has been such a cheap servant.

We had some factories then. We don't have many now. We had some factories then, and he said that the energy available to assist that factory worker in his productivity was the equivalent of being supported by 244 men. The automobile, and they got roughly the same mileage then as now. The automobile, he said, when going down the road, represented the work output of 2,000 men, and the locomotive that pulled the cars, 100,000 men, and the jet plane, 700,000 men.

Each barrel of oil has an energy equivalent, and you can see it here from these numbers. Each barrel of oil has the energy equivalent of 12 men working all year. And you will pay $125 roughly at the pump. So you can buy yourself the work equivalent of 12 men working all year with a barrel of oil.

When I first read that number, I said, that can't be. And then I thought about it, and I drive a Prius, and we've been averaging, for the past several thousand miles, it's 49 miles per gallon. And I asked myself, how long would it take me to pull my Prius 49 miles? That little gallon of gasoline, still cheaper at $3, by the way, still cheaper than water in the grocery store, pulls my car 79 miles. How long would it take me to pull the car that far?

Another statistic that really helped me understand that that's probably right is that if a man works really hard in his yard all day, his wife could get

more work out of an electric motor for less than 25 cents' worth of electricity. Now, that may be humbling to recognize that we're worth less than 25 cents a day, but that's the reality of this incredibly dense, cheap, so far ubiquitously available fossil fuel energy. It's just been everywhere. We assume it's there just like we assume that water and air are there.

The next chart, and if we could have only one chart to speak to, so that we can understand where we are and where we've come from and where we're going, this would be the chart. This shows the discoveries of oil. And you can see them there. Way back in the 1930s we found them, a bunch in the 1940s, and, boy, did we start finding it in the 1950s and 1960s and 1970s.

And then starting from 1980, down, it just has been going down, down, down. And that's in spite of the fact that we're drilling more and more wells. We have computer modeling and three-D seismic technologies we didn't know back when we were finding most of this oil. We pretty much have mapped the Earth geologically. We know the kinds of the formations oil is found in.

It is unlikely, very unlikely we will find any more large reservoirs of oil. The solid black line here represents the rate at which we've been consuming oil. Well, actually the production and consumption has been the same. There are no big lakes of oil anywhere so we've been using all we've produced. So this is the consumption curve. It's also been the production curve because up till now we have consumed everything we produced, or we've produced everything we would like to consume.

But look what happened to this curve. This was an exponential curve. And up through the Carter years, the Carter years about here, up through the Carter years we used as much oil in each decade as we had used in all of previous history. That is a stunning statistic. That means that when you've used half the world's oil, there would remain only 10 years of oil at present use rates because we would have used as much oil as in all of previous history.

Well, things really change. If they hadn't changed, extrapolate this. It would be above this graph, well above this chart. So really good things happened as a result of the shocks we had at the Arab oil embargo. We're very much more efficient than we were.

And by the way, our citizens in California use maybe two-thirds the energy that we use here. Do you think they're less happy than we are? I have a lot of colleagues in California. They would really debate that if you suggested that.

Well, since about 1980, as these curves show, we have not found as much oil as we've been using. Today we're pumping what, 4 or 5 barrels for every barrel we find. So now we've been dipping into the past reserves. This chart says that peaking should be occurring, what, about now, or 2010, something like that.

Now, we can make the future look different within limits, depending on how aggressive we are with enhanced oil recovery, sending live steam down there, flooding it with the CO_2 for CO_2 sequestration, flooding it with seawater as the Saudis do. They pump 3 or 4 barrels of seawater for every barrel of oil that they pump.

They have suggested here in the lightly shaded areas to the right what future discoveries will be like. They certainly won't be that smooth curve. They'll be up and down. But I'll tell you, if you were smoothing a curve out you wouldn't have come that high, would you, if you just look at this chart. So they're being generous, I think, in how much oil we might find.

Well, unless you think we're going to find enormously new reservoirs of oil, and I know of no responsible experts who believe that, it's clear that you cannot pump what you have not found. And unless we find a great deal more, the area under our consumption curve cannot be larger than the area if you put a smooth curve around this, the area under the discovery curve.

And so these two articles I read were reflecting the reality that we're probably at peak oil and face a very challenging future.

The next chart shows one depiction of what's called Hubbert's peak. This is U.S. oil production. This is the whole country's production. He predicted only the lower 48, by the way. But you see we've reached a peak. In about 1970 we reached a peak, and now we're about half the oil production in spite of having more oil wells than all the rest of the world.

The next chart is really an interesting one, because this chart is used by one of the few groups that I think are in denial. This is the Cambridge Energy Research Associates. They are predicting that peak oil, if it occurs, is going to be an undulating plateau somewhere well out into the future, not to worry about it today. And they need to discredit M. King Hubbert, because M. King Hubbert predicted that the United States would peak in 1970 and we did peak in 1970. And in 1979, I think, or 1969, I forget which date, he predicted the United States would be peaking, I'm sorry, the world would be peaking about now.

Well, a very obvious question, if he was right about the United States, which is clearly a microcosm of the world, why shouldn't he be right about the world?

And knowing he was right about the United States by 1980, because we peaked in 1970, we've now lost 27 years when we should have been addressing this problem.

Well, they use these curves to try to convince you and me that you shouldn't have any confidence in M. King Hubbert; therefore, don't worry about the future. Hubbert peak for the lower 48 was the red going up this side and the yellow coming down over there.

Now, the actual lower 48 was the green, and they think that deviates a great deal from the yellow. Gee, I think they're pretty close. From my perspective, I think that they confirm the predictions of M. King Hubbert.

And then the red, now, the red is off a little bit. That's because he didn't include Canada and the Gulf of Mexico. And this little bump on the way down is the oil from Alaska, from Prudhoe Bay. I've been there, Prudhoe Bay. A 4-foot pipe right where 3 starts there at Prudhoe Bay. For years, less now, it's running down. For years a fourth of all our domestic production came through that pipeline.

The next chart is just one of many quotes from one of four studies, a fifth one, which is now out, but it's been embargoed so we can't really talk about it until they've released it. This is from the first report paid for by the Department of Energy, done by the big prestigious SAIC, Science International Applications Corporation, known as the Hirsch Report because Robert Hirsch was the principal investigator on it.

And I just want to mention the highlight here. He says the world has never faced a problem like this. There is nothing in history, which is what these articles were saying, right? There is nothing in history that is a precedent to this. There's nothing to guide us as to what will happen and where we should go.

The next chart is a schematic of the peak. Now, I said we were going to spread out the abscissa and flatten the peak. That's exactly the same peak that you saw before when we compressed the abscissa in a 400-year scale. This is the schematic. The yellow area is about 35 years. Two percent growth, by the way, doubles in 35 years; four times, bigger in 70 years; eight times bigger in 105 years.

No wonder Albert Einstein, in response to a question, Dr. Einstein, what will be the next big energy force in the universe after nuclear? And he said the most powerful force in the universe is the power of compound interest. Exponential growth. And we see it here.

So if this is, in fact, where we are, and it's now being more and more widely recognized that that's probably correct, this is what the future will look like. That dark green area represents the amount of oil that will be available. If our economies are going to continue as they are now, with just a modest 2 percent growth, this is a 2 percent growth curve, we're going to need that much more oil. We're going to need twice as much oil at the end of 35 years. That is a daunting challenge.

When you represent that, when you remember that we use 21 million barrels of oil a day in our country, a fourth of the world's production and the total amount we get from all of the usual alternatives is something like 3 percent of everything; and they're growing rapidly, but it's still only about 3 percent of all of our energy use.

The next chart, it's really an interesting chart and it points to two things that I'd like just for a moment to emphasize. Here we see that typical curve. You saw it before, the rise and then the stuttering in the '70s. We became more efficient or this would be off the top of the chart here. And I won't this evening go into how they got there, but using some very suspect data, our energy information agency is predicting that we will find as much more oil as all the reserves that we now know exist.

Even if that is true, from their own chart, that pushes the peak out from only now to 2016. That's 9 years from now. And the Hirsch report said, unless you started preparing 20 years before peak oil, you were going to have a pretty rough ride.

Now, if they're not going to find this enormous amount of additional oil, and I think the odds are very good they will not, then peaking is about now, and the curve starts down here.

Let me point to the other thing they note here; that is, if you have some really vigorous enhanced oil recovery, and you extend that peak production of oil, you might push it out to 2037. But then look what happens. You fall off a cliff. Obviously, the area between these two curves has to be the same as the area between these two curves down here. You know, you can't pump what's not there.

Now, you may get a little more. You will get a little more by enhanced oil recovery. But compared to the trillion barrels of oil that we've used so far, the trillion that we will use in the next 150 years as we run down the other side of Hubbert's peak, the additional oil we get is going to be fairly limited.

The next chart has a quote by one of the giants in this area, Laharrere, who says the USGS estimate implies a fivefold increase in discovery rate and reserve addition for which no evidence is presented. Such an improvement in performance is, in fact, utterly implausible, and I would agree, utterly implausible, given the great technological achievements of the industry over the past 20 years, the worldwide search and the deliberate efforts to find the largest remaining prospects.

Boy, we have plowed that ground and Laharrere is exactly right. Their predictions I think are implausible.

The next chart is one that I hope more and more of us look at and reflect on. This is an interesting one. I wish it was in living color. It's just kind of plain Jane. But on the abscissa here we have how much energy we use per person, and where would you expect to find us using more energy per person than any other person in the world. There we are, way up there. And the ordinate here is how happy we are with life, how content we are.

□ 1800

And we are okay. We are pretty content. But notice on this chart that there are, I think, 20 some nations, all of those from here up, that use less oil than we, less energy than we, who are happier than we. Not just as happy as we, happier than we are.

Now, it is obvious at this end of the curve it is really hard to be happy when you don't have much energy. When you are burning cow dung and so forth for your heat, you are not really happy. But many nations with about a fourth of energy that we use are just about as happy as we are.

So this is very encouraging. What that means is that you don't have to use as much energy as we are using to be happy. We are the most creative, innovative society in the world. We can use far less energy and be, I think, happier because we will have the satisfaction of really making a contribution.

The next chart kind of points to some of the difficulties, and these two articles I read mention those. I use a really simple analogy to help us understand where we are. We are like the young couple whose grandparents have died and left them a big inheritance, and they now are lavishly spending that inheritance, and 85 percent of everything they live on comes from their grandparents and only 15 percent from what they earn, and the inheritance is going to run out a long time before they retire; so they have obviously got to do something. They got to make more or spend less or some combination of those two.

I use those figures because that is where we are in terms of the amount of fossil fuel energy we use, 85 percent. Some will say 86 percent. Coal, oil, and gas make up about 85 percent of all the energy we use. More than half of the rest comes from nuclear power.

By the way, we are the biggest nuclear power producer in the world. France produces 75 percent of their electricity. We produce 20 of ours. But since we are so much bigger than France in terms of total quantity of electricity, we produce more than France does at a much smaller percentage. Well, nuclear power could and maybe should increase, but it comes with problems, as you know. And, also, unless you go to some different technologies, there is not a forever supply of fissionable uranium in the world. That is a very finite supply. So you are going to be going to burning something else or using a breeder reactor, which has problems of enrichment and moving fuel around that is weapons grade and so forth. So this comes with some obvious drawbacks. But shivering in the dark has some obvious drawbacks too, and we need to trade those off as we are looking at maybe using more nuclear power.

Then we come to the true renewables. And I will tell you that we will transition, the world will transition, to sustainable renewables, either because geology demands it as we run down the other side of Hubbert's Peak, and for the last 150 years of this glorious age of oil, we will move to sustainable renewables. If we do it on the terms of geology, it may be a really rough ride. If we do it on our terms, it will be a much less rough ride and it could really be fun because there is no exhilaration like the exhilaration of meeting and overcoming a challenge and, boy, this is a huge challenge. I can see this really turning Americans on. This is a far bigger challenge than we faced in World War II and that turned everybody on. I am 81 years old. I lived through that. Everybody had a victory garden. We had daylight savings time, I think, for the first time so you could work in your victory garden. There were no new cars for us. We made all sorts of sacrificing. We did it because we knew we needed to do it.

And before I forget as far as what we ought to be doing for the future, let me tell you that I think we can get there with our enormous creativity and innovation if we have proper leadership. We need a program that has the total commitment of World War II, that has the technology focus of putting a man on the moon and the urgency of the Manhattan Project. And I think Americans could be marshaled. I think we could make a tremendous contribution and really feel good about it. In that little chart that showed how satisfied we are with life, I think we would be even more satisfied with life, living just as well as we live now on a whole lot less energy and feeling good about the fact that we are able to live that well with less energy.

I want to spend a moment looking at the renewables that we will be turning to increasingly. This is a 2000 chart; so there are more now. But in 2000 solar was 1 percent of 7.07 percent. So it is five times bigger now, 0.35 percent. Big deal. And I am a big solar fan. I have on off-the-grid home and I get all of my electricity from solar and wind, but I recognize this is a tiny contributor now and has a long way to go.

Wood: That is waste products, and the timber industry and paper industry probably can't grow a whole lot without raping our forests.

Waste energy: We can do a whole lot more of that. But please note when you look at that waste pile that is going into the furnace, much of it came from oil. In an energy deficient world, that huge stream of waste will have really shrunk. There will be nowhere near as much.

Wind: The rapidest growing, at 30 percent per year that industry is growing. Still a tiny percentage. A huge frontier: conventional hydro. We don't have any more big rivers to dam in our country. We could get maybe as much more hydro from microhydro. Microturbines, that technology is really improving now.

Let's look at the next chart because that helps me talk about fuel from food. This is a chart on comparing the energy history with petroleum and with corn. And 75 percent of all the energy you get from corn comes from the fossil fuels you use to grow the corn

and haul it to the mill and ferment the grain and so forth.

The article in the Washington Post of a couple weeks ago noted that if you use all of our corn for ethanol, all of it, and discounted it for the fossil fuel input, which they said was 80 percent, and this is a little optimistic but 80 percent is not bad, that it would displace 2.4 percent of our gasoline. And they noted correctly that you could save that much gasoline if you tuned up your car and put air in the tires. That just points out the incredible challenge we have. The enormous amounts of energy that we get from this, 21 million barrels of oil we use a day, 70 percent of it in transportation.

Just to look at this bottom pie chart here, why it is not more efficient. Look at this purple section here. That is almost half of it. That is nitrogen fertilizer that we produce from natural gas. Not much in this country because it is too expensive. We produce it some places overseas from gas where gas is stranded. That is, there is gas and nobody to use it and it is hard to haul; so it is cheaper. So we make the nitrogen fertilizer there. Enormous investments of energy in growing corn.

I have several charts that relate specifically to agriculture. Farm productivity and number of farms: And to nobody's surprise, the number of farms have been going down, down, down. You see it in the red line there. While the productivity for the farm has going been going up up, up, up. That is because the farms have been getting bigger and bigger and bigger.

Now, to support all of that big expensive equipment, you have to have to farm, you need to farm several thousand acres. I bought a farm in Frederick County. I milked cows. I had 144 acres. I milked 60 cows, and I grew almost everything on the farm that I fed those cows. You can't do that today. The farms are very much bigger and they have huge equipment and just a very different kind of agriculture.

There are several charts here that present a very disturbing story for the family farm. Today, only 2 percent of our people farm, but almost everybody remembers an uncle or aunt or grandparent whose farm you went to. There is a lot of nostalgia in our country for farms. And this shows a percentage of U.S. farms. And these are the little farms. The small family farms are more than 90 percent of all of the farms. But look at the value of production. This little 7.5 percent of the farms which are large-scale family farms, the big family farms, represent 60 percent of all of the productions. And we will see in some future charts that almost all those small family farms are losing money. The people are working off the farm to support them.

Here is the next chart. These are things that our farm bill is going to have to take into consideration. This is a share of farm business assets, acres owned, and acres enrolled in a conservation wetland reserve program. These are the assets. And you see again that most of the assets are in the small farm. And land owned is nearly the same as assets because the land is the biggest asset the farmer has. That is why that little circle there looks very much like this one. The assets and the land owned are about the same thing because 90 odd percent of all the assets are the land. And this shows that our small farms are really cooperating with these programs. Notice these small farms. That part of the circle has gotten larger. Our small farms are doing a really good job of respecting our wetlands and putting their land in reserve and so forth.

The next chart is almost one that almost makes me weep because I represent a farm district. It still is the biggest industry in my district. And this shows the size of farms and whether they are making money or not. The yellow is if you are making 20 percent or more. The next one is if you are making 10 percent or more, and then 0 to 10 percent in the red. Look at it. Losing money. This is by size of farm. Every farm group loses money. Generally speaking, the smaller you are, the more you lose.

But even our big farms, our biggest farms, large-scale farms, more than a fourth of them are losing money. There is no other segment or society that has as much capital at risk who work so hard and get so little for it as our farmers. Please remember your farmer when you go to the grocery store tonight. When I was a kid 25 percent of the average family budget went for food. Now it is less than 10 percent. And that farmer is subsidizing your quality of life by 15 percent because of his ingenuity and hard work and his willingness to work for less than nothing. He is losing money here. So he is subsidizing your quality of life. Please remember your farmer when you go to the grocery store. You are living as well as you are because he is working as hard as he is.

The next one shows the farmer on the tractor. And, boy, has he got a red tractor. And these are the low sales and the medium sales farms, and if you sell a little more, you don't lose as much.

You have to be a pretty good farmer today to break even, by the way, and a really good farmer to make money.

The next chart: Principal farm operators reporting off-farm work. Boy, the small farms, they are working a lot off the farm, aren't they? I guess you heard the story of the farmer who won $5 million in the lottery. They asked him what he was going to do with it. He says, ''I guess I will just keep farming until it's gone.'' And that is kind of a sick joke but it is true. That is what our farmers are doing. Many of our farmers are farming away those huge assets you saw in the form of land. They are farming those assets away.

The next chart, this is principal farm operators and self-employed workers and nonagriculture industries who are at least 65 years old. Every year the average age of our farmers gets almost 1 year older. I know a lot of farmers. I know almost no farmer whose kids want to farm. It is really tough work. There is little financial reward for it. Huge risks, risks that you can't control. Drought, cold weather, frost in the spring, you can't control any of these things and you are at risk by all of those. A very serious problem. Our farmers are getting older and older and who is going to replace them?

Next chart: Gross sales of $1 million or more. And it is still the family farm but these are, many of them, big family farms. They farm their farm and they lease maybe ten farms around them. And the others have the nice quality of life of living on a farm. And you can have cover 100 acres of land and you lease it to one of these big farmers, and they will be a family farm and they may spend 6 days a year on your farm. They come in with two combines and cut the whole thing. They put Paraquat on it that kills the weeds in the spring and then in 1 day they will plant the whole farm to corn, for instance. They may spend 6 days a year on your farm total.

The next chart is a really interesting chart, and this shows the problem that we would be in if we hadn't been as efficient as we have been. And you saw from those previous charts how our efficiency has slowed that rate of increase in the use of oil, of energy generally, and this shows the avoided supply. That is our efficiency. Wow, that is about a third of it, isn't it?

□ 1815

We would be using a third more if it weren't that we were as efficient as we are.

So what do we do now? Well, I mentioned that I thought that we needed a national program that had the total commitment of World War II. Everybody has to be involved. These two articles, boy, I was appreciative for these two articles. We scheduled this time with you before these articles came out. This was great that they came out because they make my point. We face huge problems.

I have a bill, H.R. 80, the Self-Powered Farm Energy bill. If our farmers can't produce enough energy to run their farm and a bit more for the guy who lives in town, we're in for a really rough time, aren't we? So this is a bill which challenges our farmers to be energy independent. And there's a reward for that. This is not going to cost the taxpayer much money. You know, people work really, really hard for an award, maybe harder than they would work if you were paying them. We are going to give an award for this, for the farms that do the best in this. And we think there is a lot of creativity and ingenuity out there and we should do very well with this.

Another bill that's a good bill, H.R. 670, the so-called DRIVE bill, and

American Energy For America's Future, the bipartisan DRIVE Act, Dependence Reduction through Innovation in Vehicles and Energy Act. By the way, driving that SUV does not make you safer. Look at the fatality statistics. They are higher in the SUV than the family car. Because they turn over so easily, the actual fatality figures are higher for the SUV than they are for the standard family car. You don't need to be in an SUV to be safer.

Well, Mr. Chairman, I think that Americans will really rally to this challenge. As I have said, there is no exhilaration like the exhilaration of meeting and overcoming a big challenge, and boy, this is a huge challenge. And I think properly motivated, the American people will turn to and demonstrate to the world that we are still the most creative, innovative society in the world. I think we can again become an exporting Nation.

There is going to be a lot of technology associated with moving to these sustainable alternatives. Who better than we to develop those technologies. And let's sell them to the world. Let's not turn over the manufacture of these technologies to somebody overseas, let's sell them to the world.

There are two reasons for doing this. One is that if we are going to maintain anything like the quality of life we have now, we really need to do this. And the other thing is there is going to be a mad global scramble for energy. If we haven't led the way, if somebody hasn't led the way to move us to renewables, what will the world do when we come to the reality that there just isn't going to be enough oil there?

Just one little note in closing. We need to rethink a lot of things. Our whole financial structure needs to be rethought. If you think about our financial structure, and I am not an economist, I don't think you have to be an economist to understand obvious things. When we put more money in circulation, it is printed by the Feds. And they put it into the circulation by loaning it to somebody. Now, if there are only two of us in the world, and I borrow money and I have to pay interest on it, one of two things has to happen, either there has to be growth so that I have the money to pay the interest with, or you, if you are the only other guy in the world, you have to lose money. So I have some of your money so that I can pay interest on the money that I borrowed. That's why we start to shudder about the economy when it drops below 2 percent growth. Because we can't imagine an economy that doesn't include growth because our whole financial system is predicated on growth. We have got to have growth.

Now, we can have growth without using more energy if we become more efficient. That's a challenge. So we still can grow some. But that is not limitless growth because that you can't be infinitely efficient. So we will have to, one day, sooner or later, come to the realization that we've got to have a financial system that doesn't require growth. But we can do that.

We have met a whole lot of challenges in the past and done very well with overcoming. And Mr. Speaker, I am very encouraged that with proper leadership, and you know, I will tell you, we don't have much oil in this country, but we have even less real leadership on energy. But with responsible leadership in this country, I think that Americans will heed to, and we will surprise the world with what we can do in meeting the challenges of peak oil.

LEAVE OF ABSENCE

By unanimous consent, leave of absence was granted to:

Mr. GUTIERREZ (at the request of Mr. HOYER) for today on account of family illness.

Mr. WESTMORELAND (at the request of Mr. BOEHNER) for today on account of unexpected family medical reasons.

SPECIAL ORDERS GRANTED

By unanimous consent, permission to address the House, following the legislative program and any special orders heretofore entered, was granted to:

(The following Members (at the request of Ms. WOOLSEY) to revise and extend their remarks and include extraneous material:)

Mr. DEFAZIO, for 5 minutes, today.

Ms. WOOLSEY, for 5 minutes, today.

(The following Members (at the request of Mr. KING of Iowa) to revise and extend their remarks and include extraneous material:)

Mr. POE, for 5 minutes, June 21 and 22.

Mr. JONES of North Carolina, for 5 minutes, June 21 and 22.

Ms. GINNY BROWN-WAITE of Florida, for 5 minutes, today.

(The following Member (at her own request) to revise and extend her remarks and include extraneous material:)

Ms. WASSERMAN SCHULTZ, for 5 minutes, today.

ADJOURNMENT

Mr. BARTLETT of Maryland. Madam Speaker, I move that the House do now adjourn.

The motion was agreed to; accordingly (at 6 o'clock and 20 minutes p.m.), under its previous order, the House adjourned until Monday, June 18, 2007, at 12:30 p.m., for morning-hour debate.

EXECUTIVE COMMUNICATIONS, ETC.

Under clause 8 of rule XII, executive communications were taken from the Speaker's table and referred as follows:

2224. A letter from the Principal Deputy Associate Administrator, Environmental Protection Agency, transmitting the Agency's final rule — Foramsulfuron; Exemption from the Requirement of a Tolerance [EPA-HQ-OPP-2006-0880; FRL-8125-5] received May 8, 2007, pursuant to 5 U.S.C. 801(a)(1)(A); to the Committee on Agriculture.

2225. A letter from the Principal Deputy Associate Administrator, Environmental Protection Agency, transmitting the Agency's final rule — Flufenacet; Pesticide Tolerance [EPA-HQ-OPP-2006-0965; FRL-8124-2] receivedMay 8, 2007, pursuant to 5 U.S.C. 801(a)(1)(A); to the Committee on Agriculture.

2226. A letter from the Principal Deputy Associate Administrator, Environmental Protection Agency, transmitting the Agency's final rule — Fenpyroximate; Pesticide Tolerance for Emergency Exemptions [EPA-HQ-OPP-2007-0237] Recieved May 8, 2007, pursuant to 5 U.S.C. 801(a)(1)(A); to the Committee on Agriculture.

2227. A letter from the Principal Deputy Associate Administrator, Environmental Protection Agency, transmitting the Agency's final rule — Clethodim; Pesticide Tolerance [EPA-HQ-OPP-2005-0535; FRL-8127-2] received May 8, 2007, pursuant to 5 U.S.C. 801(a)(1)(A); to the Committee on Agriculture.

2228. A letter from the Principal Deputy Associate Administrator, Environmental Protection Agency, transmitting the Agency's final rule — Bacillus thuringiensis Vip3Aa19 Protein in Cotton; Exemption from the Requirement of a Tolerance [EPA-HQ-OPP-2006-0913; FRL-8124-6] received May 8, 2007, pursuant to 5 U.S.C. 801(a)(1)(A); to the Committee on Agriculture.

2229. A letter from the Principal Deputy Associate Administrator, Environmental Protection Agency, transmitting the Agency's final rule — Dioxin and Dioxin-like Compounds; Toxic Equivalency Information; Community Right-to-Know Toxic Chemicals Release Reporting [EPA-HQ-TRI-2002-0001; FRL-8311-6] (RIN: 2025-AA12) received May 8, 2007, pursuant to 5 U.S.C. 801(a)(1)(A); to the Committee on Energy and Commerce.

2230. A letter from the Principal Deputy Associate Administrator, Environmental Protection Agency, transmitting the Agency's final rule — Determination of Attainment, Approval and Promulgation of Implementation Plans and Designation of Areas from Air Quality Planning Purposes; Ohio; Redesignation of Washington County to Attainment of the 8-Hour Ozone Standard [EPA-R05-OAR-2006-0892; FRL-8313-1] received May 8, 2007, pursuant to 5 U.S.C. 801(a)(1)(A); to the Committee on Energy and Commerce.

2231. A letter from the Principal Deputy Associate Administrator, Environmental Protection Agency, transmitting the Agency's final rule — Determination of Attainment, Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; Ohio; Redesignation of Jefferson County to Attainment of the 8-Hour Ozone Standard [EPA-R05-OAR-2006-0891; FRL-8312-7] received May 8, 2007, pursuant to 5 U.S.C. 801(a)(1)(A); to the Committee on Energy and Commerce.

2232. A letter from the Principal Deputy Associate Administrator, Environmental Protection Agency, transmitting the Agency's final rule — Determination of Attainment, Approval and Promulgation of Implementation Plans and Designation of Areas of Air Quality Planning Purposes; Ohio; Redesignation of Belmont County to Attainment of the 8-Hour Ozone Standard [EPA-R05-OAR-2006-0046; FRL-8312-8] received May 8, 2007, pursuant to 5 U.S.C. 801(a)(1)(A); to the Committee on Energy and Commerce.

2233. A letter from the Principal Deputy Associate Administrator, Environmental Protection Agency, transmitting the Agency's final rule — Determination of Attainment, Approval and Promulgation of Implementation Plans and Designation of Areas