know what? I remember now why we put Democrats in charge when we wanted to take care of people, because they create programs like Medicare, and Republicans want to eliminate them.

The Acting CHAIR. The time of the gentleman has expired.

Mr. GUTHRIE. Mr. Chairman, I move that the Committee do now rise.

The motion was agreed to.

Accordingly, the Committee rose; and the Speaker pro tempore (Mr. CANSECO) having assumed the chair, Mr. WOMACK, Acting Chair of the Committee of the Whole House on the state of the Union, reported that that Committee, having had under consideration the bill (H.R. 1216) to amend the Public Health Service Act to convert funding for graduate medical education in qualified teaching health centers from direct appropriations to an authorization of appropriations, had come to no resolution thereon.

THE WINNERS OF THE NASA AERONAUTICS SCHOLARSHIP AWARD

(Mr. THOMPSON of Pennsylvania asked and was given permission to address the House for 1 minute and to revise and extend his remarks.)

Mr. THOMPSON of Pennsylvania. Mr. Speaker, I rise today to recognize two individuals from my district who were recently selected to receive NASA's Aeronautics Scholarship Award—Khalil Ramadi and Robert Schroeder, both of whom are students of Penn State University.

The Aeronautics Scholarships Program, which is in its fourth year, aids students enrolled in fields related to aeronautics and aviation studies. These gentlemen are two of 25 undergraduates and graduate students selected from hundreds of applicants from across the country to receive aeronautics scholarships.

Robert and Khalil will have the opportunity to intern with NASA researchers and to directly work on projects such as managing air traffic more efficiently and improving safety. They will be part of a nationwide team of researchers that is pursuing an ambitious set of aeronautics technology development goals.

Their hard work has gotten them to this point, and through this award, they will now play an even bigger part in contributing to our Nation's pursuit of solutions for some of the most pressing challenges facing the air transportation systems today.

I want to thank Khalil and Robert for their hard work and dedication. Congratulations on receiving this honored distinction.

□ 2040

PEAK OIL

The SPEAKER pro tempore. Under the Speaker's announced policy of January 5, 2011, the gentleman from Maryland (Mr. BARTLETT) is recognized for 60 minutes as the designee of the majority leader.

Mr. BARTLETT. Mr. Speaker, I would like to spend just a few moments putting the debate that we are having on Medicare in perspective.

This year, our budget deficit will be close to $1.6 trillion. That is a really big number. Well, what does it mean? Well, it means that about every 6 hours—as a matter of fact, a little less than that—we accumulate another $1 billion deficit that adds another $1 billion to our debt.

This $1.6 trillion is, as a matter of fact, about a half trillion dollars more than all the money that we come here to vote to spend. We spend the better part of 12 months debating a large number of authorizing bills and voting the appropriations bills to spend just a little over $1 trillion. Our deficit is $1.6 trillion. That means it's about a half trillion dollars more than all the money we vote to spend. What that means, Mr. Speaker, is that if we had no military—just don't fund it, send all the service people home—if we had no Department of Education, no Department of Commerce, if we emptied all of those large buildings full of government bureaucrats, we would still have about a half trillion dollar deficit. What that means of course is that there is no chance, no opportunity of balancing the budget by cutting spending in all of those programs that we spend the better part of a year debating here.

Well, if that wouldn't balance a budget, what then must we do? It's very clear that if the deficit is about a half trillion dollars more than all the money we vote to spend, that a lot of the spending that accumulates this deficit is in programs that we don't vote to spend money on. These are programs that pay the interest on the debt, that's kind of mandatory spending—if you don't do that you're in big trouble—and it's Medicare and Medicaid and Social Security.

And so in this debate on Medicare, it's not just the Medicare Trust Fund that we're talking about that will go bankrupt—it will because today and every day, with no time out for holidays or weekends, 10,000 of our baby boomers retire and they stop paying into these funds and they start drawing from these funds. And so as we debate this subject, we need to remember that it's bigger than Medicare, that even if you could agree that Medicare will somehow magically be solvent, it really won't matter if we have a country that's bankrupt, will it? Because you can't have a Medicare program in a country that has no government because it has gone bankrupt, and that's what is going to happen if we don't get a handle on this debt. And it's a huge problem.

Our leadership on our side of the aisle worked very hard to keep the promise that was made during the campaign of cutting $100 billion from spending this year. That's a lot of money to cut. But even if we had cut the $100 billion, that would have been one-sixteenth of the deficit. But it turned out to be an amazing disappearing $100 billion. It shrunk to $61 billion, then it shrunk to $38 billion, and then when CBO looked at the actual outlays this year of how much we would save, it shrunk to $352 million. That is, Mr. Speaker, about one-third of 1 percent of what we promised. And even if we had delivered what we promised, $100 billion, that would have been roughly 6 percent of the deficit, one-sixteenth of the deficit.

So when we talk about these individual programs, it's nice to keep in perspective the overall picture of where we are. If you are excited by challenges, you will be exhilarated by this challenge because this is a huge, huge challenge that our country faces.

We now are about a decade into a new century and a new millennium. And it's interesting to look back at the last century and ask ourselves what was probably the most important speech given in the last century. Now if you were to ask that question of 100 people, probably not one of them would cite the speech that I'm going to tell you tonight was the most important speech of the last century, but I think that if you were to ask that question 10 or 15 years from now, that almost all of those 100 people would tell you that this speech is probably the most important speech of the last century. It was given on the eighth day of March in 1956 by a man named Marion King Hubbert—generally known as M. King Hubbert—to a group of oil people in San Antonio, Texas.

At that time, the United States was king of oil. We were the first major industrialized nation in the world. We were pumping more oil, we were using more oil, we were exporting more oil than any other country in the world. And M. King Hubbert told this group of oil specialists that in just 14 years—by 1970—the United States would reach its maximum oil production, that no matter what they did after that, oil production in this country would fall off. That was audacious, it was unbelievable—as a matter of fact, it wasn't believed. M. King Hubbert was relegated to the lunatic fringe. How could it be that a country that had discovered this much oil, was king of oil, producing more oil, consuming more oil, exporting more oil than any other country in 14 years is going to reach its maximum production and then fall off?

You know, if you stop to think about it, oil one day will run out, won't it? I started asking myself that question a lot of years ago when I was teaching school, and I taught a class in biology, and all of the publishers would send me their textbook hoping that I would use it in my class and they could sell it to the members of the class.

□ 2050

And I remember I was asking myself the question, you know, oil can't be

forever. When will there be a problem? Next year? Ten years? A hundred years? Maybe it is a thousand years. I had no idea. I had no idea when this crisis would occur. But obviously there had to be a time in which oil would run out. And if there's such a time when oil will run out, there has to be a time when you've reached your maximum ability to produce oil.

Well, the chart that I have here shows what happened. He made that prediction here in 1956. We were here. He said in 1970—that's the peak up there—that we would reach our maximum oil production. This chart shows where that oil was coming from—from Texas, from the rest of the United States, from natural gas, liquids.

And then we made two big oil discoveries. He hadn't included Alaska and he hadn't included the Gulf of Mexico. You can see Alaska there, just a little blip in the slide down the other side of Hubbert's peak, and there you could see the fabled Gulf of Mexico in yellow there, the fabled Gulf of Mexico oil discoveries. It hardly made a difference, did it?

The United States now produces about half the oil that it produced in 1970, and that's in spite of the fact that finding oil that M. King Hubbert did not include in his prediction. He included the lower 48. He did not include Alaska. He did not include the Gulf of Mexico.

But in spite of finding a fair amount of oil there, today we still produce half the oil we did in 1970.

Now, by 1980 if you look on the charts—but in 1980 you could look back and you could say gee, M. King Hubbert was right, wasn't he? The United States did reach its maximum oil production 10 years ago. Wow.

What that means, of course, is that won't the world at some time reach its maximum oil production? How could you argue that the United States is not a microcosm of the world? If the United States reached its maximum oil production in 1970, when would the world reach its maximum oil production? As a matter of fact, M. King Hubbert predicted that the world would be reaching its maximum oil production just about now.

Well, if M. King Hubbert's speech was the most important speech of the last century, one might ask the question, ''What was the most insightful speech of the last century?''

Now, I don't know if these two men even knew each other. I don't know if Hyman Rickover, who I think gave the most insightful speech of the last century, don't know if he even knew that M. King Hubbert existed. He was going to talk about the same phenomenon from a very different perspective.

His speech was given the 15th day of May, just a little over a year later, in 1957. The audience was irrelevant, but the audience was a group of physicians in St. Paul, Minnesota. For many years his speech was lost. And just a few years ago it was found, and it's on the Internet now. And if you'll just Google for ''Rickover'' and ''energy speech,'' it will come up. And I'm sure that you will agree that it is probably the most prophetic speech that you have ever read.

I'm sure you will agree that it might very well be the most insightful speech of the last century. I have some quotes here from Hyman Rickover's speech. And you know, I'm sure that speech was still around in 1980 when you could look back and see, gee, in 1970, we really did peak in oil production in this country, didn't we?

And looking at what Hyman Rickover said there really should have been some pause, shouldn't there? There is nothing man can do to rebuild exhausted fossil fuel reserves. They were created by solar energy. Oh, it's really interesting. Almost all of the energy we use today came from or comes from the sun. It was the sun that made the plants and so forth grow that produced our gas and oil. It's the sun that, with differential heating, makes the winds blow. It's the sun that lifts the water and the clouds, then drops it on the mountains, it runs down to produce hydroelectric power. No wonder many of the ancients worshipped the sun. They kind of understood how important it was to their economy, didn't they?

They were thinking about solar energy 500 million years ago that took eons to grow to its present volume. In the face of the basic fact that fossil fuel reserves are finite, the exact length of time these reserves will last is important in only one respect. Wow, what a profound statement he makes here: ''The longer they last, the more time do we have to invent ways of living off renewable or substitute energy sources and to adjust our economy to the vast changes which we can expect from such a shift.''

Now, this speech was given in 1957. That's more than a half century ago.

This next quote, I love this next quote. ''Fossil fuels resemble capital in the bank. A prudent and responsible parent will use his capital sparingly in order to pass on to his children as much as possible of his inheritance. A selfish and irresponsible parent will squander it in riotous living and care not one whit how his offspring will fare.''

You know, I think of that statement when I notice how eager we are to ''drill, baby, drill.'' Drill more, pay less. I have 10 kids, 17 grandkids, and 2 great grandkids. When the Vice President came here to try to get me to vote to drill in ANWR, I told him I'd be happy to vote to drill in ANWR when he promised me they were going to use all the revenues we got from ANWR to invest in alternatives. Because more than a half century ago, Hyman Rickover said that's precisely what we should be doing. And we had not been doing any of it.

I noted to the Vice President that we were going to leave our kids a huge debt. I had no idea then how really huge it would be because that was several years ago. I said wouldn't it be nice to leave them a little oil so that they might have something to work with that huge debt?

The next chart is another quote from Hyman Rickover. ''Whether this golden age,'' as he referred to it—and wow, what a golden age it's been—''Whether this Golden Age will continue depends entirely upon our ability to keep energy supplies in balance with the needs of our growing population.'' Nearly 7 billion people in the world and energy from fossil fuels, particularly oil, is absolutely essential to their survival. ''Possession of surplus energy is, of course, a requisite for any kind of civilization, for if man possesses merely the energy of his own muscles, he must expend all his strength—mental and physical—to obtain the bare necessities of life.''

When I first got some statistics on oil and the energy density of oil, I could not believe them. One barrel of oil has the energy equivalent of 25,000 man hours of work. I saw that number and I said, That's incredible. That means it has as much energy in one barrel of oil, 42 gallons. That's 12 people working all year long.

I drive a Prius. And then I thought, you know, a gallon, not very big, a gallon of gasoline will take my Prius—the most recent mileage is 53 miles per gallon. Now, I could pull my Prius 53 miles, but it would take me a spell, wouldn't it? I would have to use comealongs hooked to the guardrail or trees off to the side and pull the Prius, but it would take me quite a while to pull my Prius 50 miles, and that's just one of those 42 gallons in a barrel of oil. So I guess that 25,000 man hours of effort is really the energy equivalent of a barrel of oil.

And of course what that incredibly cheap energy has done has permitted us to develop a really great quality of life. And Hyman Rickover referred to that as this Golden Age.

The next chart, and he kind of missed it a little here as you will see, in the 8,000 years from the beginning of history to the year 2000, world population will have grown from 10 million to 4 billion with 90 percent. Well, we kind of passed that, didn't we? We're not quite double that, but we're past that. So growth exceeded what he thought it would be.

□ 2100

It took the first 3,000 years of recorded history to accomplish the first doubling of population, 100 years for the last doubling. The next doubling will require only 50 years. As a matter of fact, it required less than that. And the path we are on, you know, we're just going to have increasing numbers of people while we have decreasing supplies of energy to support them.

The next chart, another quote from Hyman Rickover. You know, reading this, after 1980, when you could look back and see that M. King Hubbert was

really right about the United States, shouldn't our leaders have sat down and said, gee, what are we going to do about that?

One final thought I should like to leave with you. ''High energy consumption has always been a prerequisite of political power. The tendency is for political power to be concentrated in an ever-smaller number of countries. Ultimately, the nation which controls the largest energy resources will become dominant. If we give thought to the problem of energy resources, if we act wisely and in time to conserve what we have and prepare well for necessary future changes, we shall ensure this dominant position for our own country.'' Have we done any of that? This is the father of our nuclear submarine, Hyman Rickover. Great advice.

The next chart gives a perspective that Hyman Rickover talked about, and this looks at the age of oil. It goes back to 1630. It could go back to the time of Christ and the chart wouldn't change because the amount of energy the world was using was so small that it wouldn't show above the baseline here. And then we entered the Industrial Age. The brown line there is wood. We started with steam engines and fueling them with wood. And then we found coal, and that's the black line there. And then we found gas and oil. Wow, look what happened when we found gas and oil.

Now, we are going to see this curve again. And we are going to see it again and again. A very steep rise. With this very long time in the abscissa, that rise is really very steep. We will see some other charts where we have stretched out the time and the rise is not so steep. But notice what happens at the very top up there. It fell off and then rose again. That's the recession of the seventies, the Arab oil embargo. You know, you need to thank them for doing that because we woke up. Look what would have happened if that hadn't happened and that exponential curve kept on rising. It would be off the top of the chart.

Our next chart shows that in a different perspective. This is called the oil chart. And if you had only one chart to look at to inform you, this would probably be the one that you would want to look at. The curve that we saw in the last one, that red curve, I said you would see it again and again, and here it is. This is the curve. Now, it was very steep there because they had compressed this time, and so it went up. This is that drop-off in the seventies. Notice what would happen if we hadn't become more efficient as a result of that. This curve would be off the chart by the year 2011.

The vertical bars here show the discovery of oil, and we started discovering it in the forties. And, boy, in the fifties, and sixties, and seventies, huge peak in the seventies. And then by 1980—the black line here represents the use of oil—by 1980 we were using as much oil as we were finding. And after 1980, we always have used more oil than we found that year. But no matter, because there is a huge reserve back here. So we are now filling this space between what we found and what we use by dipping into those reserves that we have.

How long will they last? This chart indicates the future discoveries will be on an ever-decreasing slope. It won't be smooth like that because this has been up and down. That will be up and down. I want you to make your own judgment as to how much of that we're going to find.

By the way, this chart was what, '04 was when this chart was created, and they were predicting that the world was going to reach its maximum oil production probably about what, '10 or so there. As a matter of fact, they were somewhat optimistic, as we'll see a bit later, the peak oil production. Oh, the next chart shows some of that. And we will look at the next chart.

There are two entities in the world that do a very good job of keeping track of how much oil we pump and use. Of course we use all we pump. There is no big reservoir of oil anywhere. And this is the EIA and the IEA. One of them is a creature of the OECD in Europe, and the other is a part of our own Department of Energy. And these are their records of how much oil we have produced.

And notice that for about the last 6 years now we have been plateaued in oil production at about 84 million barrels a day. We are stuck there for about the last 6 years at 84 million barrels a day.

When demand goes up—and the increasing economies in China and India and the developing world, the demand is really going up. When demand goes up and there is a constant supply, what happens to prices? You know, $50, $80, $100, $147 finally. And that high price of oil combined with a silly housing bubble that we produced in this country, and the world's economy is kind of near collapse. And then oil fell to a bit under $40 a barrel. But as soon as the economies picked up again, the price of oil increased, and now it's roughly $100 a barrel.

The next chart looks at the world's picture, and the dark blue on the bottom here is conventional oil. Notice that it increases. They have it at about 2006. There is now general recognition by experts all over the world, even the naysayers like ExxonMobil and CERA, Cambridge Energy Research Associates, now concede that oil peaked in about 2006. But we have had unconventional oil, and we have had natural gas liquids. We are finding more and more natural gas. And there is natural gas liquids. You won't probably put that in your fuel tank because it's propane and butane and that kind of energy source. This chart admits that we have reached the peak, and it's going to fall off. Doesn't this look very much like Hubbert's curve for our country, falling off?

Now, I am sorry I don't have the next chart that they created just 2 years after this, but let me tell you the differences. The chart they created 2 years after this has two main differences. One, it went out to 2035 instead of 2030. Notice that the total oil production, adding up all of these various sources of oil, came to 106 million barrels a day, they thought, by 2030. Now, just 2 years later—this was an '08 chart—by '10, they had produced a chart that said that the peak production 5 years later was going to be only 96 million barrels a day. They had lowered their expectations. They also had lowered their expectations of how much oil we are going to be getting from our current fields, because this line had dropped off considerably lower in their chart just 2 years later.

Now, they have our availability of oil ever going up and up, down to only 96 million barrels a day in 2035 in their next chart. But the contribution to that is very little of it comes from our conventional oil. Most of it is going to come from oil from fields that we have discovered and not developed. That's the light blue. And the red there is from fields yet to be discovered. And that disparity is even more acute in the chart that they developed just 2 years later.

I will tell you with considerable confidence that those two wedges are not going to occur in anything like that magnitude. The world inevitably will follow the same curve that the United States followed.

□ 2110

We reached the peak in 1970. We have been falling off ever since. In spite of finding oil in Alaska and the Gulf of Mexico, in spite of drilling more oil wells than all of the rest of the world put together, today we produce half the oil we did in 1970. This relates to the discussion that we are having about the budget and about Medicare.

PAUL RYAN had a bill which he called the ''roadmap,'' and it was a way to get at the problem of our debt and deficit, and it was pretty tough. It was so tough that only about 12 or 13 of us signed onto that roadmap.

Then we came to the budget debate, and all but four Republicans voted for that budget. I was almost the fifth one not to because I didn't think that it was going to solve our problem. It didn't cut enough. We weren't going to balance the budget.

PAUL says that his budget pays down the debt, but it doesn't balance for 25 years. And to make it balance in 25 years, he projects fairly robust growth. That robust growth will not occur because, as soon as the world's economy picks up and the demand for oil picks up, since we have done nothing that we were advised to do by Hyman Rickover more than 50 years ago in planning an orderly transition to other sources of energy, when the price of oil goes up again to $125, $150 a barrel, even if you believe that our economy is going to

pick up—and it won't—it still takes 25 years to balance the budget. So what we are talking about tonight in this energy thing really, really is important in our budget debate as well.

The next chart is an interesting one. This was from several years ago, before the peaking of oil. It shows the exports in the world and when they thought oil would peak. Here is the year they thought it would peak—and some of them a very long time from now. Well, Deffeyes said before 2009, and it certainly was before 2009, but it occurred earlier—well, 2006 and 2007. It occurred in 2006.

The next chart shows exactly these same things in a pictorial form so that you can see some of them. They weren't going to miss the bet, were they? They could occur any time during those many, many years there, but there is almost unanimous agreement now that oil did peak in 2006.

The next chart shows four studies. There are five reports, but there were only four studies because two reports came from the same study.

Your government paid for four different studies, two of them issued in 2005 and two of them issued in 2007. There was a second iteration of the DOE report here that occurred a little later, in '05 and '07. They all said essentially the same thing, that the peaking of oil was either present or imminent with potentially devastating consequences.

Now, why did your government pay for four reports? Because they didn't like what the first report said. Then they got the second one that said the same thing, and they didn't like that either. So they ordered a third one, and they didn't like what that report said either. The President finally ordered the National Petroleum Council report.

The next chart is one of the quotes from the first report, which is a big SAIC report. Dr. Robert Hirsch was the leading investigator, so it's frequently called the ''Hirsch report,'' and I have a couple of quotes from this.

The peaking of world oil production presents the U.S. and the world with an unprecedented risk management problem. As peaking is approached, liquid fuel prices and price volatility will increase dramatically, up to $149 a barrel; and without timely mitigation, the economic, social and political cost will be unprecedented.

On the next chart—and this was all out there since 2005—world production of conventional oil will reach a maximum and will decline thereafter.

They said that with quite some confidence because it happened in the United States, unquestionably, and the United States has to be a microcosm of the world. That maxim is called the ''peak.'' A number of confident forecasters projected peaking within a decade. Others contend it will occur later. Well, it occurred well within the decade.

The world has never faced a problem like this. It is unprecedented. Without massive mitigation more than a decade before the fact, the problem will be pervasive and will not be temporary. Previous energy transitions—wood to coal and coal to oil—were gradual and evolutionary. Oil peaking will be abrupt and revolutionary. This was in 2005. Your government didn't like what that report said, so they just ignored it.

In the same year was another report by the Army Corps of Engineers, and I have several quotes: The current price of oil is $45 to $57 a barrel and is expected to stay that way for several years.

Wow, even the experts get it wrong sometimes, don't they?

Oil prices may go significantly higher, and some have predicted prices ranging up to $180 a barrel in a few years.

Well, it reached $147, but it didn't reach $180 because the economy collapsed, and the demand for oil went down. With the demand down, the price went down.

The next chart is another quote from this same study. Petroleum experts Colin Campbell, Jean Laherrere, Brian Fleay, Roger Blanchard, Richard Duncan, Youngquist, Albert Bartlett—my namesake. I wish I had some of his genes. He has given a great speech on energy. Google for ''Albert Bartlett, an energy speech.'' He has probably given his speech about 2,000 times now. It is the best speech I have heard on energy—have estimated that a peak in conventional oil production will occur around 2005. It occurred in 2006. They didn't miss it very much.

The next statement isn't from the Corps of Engineers. It's a statement from Condoleezza Rice, which I thought was a very insightful statement:

We do have to do something about the energy problem. I can tell you that nothing has really taken me aback more as Secretary of State than the way that the politics of energy is—I will use the word—''warping'' diplomacy around the world. We have simply got to do something about the warping now, a diplomatic effort by the all-out rush for energy supply.

Good advice. What did we do? What did we do?

The next chart is another quote from the Corps of Engineers:

Oil is the most important form of energy in the world today. Historically, no energy source equals oil-intrinsic qualities of extractability, transportability, versatility, and cost. The qualities that enabled oil to take over from coal as the frontline energy source for the industrialized world in the middle of the 20th century are as relevant today as they were then.

All ignored by your government.

On the next chart, there is another quote from this same study by the Corps of Engineers. Well, they're quoting Jean Laherrere and our Energy Department. Just go back and look. Historically, you can Google and find him, I'm sure. They are projections of what energy was going to be available to us. This is his quote on that, Laherrere's quote:

The USGS estimate implies a fivefold increase in discovery rate—you have to have that much discovery rate to keep up with what we're using—for which no evidence is presented. Such an improvement in performance is, in fact, utterly implausible given the great technological achievements of the industry over the past 20 years, the worldwide surge and the deliberate efforts to find the largest remaining prospect.

We are finding more oil. One of the big finds in the Gulf of Mexico was under 7,000 feet of water and 30,000 feet of rock. A big discovery of oil is 10 billion barrels. We use 84 million barrels a day. That means, in 12 days, we use 1 billion barrels of oil.

□ 2120

That's a staggering number. What that means is if you found 10 billion barrels of oil and you could get it all out, that will last the world 120 days. Big deal.

The next chart is Shell Oil. By the year 2100, the world's energy system will be radically different from today's. The world's current predicament limits our maneuvering room. We are experiencing a step change in the growth rate of energy demand, and Shell estimates that after 2015, supplies of easy access to oil and gas will no longer keep up with demand. That didn't wait until 2015. It happened in 2006. But he was generally right. This was of an absolute certainty going to happen.

The next chart presents us with a dilemma that many people are concerned about. It's a national security issue. We have only 2 percent of the world's oil reserves. We use 25 percent of the world's oil. We are only a little less than 5 percent of the world's population. We import about two-thirds percent of what we need. Many people rightfully believe that having only 2 percent of the world's reserves and using 25 percent of the world's oil and importing two-thirds of what we use presents an undesirable national security risk. As a matter of fact, there were 30 prominent scientists and thought leaders who wrote a letter to President Bush saying exactly that.

Notice that, though we have only 2 percent of the world's oil, we are producing 8 percent of the world's oil. We field more oil wells than all the rest of the world put together. It's like several kids sharing a soda and they have half a dozen straws in one soda, you can suck it down pretty quick, can't you? And that's where we are with oil.

The next chart is an interesting one. And what this chart shows us is the energy density of these various types of fuel. Notice that oil aviation fuel, boy, that's refined, isn't it? It's got lots of energy. And so does natural gas, which is why natural gas is a great fuel for cars if you have the infrastructure to

support that. But notice all these other sources of energy, the energy density in oil is just incredible. There's nothing else, there is no readily available source of energy that comes even close to the energy density in oil as we look at alternatives.

The next chart, and some people will tell you, yes, I know, oil is short, but who cares? Because we are king of coal, we're the Saudi Arabia of coal, we have enough coal to last us for a long time. I've had Members tell me it will last us 500 years. A commonly quoted amount of coal is we have a 250-year supply of coal—at current use rates. Note when people tell you how much of something we have at current use rates, think about what increasing use will do to that. If we increase the use of coal only 2 percent—and we'll increase the use more than that as we run down on oil and we have learned to do what Hitler did and South Africa did to create oil and gas from coal—just a 2 percent growth doubles in 35 years. That's not enough growth to keep our stock market happy. It wants more than 2 percent. But 2 percent doubles in 35 years. It's four times bigger in 70 years. It's 8 times bigger in 105 years. It's 16 times bigger in 140 years. So that 250 years of coal shrinks to just 50 years of coal, by 85, if you use it as coal, but if you're going to use some of the energy to convert it to a gas or liquid, now it shrinks to 50 years. So your 250 years shrinks to 50 years if you have only 2 percent increase in its use and if you convert it to a gas or a liquid.

But the reality is that there is no way you can avoid sharing that coal or the gas or oil you would get from it with the world. Because if you use oil or gas that you've made from your coal, then somebody else buys the oil from Saudi Arabia or Hugo Chavez. So the reality is that you have no alternative but to share it with the world. We use one-fourth of the world's oil, so that means it will last the world 12½ years.

Now the National Academy of Sciences says we haven't looked at the coal reserves for a long while, since the 1970s, and they think we probably have about 100 years of coal at current use rates. But even if we had 250 years at current use rates, just 2 percent gross shrinks to 85, convert it to gas or a liquid and it drops to 50, and you have no alternative but to share it with the world. So it drops to 12½ years.

The next chart shows us something very interesting. What it shows us is that we don't have to look to a decreased quality of life if we are using less energy. This is the human development index. It's a per capita energy consumption. You notice that we share a lone position way out there at the end of the curve. But notice how flat that curve is on top. The people using roughly half the energy we do, the human development index, which is life expectancy, education level, relative income, is about the same as ours using only half the energy we use. As a matter of fact, that's where Europe is. They use half the energy we use.

The next chart looks at some of the same phenomena in a different way. This is how happy people are with their station in life. Now here we are, using the most energy, that's on the bottom, how much energy you are using, we use the most energy, and we're pretty happy about things, aren't we? But notice how many countries, I think there are 22 of them, that feel better about their quality of life than we feel using, some of them, only half as much energy as we use.

Now on both of these curves you have to get back down to about here, which is about one-third as much energy as we use before you start falling off quickly in these indices or in your perception of quality of life.

The next chart looks at our energy consumption. Where does our energy come from? We've been talking about oil. But we're getting energy from a lot of other sources too, from natural gas, most of it from oil, from petroleum, from coal, from nuclear about 8 percent, which is about 19 percent of our electricity. This is total energy production, not electricity, but 19 percent of our electricity comes from nuclear. If you don't like nuclear, drive down the road tonight and note that every fifth house and every fifth business would have no lights if we had no nuclear. So it is a little wedge in there, 6 percent, which is renewables—just 6 percent. And notice—well, hydroelectric is a big part of that; biomass, that's the paper industry and the wood industry burning by-products and so forth and waste-to-energy, instead of putting it in a landfill you burn it; geothermal, that's true geothermal, tapping into the molten core of the Earth; wind and solar, look how tiny they are. They have huge potential for growth. But at the moment they are pretty, pretty small.

The next chart shows us something interesting, and that's about efficiency. The bar on the left looks at incandescent lights. My wife got a few chickens recently, and she put a lightbulb over them to give them heat because about 90 percent of all the energy from the light bulb, more than 90 percent, goes to heat. But if you use a fluorescent—look at it—enormously more efficiency in the fluorescent. And if you do go to an LED, look at the ratios in a LED. I have an LED flashlight, and I forget when I put batteries in it. Notice most of the new cars in front of you have LED lights.

The next chart kind of puts this problem in a global perspective. This is the world according to oil. It's what the world would look like if the size of the country was relative to how much oil it had. Now we've got to modify this a little because WikiLeaks just exposed some papers from Saudi Arabia that said they've been fibbing about how much oil they have, that they really have 40 percent less oil than they said they have. That's true I think of all of the OPEC countries, because back when they could produce enough oil to drive the price of oil down, they could produce a certain percentage of their reserves.

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But if they wanted to produce more oil, they just said they had more reserves. They didn't find any more oil, but some of their reserves magically grew on paper. It was kind of a contest amongst liars, and Saudi Arabia was exposed. So it would modify a little, but still most of the oil is in that part of the world.

Here is the United States, 2 percent of the oil. We use 25 percent of the oil. Our biggest supplier of oil is Canada. Our third biggest supplier is Mexico. Both of them have less oil than we, but Canada has few people, so they can export. Mexico has a lot of people, but they are too poor to buy the oil, so they can export. Just a few months ago, Mexico slipped to number three supplier and Saudi Arabia now is our number two supplier of oil.

I want you to look at China and India over there. They are tiny. Last year the Chinese bought 13 million cars. We struggle to sell 12 million cars. They have 1.3 billion people, and they are entering the industrial age.

Mr. Speaker, the next chart looks at this same global picture in a somewhat different way. The left bar is the top 10 oil and gas companies on the basis of oil production. Now, we think ExxonMobil and Royal Dutch Shell and BP are pretty big players, don't we? They have only, collectively, 22 percent of all of the oil production in the world.

The right-hand bar looks at another part of this, and that is who has the oil. Notice that our big three or four don't even show up over there. These are the top 10. Almost all of the top 10 are Arab countries where it is not a company that owns the oil; it is a country that owns the oil. LUPE Oil, which is kind of private up there, they show it white, in Russia, is only 2 percent of the total amount of oil held by the top 10 countries in reserves.

Anyway, China is buying up reserves all over the world. And I asked the State Department why would they do that since in today's world it doesn't make any difference who owns the oil. The person who comes to the global oil auction with enough dollars—and let's hope it stays dollars and doesn't go to Euros or we are in really big trouble—you buy the oil you want. We have only 2 percent of the oil, we use 25 percent of the oil, and we aren't buying oil reserves anywhere. What is the difference? The State Department's answer, and I don't think that is the correct answer, they told me that China didn't understand the marketplace. Come on now. A country that during this recession dropped from 14 percent growth to 8 percent growth, and they don't understand the marketplace?

China is doing something else simultaneously, by the way. They are aggressively buying a blue water navy.

Do you think the time might come when China says, hey, we have 1.3 billion people, and these 900 million people who are in rural areas through the miracle of communications know the value of an industrialized society and they say, gee, how about us? I think China sees their empire unraveling the way the Soviet empire saw their empire unravel if they can't meet the needs of these people. China is buying oil reserves and building a big blue water Navy because the day will come they will tell us, gee, I'm sorry, but it is our oil. We have 1.3 billion people, and we can't share the oil.

I led a codel to China a little over 4 years ago, and I was stunned. This wasn't just the people concerned about energy in China; it was everybody we met. They talked about post-oil. There will, of course, be a post-oil world. It will be a long while from now. Hyman Rickover had no idea how long this age of oil would last. He was 100 years into what we call this golden age. We now know pretty much how long the age of oil will last. We are about halfway through it. We are 150 years in it. And he was right, in the 8,000-year recorded history of man, Hyman Rickover said the age of oil would be but a blip. It will be about 300 years long. We are about 150 years in it. From now on, the next 150 years, there will be less and less. It will be harder and harder to get, more and more expensive.

This is the five-point plan. Conservation. My wife says that she thinks that conservatives ought to be interested in conservation—they don't seem to be—because they come from a common root. Conservatives aren't interested in conservation. That is the only thing we can do to buy some time, to free up some energy so we can invest in developing alternatives.

The second and third are domestic sources of energy and diversify as much as you can.

The fourth one may surprise you: environmental impact. Be kind to the environment. They know that they are not. But as I mentioned, they have these 900 million people that are clamoring for the benefits of an industrialized society, so they are building a coal-fired power plant every week, and they are starting the construction of 100 nuclear power plants.

And the fifth bullet here: international cooperation. They know that there is no way that any one nation can face this problem alone, that we need international cooperation. But while they plead for international cooperation, they are planning for the eventuality that we won't have international cooperation because they are buying up oil reserves all over the world. And they are not just oil reserves; they are buying goodwill. What do you need, a soccer stadium? roads? a hospital? Wherever they buy oil reserves, they are buying goodwill. And remember, they are simultaneously building this huge blue water navy.

What now? Our next and last chart for this evening, What America Needs. We are the most creative, innovative society in the world. If we understand the problem, there is nothing that we can't do. Our people just need to understand the problem. We need to have leadership that understands the problem. I tell audiences that the innocence and ignorance on matters of energy in our general population is astounding; and, sadly, we have truly representative government.

Well, what do we do? We need the total commitment of World War II. I lived through that war. I was born in 1926. I know the total commitment we had during that war. There has been nothing like it since. We need the technology and intensity and focus of the Apollo program to land a man on the moon. That cost $275 billion in 2006 dollars, which is when oil peaked. And we need to have the urgency of the Manhattan Project. Minus that, we are going to face the kind of disruptions that were forecasted by the Hirsch Commission, the big SAIC report.

The world has never faced a problem like this. I like challenges. They excite me. And this is a huge challenge. It is an exhilarating challenge, but I know with proper information, with proper knowledge, with proper leadership, the United States is up to the task.

By the way, developing this green technology will again make us an exporting country. People brag about we have this nice, clean, service-based economy. If you think about that, no matter how much you charge for cutting each other's hair and taking in each other's laundry, that is not going to be a viable economy. Only three things produce wealth, and manufacturing is a major one of those. That is now all moving offshore.

We can again become a major manufacturing country by focusing on this green technology and by developing the alternatives that we must develop if we're going to continue to maintain our quality of life.

I look forward to a very challenging future.

Mr. Speaker, I yield back the balance of my time.

REPORT ON RESOLUTION PROVIDING FOR FURTHER CONSIDERATION OF H.R. 1540, NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2012

Ms. FOXX (during the Special Order of Mr. BARTLETT) from the Committee on Rules, submitted a privileged report (Rept. No. 112–88) on the resolution (H. Res. 276) providing for further consideration of the bill (H.R. 1540) to authorize appropriations for fiscal year 2012 for military activities of the Department of Defense and for military construction, to prescribe military personnel strengths for fiscal year 2012, and for other purposes, which was referred to the House Calendar and ordered to be printed.

LEAVE OF ABSENCE

By unanimous consent, leave of absence was granted to:

Mr. FRELINGHUYSEN (at the request of Mr. CANTOR) for today on account of a death in the family.

Ms. HANABUSA (at the request of Ms. PELOSI) for today.

ADJOURNMENT

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

The motion was agreed to; accordingly (at 9 o'clock and 40 minutes p.m.), under its previous order, the House adjourned until tomorrow, Wednesday, May 25, 2011, at 10 a.m. for morning-hour debate.

EXECUTIVE COMMUNICATIONS, ETC.

Under clause 2 of rule XIV, executive communications were taken from the Speaker's table and referred as follows:

1635. A letter from the Director, Regulatory Management Division, Environmental Protection Agency, transmitting the Agency's final rule — Metiram; Pesticide Tolerances [EPA-HQ-OPP-2005-0308; FRL-8869-1] received April 26, 2011, pursuant to 5 U.S.C. 801(a)(1)(A); to the Committee on Agriculture.

1636. A letter from the Director, Regulatory Management Division, Environmental Protection Agency, transmitting the Agency's final rule — Mefenpyr-diethyl; Pesticide Tolerances [EPA-HQ-OPP-2010-0267; FRL-8870-9] received April 26, 2011, pursuant to 5 U.S.C. 801(a)(1)(A); to the Committee on Agriculture.

1637. A letter from the Director, Regulatory Management Division, Environmental Protection Agency, transmitting the Agency's final rule — Pyrasulfotole; Pesticide Tolerances [EPA-HQ-OPP-2010-0266; FRL-8869-5] received April 26, 2011, pursuant to 5 U.S.C. 801(a)(1)(A); to the Committee on Agriculture.

1638. A letter from the Assistant Secretary, Department of Defense, transmitting a report to Congress specifying each Reserve component the additional items that would have been requested if the President's Budget had equaled the average of the two previous years, pursuant to 10 U.S.C. 10543(c); to the Committee on Armed Services.

1639. A letter from the Under Secretary, Department of Defense, transmitting Authorization of Brigader General Larry D. Wyche, United States Army, to wear the authorized insignia of the grade of major general; to the Committee on Armed Services.

1640. A letter from the Secretary, Department of Defense, transmitting a letter on the approved retirement of Lieutenant General Robert L. Van Antwerp Jr., United States Army, and his advancement to the grade of lieutenant general on the retired list; to the Committee on Armed Services.

1641. A letter from the Deputy Assistant Administrator, Office of Diversion Control, Department of Justice, transmitting the Department's final rule — Control of Ergocristine, a Chemical Precursor Used in the Illicit Manufacture of Lysergic Acid Diethylamide, as a List I Chemical [Docket No.: DEA-320F] (RIN: 1117-AB24) received May 2, 2011, pursuant to 5 U.S.C. 801(a)(1)(A); to the Committee on Energy and Commerce.

1642. A letter from the Program Analyst, Department of Transportation, transmitting