We move on to Representative DAVID PRICE, who has a Comprehensive Strategy for Iraq Act of '07 which would withdraw troops as quickly as possible from Iraq. He has a list of cosponsors that are moving down that line.

Mr. LARSON of Connecticut. Congressman RON PAUL, Congressman NEIL ABERCROMBIE, Congressman NANCY BOYDA.

Mr. MEEK of Florida. I just want to make sure we don't leave anyone out. We have House Resolution 15, also expresses the sense of Congress and also immediate repeal which is done by Congresswoman SHEILA JACKSON-LEE. We have also ours truly, Congressman LARSON, JOHN B. LARSON, repeal the Authorization for Use of Military Forces Against Iraq Resolution. You have Representative ELLEN TAUSCHER.

Mr. LARSON of Connecticut. ELLEN TAUSCHER has done a terrific job.

If the gentleman would yield just for a moment, when you're reading through these things, I can't help but think of the time, and I know that you hadn't arrived here on September 11. I served with your mom. I can remember a time when this entire Congress stood together on the steps of the Capitol after September 11 and spontaneously broke into God Bless America. It's a time that will be forever seared in my memory.

I remember a time in our caucus just this past year when the Speaker, the gentleman from New York, stood up, at a time when we knew that we only had and could only muster Democratic votes, stood up and gave a speech that I will always remember, that drew our caucus together and allowed us to go forward and place a bill on the President's desk. It was something that everyone said couldn't be done, the politics were too raw, people were too far apart, we couldn't possibly come together. But when people rise and find their voice as the Speaker from New York did, then great things can happen. A Nation can move. People find their voice because within their heart resides the great spirit of this country as you pointed out. Within every piece of legislation that you're chronicling here is a deep-seated belief on the part of its sponsors that this is the right thing to do. There are many on that side of the aisle who will disagree. I respect people's positions regardless of how they come to them. But I know the great reservoir that exists on that side of the aisle that understands what's going on, that events are unfolding daily around us and the need for us to act is now. That tomorrow has become today, that the urgency can't wait for September 15 for yet another report. The time is to act.

I plead for our colleagues on that side of the aisle, because, as Mr. Rich points out, it cannot happen without this Congress coming together. And so either we will stand together as a United States Congress and send a message and help this President find a way forward by demonstrating as a Congress did during Vietnam, no matter who the President is, that the right thing to do here is to bring our troops home safe, secure and strategically in a manner that will allow us to regroup and refocus and go after the enemy in Afghanistan where they continue to fester and grow and regroup, the people who actually knocked down the towers, the people who struck the Pentagon and but for those brave souls on Flight 93 would have surely hit this Capitol or the White House. It's time for us to come together in that spirit.

Mr. MEEK, if it weren't for you and DEBBIE WASSERMAN SCHULTZ and CHRIS MURPHY and TIM RYAN coming here and repeatedly talking about it, if you're at home, you're thinking, has Congress forgot about this urgency. Do they not pick up the papers every day as we do? When I go home, and you said it, people talk about Iraq, they talk about Iraq, and then they talk about Iraq. The facts are that without Republican support, we cannot override a veto. The facts are that without a Republican Senate that will stop the cloture rule and Mr. WARNER, or following the paths of a great American in CHUCK HAGEL, comes forward and speaks truth to power. There are people on both sides of the aisle that are great visionary Americans. We just need to come together at this time and find our voice in the same manner that Americans have already found theirs.

With that, Mr. Chairman, I thank you again.

Mr. MEEK of Florida. As we come to a close, Mr. LARSON, I just want to again thank you for joining not only Mr. RYAN and I tonight but you have been here before in the past. I would encourage, especially with you being in the top four of our leadership here in the House, our elected leadership as relates to the Democratic Caucus, I know that you give voice to many of us that are out here pushing every day. We have good people working, not only Chairman EMANUEL, but also Mr. JIM CLYBURN and also Mr. HOYER and Speaker PELOSI.

I think it's important that we continue to push this issue on, because we are going to need bipartisanship to be able to move this agenda of safety for our men and women that are in harm's way, move this agenda for those families that are waiting on their loved ones to come home, move this agenda, Mr. Speaker, that the American people want us to move in a new direction. If we can just put partisanship aside just for a moment to do that, it will be a place in history in this country that we stood up on behalf of those men and women that are in harm's way and we followed the will of the American people. I just want to thank you, Mr. LARSON, for being here.

Mr. Speaker, I can share this with you. A, we appreciate the Members who have worked with us on the 47 bipartisan measures. B, I think it's also important to know that as these issues move to the floor, many of these issues never would have made it to the floor if it wasn't for the leadership of the Speaker and our leadership team and the great Members here in the majority and even some of our Members in the minority. You know, we like to share here, some of the bills, on eight bills combined, they have 79 cosponsors, 76 of them are Democrats, 3 are Republicans. As Mr. LARSON identified, some of those members of the Republican Conference that have come forth, Mr. Speaker, and said, hey, I've heard my constituents, I see what the American people are talking about, those moderate voices that are there. They should be commended. We spend a great deal of time letting them know, and I know when I see them in the hall and even some of my friends that don't necessarily see the light on this issue, we still take the time to talk in a very sensible way on this because this is work on behalf of the country.

We have Members that are Reservists, that are National Guard men and women, that are in the Coast Guard and other branches of the military, they're all counting on us to have those conversations and continue to work through the issues. You want to look at good government, you look at good government.

As I close, Mr. Speaker, Mr. LARSON reminded me of something on 9/11. Everyone came together. Yes, my mother was a Member of Congress at that time. I remember she voted against giving the President authorization to go to war after that as it relates to Iraq. But I think it's important to be able to reflect on the past and find times when we have come together and try to find those times in the future and also work with the President. As much as I disagree with him on this issue of Iraq, I do respect the office of the presidency. I know every Member of Congress does. All we can do is continue to try to work together. But I do share with the Members that it is going to take bipartisanship because there are ways that they can block this from happening.

With that, Mr. Speaker, it was an honor addressing the House. I thank the gentleman from Connecticut and the gentleman from Ohio for joining me.

THE RIGHT TO LIFE, THE STEM CELL DEBATE, AND PEAK OIL

The SPEAKER pro tempore (Mr. HALL of New York). 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, in the few moments that we have together this evening, I wanted to talk briefly about three different subjects. The first one is a very timely one. It refers to a Supreme Court decision that I think is a very momentous decision.

When our Founding Fathers wrote our Constitution, they thought that they had implicitly placed in that Constitution all of the great guarantees of freedom and individual rights that were needed for this new Nation. But the ink was hardly dry on the Constitution before they wondered if people would really understand that it was the people who are to be preeminent in this new country, that there was to be a very limited government, and it would truly be a government of the people, by the people and for the people. Because they felt that what was very implicit in the Constitution might need to be stated explicitly, they developed 10 amendments, actually I think a dozen started through the process and 10 of them made it through the process, and we call them the Bill of Rights. They were adopted, of course, in 1791. And I think that it's no accident that that first amendment addresses two of the huge concerns they had from their past that should never blemish their new country.

□ 2000

The first of those dealt with what was a common practice in the countries they came from, that is, it was a State religion that was empowered by the State and supported by the State with revenues, taxes from the people, and this church could and did persecute other churches, and they wanted to make very sure that in this new country that that wasn't going to be a problem. So they wrote the establishment clause of the first amendment, which seems to me very clear language. A lot of people have trouble reading this and understanding what it says. I think the words say what they say. ''Congress shall make no law respecting an establishment of religion.''

The government cannot establish a religion. ''Or prohibiting the free exercise thereof.'' No church religion and everybody free to practice their religion as they please. Somehow we are interpreting that as requiring that there not be any religion in the public place, which is clearly not what they were concerned about. They wanted freedom of religion, not freedom from religion, and, too often, we're interpreting as freedom from religion.

But then the second part of this is equally important, and it addresses a second major challenge that they saw in establishing this new country. Because most of them came from a country where there was a king or an emperor who claimed and was granted divine rights, and the people had very few rights, only what the king chose to give them. Hard for us to understand that. It is so foreign to us that the king or the emperor should have divine rights. By that it means that the rights came from God to the king or the emperor, and he would then give what rights he wished to his subjects.

Abraham Lincoln understood four score and seven years after the establishment of our country, that is after the establishment of the Declaration of Independence, our fathers brought forth on this continent a new Nation conceived in liberty and dedicated to the proposition that all men are created equal. That was very foreign to them. It's very commonplace to us, and we read those words and don't have any swell of pride or lump in our throat when we read them, as we should.

But then they wrote that second part of the first amendment, which, along with the second amendment, they believed would assure that never, ever could the government persecute the people. In this first amendment they said, ''or abridging the freedom of speech or the press or the right of the people peaceably to assemble and to petition the government for a redress of grievances.''

Now, the speech that they clearly were most interested in preserving was political speech, because that's the speech that made this country different from all the other countries that our Founding Fathers came from.

Tragically, it's just that political speech which was prohibited by the Campaign Finance Reform Act that we passed, and there was a court case, Right to Life, Wisconsin Group, broadcast ads before the 2004 race, in which they talked about issues. But they did mention the name of a candidate, I believe.

I am so proud of the Supreme Court decision. I am a little distressed that it was only 5–4. I would have thought that this would be such a clear-cut case that it would be 9–0, but let's be thankful for 5–4 rather than 4–5.

I really like the position of the majority. The portion of the law in question in this case states that labor unions and corporations, including nonprofits, cannot use money from their general treasuries to broadcast ads that run 30 days before a primary or 60 days before a general election.

On a nonpresidential year, my primary is in September, which means it is 60 days from November, so there can't be any ads during that time, and no ads before the 30 days before the primary. I would submit that very few people are thinking anything about an election 90 days before it occurs.

So what this legislation did was essentially prohibit any education before an election. The Supreme Court, in their ruling, created a constitutional safe harbor for genuine issue ads. It stated that only if the ad, and this is a direct quote, ''is susceptible of no reasonable interpretation other than as an appeal to vote for or against a specific candidate,'' can the ad be prohibited during the blackout period.

This is consistent with our philosophy in our country that we are innocent until proven guilty. The ad has to explicitly ask you to vote for or against a candidate. Mentioning his name, that's okay, if you don't indicate specific guidance to vote for or against the candidate.

I am very pleased with this legislation. You know, we are 1 person out of 22 in the world and we have a fourth of all the good things in the world. I don't know if you have ever asked yourself the question, how come we are so darn fortunate?

I think one of the reasons we have is the enormous respect we have for the rights of the individual. There is no other country, there is no other constitution that gives so many rights to the people, to the individual.

I think that this has established a milieu, a climate, in which creativity and entrepreneurship can flourish. I think that's one of the reasons why we are this world superpower, with only less than 5 percent of the people in the world. I think we put at risk who we are, and our preeminence as this golden city on a hill, if we put at risk these very precious individual rights and, prince among them, the right of speech. So I am very pleased. I am very pleased with the Supreme Court decision.

There is another thing which happened fairly recently last week, about less than 10 of us, I guess, were called to the White House from the Congress here, when the President gave his message on his veto of the embryonic stem cell bill that would have necessitated the destruction of embryos and the creation of embryonic stem cell lines.

What the President vetoed was S. 5, that's the Senate bill, and in the House we simply voted on S. 5. When you do that, then there is no question but what the two bills are the same, so you do not have to go to conference. So it went immediately from the House vote to the President's desk, where he vetoed it.

The Senate also passed S. 30, which is a very similar bill to our House bill 322. It was called the HOPE Act in the Senate, and it got 70 votes out of their 100 senators. We have 130 cosponsors of our bill in the House.

I hope that the House can do what the Senate did, and that is pass S. 30. If we pass S. 30, then it doesn't have to go to conference, and it can go directly to the President's desk, and S. 30 is sufficiently similar to our H.R. 322 that I can, with good conscience, support that bill.

I want to spend a moment, and have the first slide, I want to spend a few moments looking at embryonic stem cells so that when this comes to the news we have a familiarity with this so that we can understand the issues and what the President is talking about. We are talking about stem cells, and this slide here points to three primary stem cells in the body.

You see, we begin as two single cells, a single cell from the mother and a single cell from the father. Each of them having only half of the requisite number of chromosomes. They have a haploid number and the total number is a diploid number, so these two halves come together here in what we call the zygote, the two gametes come together to form a zygote, and then that begins to divide, and each us began our life as a single cell.

It divides, and we will have a chart a little later which will show a number of the other steps in this division process. But here we wanted to go very quickly to the gastro stage of the embryo where the three germ layers, and that's the first time we have a germ layer, where the three germ layers have developed, that's the ectoderm, the mesoderm and the endoderm. As these Greek terms imply, the ectoderm is outside; the meso, middle, is what's in the middle, and the endoderm is what lines the inside.

Here in this chart it shows the major tissues that develop from these three germ layers. It's very interesting that they retain their individuality throughout your life. I believe that a cancer metastasizes only to tissues of the same germ layer. So these characteristics that are established very early in the development of the embryo, a few hundred cells here by this time, this continues throughout the life of the person.

The ectoderm produces primarily your skin and your nervous system. The mesoderm produces most of your weight, it's the muscles and the bones, blood and so forth. Endoderm is the tissues which line the gut, lungs, in some our glands and so forth.

A unique, over there, a fourth category, the most unique germ cells, these are the germ cells themselves. These are the gametes, the sperm in the male and the ova in the female, from which the next generation will be produced. These are produced, these germ layers producing these things are resident in this very early embryo.

The next chart talks about several processes that you will hear a lot about in this discussion, but it might be worth looking at them, this is fertilization. In the fertilization process, the cells divide again and again in the body. The sperm divides many, many times and they end up as millions and millions of sperm. There are hundreds of the female sex cell and millions of sperm.

The last division, or the near the last division is what we call a miotic division, and the number of chromosomes are cut in half. After that miotic division, you then have the egg cell with only half of the needed chromosomes and the sperm with only half of the needed chromosomes. When they are combined, that's called fertilization, and that occurs, of course, to produce the zygote, which begin then to divide over and over again and ultimately to differentiate, that is to break down into these different kinds of cells, to differentiate into all of the cell types of our body.

There is a lot of talk since Dolly about cloning, and here's a little chart which looks at cloning. What you do in cloning is to take the nucleus out of an egg cell, and then you put another nucleus by one of two different routes, either by fusion or taking the nucleus out itself and putting it into the egg.

If you had done that right, and you have tricked this nucleus you put in there to believe that it is a zygote, and that requires a little doing, then it goes on to divide, and now you have a, I guess it's an asexual way of reproducing.

We now have done that with lots of animals and different kinds of organisms. I saw two clones from the world's best Holstein cow, Zeta was her name, request she had two clones which, interestingly enough, didn't look like her mother and that's because the black and white Holstein cows, only whether it is predominantly black or white is determined by the genes. The actual spread of the pigment is not genetically controlled, and so her two daughters, which were clones of her, didn't look like her. Kind of interesting it, isn't it.

Parthenogenesis. Parthenogenesis occurs when there is no male sex cell involved, and it occurs in some lower organisms. Parthenogenesis is common, and it can be produced in others, in the frog, for example. What happens is you stop the miotic division of the oocyte up here.

You stop that miotic division so there is a diploid number of cells here. Then under appropriate circumstances, and usually in higher organisms, it requires some artificial stimulation. It will go on to develop a normal, adult, ultimately.

□ 2015

The next chart shows this process as it occurs in the body. Now, what we're talking about, when you're talking about cloning and embryonic stem cells, this all happens in a Petri dish. But what we, that's in vitro or in glass, as contrasted to in vivo or in life. And this is what happens in the normal fertilization and development of an ovum. The ovary has maturing cells in it and ordinarily, just one of those ruptures every 30 days, every 28 days. Sometimes it will be more than one, in which case you can end up with fraternal twins. But usually, just one. They don't always, by the way, get picked up by, there's a little funnel shaped end of the Fallopian tube here called the infandibulum. They don't always get picked up by that, and sometimes they just float out into the pelvic cavity.

And the sperm which are released in the uterus, in the vagina really, and then they make it up through the cervix into the uterus, they make their way all the way up the Fallopian tube, and some of them get out into the body. And if the ovum has not made it into the Fallopian tube, they may be fertilized out in the body, and we call that an ectopic pregnancy, and that has to be interrupted because neither the fetus nor the mother will make it if we let that continue.

But ordinarily, the fertilization occurs well up in the Fallopian tube. Several days, you see the days here as it gross and divides into two and four and eight cells and then on down until it finally implants, what, 8, 9 days later before it implants. And some of the birth control that we use simply prevents the implantation. The intra-uterine devices that were common a number of years ago, that's what they did. They simply prohibited the fertilized and several hundred cell stage embryo from implanting in the uterus.

Now, what we're going to be talking about is this eight-cell stage. That's about day 4 in the development of the embryo, and at that eight-cell stage, that's the time when an in vitro fertilization, they choose to take a cell from that. This is in a Petri dish remember, take a cell from that. Sometimes they get two to do a pre-implantation genetic diagnosis to make sure the baby's not going to have a genetic defect. And then they implant the remaining cells. And several thousand times we've had a perfectly normal baby from that.

The next chart simply shows in schematic form the development of twins. And they can split, either at the two cell stage, or they can split at the inter cell mass stage and we can get some indication of when they split by how the babies present themselves, whether they present themselves in a common amnion or in two different amnions.

I wanted to put this slide up here because what it says is that in nature, you can take half the cells away from the early embryo, sometimes a very early embryo, and each half grows into a perfectly normal baby.

And back in 2000, when this was first being discussed, before the President came out with his executive order, knowing this, and having had a course in a former life in advanced embryology, I suggested that we could ethically create true embryonic stem cell lines by using cells from an early embryo which should not hurt the embryo, because half of all the cells can be taken a way to produce identical twins, and each half produces a perfectly normal identical twin.

The next chart simply shows a little more detail on this, and it shows how the babies can be presented in separate chorionic sac or in a common fused chorionic sac, depending upon the time in which they, and they may share an amnion or not share an amnion, depending on the time when they finally split.

The next chart shows us some of the techniques that are used to try to get the equivalent of an embryonic stem cell, since the President and a large number of citizens object to the destruction of one life, the frozen embryo, with the hope that it will help another. And these are the techniques that have been tried to produce the equivalent of an embryonic stem cell. Reprogramming using embryonic stem cells and using embryonic stem cell and donor cells, and you fuse them and the hybrid cells, hopefully, will act like they were embryonic stem cells.

Or you could use differentiation using cell proteins. What is not understood by many people is that all of the

genes are not in the nucleus. There are a number of control factors that are in the cytoplasm. Indeed, they are really very important because they determine when genes are turned on and when genes are turned off. And each cell in your body has all of the genes there. And a liver cell is very different than a kidney cell or a skin cell. And that difference is determined by the control proteins out in the—some of them are smaller than proteins, out in the cytoplasm called here cell soup, for instance, which then turns on or turns off these genes inside the nucleus.

Well, we can, hopefully, get this cell soup from embryonic stem cells or something that behaves like an embryonic stem cell, which will then make the donor cell believe that it is, in fact, an embryonic stem cell, so maybe it will behave like an embryonic stem cell.

Then there's de-differentiation, using chemicals, antibodies or specific proteins. You see, when it differentiates to produce the individual germ layers, we have to de-differentiate it, bring it back to its primordial state so that it will now behave more like an embryonic stem cell. You can de-differentiate by using a lot of chemicals and so forth. These may be harsh. You may end up killing the little embryo. But if you do it right, you can trick these cells into believing that there's something other than what they are, and they then will behave as if they were an embryonic stem cell.

You've heard a lot of talk about some really good places to get cells that have some of the characteristics of embryonic stem cells. There are now umbilical cord blood banks, because of the belief that if you freeze the cord blood, which is the blood from the infant, if you freeze that cord blood, it may have in it cells that you can use in the future to help in restorative medical processes or make body parts.

These are not true embryonic stem cells, but they're certainly better than cells you get from somebody else. At least they're from that person and they have, they're more closely aligned with embryonic stem cells than if you simply got an adult body cell.

Then there's the bone marrow cells. And more recently you may have heard a lot about amnionic fluid. The amnion is the fluid in which the baby develops. He's very tiny. The embryo starts there. And obviously some cells will be sloughed off of these embryos, and as those cells will show up in the amniotic fluid, and so there's good opportunities to get something that behaves something like embryonic stem cells there.

The next chart shows, I think, four of the processes that were included in the President's white paper from the President's Council on Bio ethics. And altered nuclear transfer is one of those. This is kind of a cloning where you've altered the nucleus, so that it can't be truly said to be cloning, which is prohibited by law.

Altered nuclear transfers, oocyte assisted reprogramming, it's simply using the oocyte and it's primarily the proteins, that factors out in the cytoplasm which are doing this.

Embryo biopsy, and I have a chart in just a moment on that because this is the process which I suggested in 2000.

And then a really, really interesting one, cells from dead. And boy, put that in quotes because what we're talking about here are embryos that are the equivalent of the brain dead person, from which we get very good body parts. And there are embryos that will not go on to divide. They will ultimately die, and that state can be ascertained, and if they are not going to go on and divide, they will die. But they still may have viable cells that could be used to establish embryonic stem cell lines.

Obviously, some problems with this, you know. Who's to say that it's really going to die? And then there's the question about, are you really going to get a good stem cell line from a cell taken from an about to die embryo. But this is one possibility, and there are some strong proponents to this.

The next chart simply shows a quote from the white paper of the President's Council on Bio Ethics. And it quotes me down here at the bottom an asterisk, a similar idea was proposed by Representative ROSCOE BARTLETT of Maryland as far back as 2001. They said here, ''It may be some time before stem cell lines can be reliably derived from single cells extracted from early embryos and in ways that do not harm the embryo. Thus biopsy.

But the initial success of the Verlinsky Group efforts at least raises the future possibility that pluripotent stem cells could be derived from single blastomeres removed from early human embryos without apparently harming them.

Now, this statement was made before the British, and they pioneered this, started doing the pre-implantation genetic diagnosis that I mentioned a few minutes ago. They now have, in several thousand cases, taken one, and sometimes they get a second cell, taken cells from the 8 cell stage embryo to do a pre-implantation genetic diagnosis. If there is no genetic defect, they implant the remaining cells. And as far as I know, they always had a perfectly normal baby.

Now, the big surprise would be that the baby wasn't perfectly normal. I've had people tell me, gee, it's eight cells, and you take two of them away so it's only three-fourths of a person.

No, when you take half the cells away to from an early embryo to produce identical twins, is each one of them only half a person? Ask one. There are a lot of identical twins around. They'll just laugh at the notion that they're half a person. Of course they are not.

So this, the medical profession now has run past us with this technology. So we could today establish embryonic stem cell lines from that second cell that they inadvertently take. And there have been hundreds of those that are just discarded because they have no use for them. Just one cell is all you need to do a pre-implantation genetic diagnosis. And Verlinksy and Lanza, Lanza with a somewhat questionable publication, but both of them have claimed that they can produce a stem cell line from a single cell line.

Well, I thought I would spend these few minutes talking about this because this is of current interest and the Senate will be shortly trying to override the President's veto. They almost certainly will not be able to do that. His veto will be sustained, and our hope is that S. 30 will then be brought up in the House so that we can sign that so it gets to the President's desk. And I join those tens of millions of people in our country who believe and hope that there ought to be some really important contributions made to health care from embryonic stem cell lines. And we don't need to harm or kill an embryo to get an embryonic stem cell line. So we hope that S. 30 will be brought up to the House and we pass that. And the President already indicated that he will happily sign it.

PEAK OIL

The next chart now begins a discussion I want to spend the rest of our time on. And we have a number of charts here and again, I think this is the 32nd or 33rd time I've come to the well to talk about this subject. It wasn't cool to talk about energy and peak oil when I started talking about this, what, nearly 2 years ago I guess. But now it's common fodder for many discussions.

And this is an interesting little cartoon, and the fellow with his humongous SUV. The demand is filling up at the pump. The supply, and he's saying, just why is gas so expensive?

□ 2030

One of my colleagues asked me what he should tell his constituents when they ask him what can be done to reduce the price of gas? I told him it is very simple. Just tell them to drive less. Not only will they spend less on gas, but if they aren't using it, the supply and demand will be more in sync and the prices will come down. I can assure you that the prices will come down.

The next chart, it is this observation that Hyman Rickover referred to 50 years ago, the 14th day of last month, when he gave a very interesting talk to a group of physicians in St. Paul, Minnesota. He noted the enormous transformation, and they were then but 100 years into the age of oil when he gave his talk. Now we are about 150 years into the age of oil. But he noted the enormous transformation that this energy had made in the development of civilization. And this is energy here on the ordinate. It could just as well be population, by the way, because as we were able to mobilize more energy, our

population went up. We were able to grow more food, and, therefore, we could support more people. And if you could support more people, there were kind of automatically more people to support.

Well, this is the little depiction here, only 400 years out of this 8,000 years of recorded history. And his observation was that in span of human history, 8,000 years, the age of oil will be but a blip, about 300 years out of 8,000 years.

The Industrial Revolution, of course, started here with wood and then coal. And it was already sputtering when we discovered gas and oil, and then it took off, and population followed it. There is an interesting quote from Hyman Rickover's article. I didn't bring it, but he thought there would be 4 billion people in the world by the turn of the century. There were, in fact, almost 7 billion people in the world by the turn of the century. So even he had underestimated the contribution that energy would make to the increase in population.

I want you to note something up here at the top of this curve. Notice that if that little perturbation had not occurred there in about 1970, the Arab oil embargo, and if that curve had kept going up, it would be over the top of the chart a couple of times, wouldn't it? That curve was rising very steeply.

As a matter of fact, if you look at that curve, in each decade during this sharp rise, in each decade, the world used as much oil as had been used in all of previous history. Now, think about that for a moment. Had that continued, what that meant was that when we had used half of all of the recoverable oil in the world, we would have how much more time at current use rates? Ten years. Well, very fortunately, that slowed down. There was a worldwide depression, recession, you may remember, and we really learned how to become very much more efficient. So we have slowed that growth rate down. But notice more recently how rapidly that has been increasing. Largely because of the third world, China and India, industrializing. I think the last year for which I saw data, China increased their demand for energy 13 percent.

The next chart is a very interesting chart, and this depicts what the world would look like if the size of the country was determined by how much oil it had. A really distorted picture of the world, isn't it?

Look at Saudi Arabia there. Front and center, and you probably can't read the small print over there, between a fifth and a fourth of all the oil in the world. Now, I say that with a little trepidation because we really don't know how much oil is there. We know what they tell us. But you need to remember that most of these countries are OPEC, Iraq, Kuwait, Qatar, Iran, Saudi Arabia, Venezuela. And for years the OPEC countries were permitted to pump a certain percentage of their reserves. So if you wanted to pump more oil, all you had to do was to have more reserves. And since there wasn't anybody looking over your shoulder, you could say you had whatever reserves you needed to have to pump as much oil as you would like to pump to support your economy. And that is true of most of these countries. Nobody looks inside, but this is the best guess as to how much oil these countries have.

A very important recent book was written by Matt Simmons called Twilight in the Desert. He questions that there is as much oil in Saudi Arabia as we believe, and he believes they may already be peaking in Saudi Arabia.

Talking about peaking, I just wanted to mention an article that appeared above the fold in the Wall Street Journal a few weeks ago, and it was about the second largest oil field in the world. The largest one, of course, is in Saudi Arabia. It is the giant Ghawar oil field that is still running down, still produces 5 million barrels of oil a day. The world produced 84 million, and it produces 5 million of that from that one field. The second largest field was the Cantarell oil field in Mexico. And it was named after a fisherman Cantarell, whose nets kept getting fouled, and if his nets were fouled, they knew who was at fault. There was only one oil field in Mexico, and that was Pemex. So he would take his nets to be replaced and they finally said, Where are you finding all that oil? And he said, Come, I will show you. And it was kind of bubbling up out of the ocean. And they drilled there, and for years it was the second-largest yielding field in the world, 2 million barrels a day. In the last 2 years, it has dropped down 10 percent a year. It is now 1.6 million barrels per day. So that field has peaked.

Just look at how anemic the United States is compared to Saudi Arabia. We would have fit in Saudi Arabia many times. We have 2 percent of the known oil reserves, and Saudi Arabia has 22 percent. So we would fit in there 11 times, and that is what it shows here.

Look at little Kuwait there that Saddam Hussein thought looked like a little corner province of Iraq when he went to take it. They are, I think, the fourth largest reserves. Iran is number two, Iraq is three, and Kuwait is four. There is some question about whether Iraq and Kuwait should reverse places.

Another interesting thing about this chart. Look at the pitifully small amount of oil that India and China have. A third of the world's population is over there in India and China, and they have a trifling amount, between them they have less oil than the United States.

The next chart shows how much oil we have. We have 2 percent of the known reserves in the world. We use 25 percent of the world's oil, and we import about two-thirds of what we use. Some people think, and they are right, this represents a huge national security risk.

Note that with only 2 percent of the world's oil, we pump 8 percent of the world's oil. So we are really good at pumping oil. We ought to be. We have more oil wells in our country than all the rest of the world put together. And we are pumping our oil fields four times faster than the rest of the world.

The next chart, and we could spend a long while on this chart and we have only a very short time to look at it, but the gist of this chart is available immediately when you look at it. The big bars here show you when we found the oil. And the ordinate here shows how much we found. And you will notice that we started finding it way back in the 1930s, a big slug of it in the 1940s and 1950s, and we really exploded in the 1960s, didn't we? But from 1980 on down, though, there has been less and less, and that is in spite of the fact that we have ever better techniques for finding the oil, 3D-size, computer modeling, and we have a pretty good idea of the geology of the world. And it is only in unique geologic formations that you can expect to find gas and oil.

The solid black line here represents our consumption. It also represents our production because there is no big puddle of oil anywhere. We have used all we have produced; so this is a curve. We can call it the consumption curve, but it is also the production curve because we have used all we have produced. Notice since about 1980 we have been consistently losing more than we found.

Again, this perturbation in the 1970s that you saw before. We have been borrowing all this oil we used here that we didn't find. We borrowed it from back here.

And what will the future look like? We can use enhanced oil recovery and get it more quickly. But if we do, you can't pump it twice. If you pump it now, you won't pump it later.

The next chart, and this was predicted by M. King Hubbert in 1956. That is about here. M. King Hubbert predicted that the United States would peak in oil production in 1970. That was a brash statement. We were then king of oil, I think producing more oil than any other country in the world, and I think we may have been the biggest exporter of oil in the world. And he says in 14 years we are going to peak in oil production.

Notice the little blip here on the down side of what is called Hubbert's Peak. The next chart looks at the details of this, and we can see why this perturbation.

What M. King Hubbert predicted, by the way, was the lower 48; that is, Texas and the rest of the United States.

By the way, West Texas Intermediate is still the grade of oil, although they aren't producing very much now. It is still the grade of oil which you will see in the paper, West Texas Intermediate.

There are two other oil wells in the world now that may take over as the benchmark. One of them is Brent, which is really an inferior oil. It is heavier and sour. By ''sour'' we mean it

has a lot of sulfur in it that is hard to get out, and it is polluting if you don't get it out. That used to be the North Sea oil that the British produced, but now there are other oils that are grouped with that. And then there is a third oil, which is the Asian oil benchmark. And there is some argument now about which of those benchmarks we should refer to as the price of oil. We have been referring to West Texas Intermediate, which is a slight sweet crude, but there is not very much of that now, and because of the demand, the Brent, which always used to be lower in price, is now several dollars to $5 or $6 higher. So there is some and it would be interesting to watch what happens if they sort this out.

But notice what caused this blip on the way down. It was the oil found in Alaska that used to be a fourth of our production. It has now dwindled down. And notice here the big finds in the Gulf of Mexico, and you can hardly see a perturbation as we run down that slope.

The next chart is a chart which is used by one of the primary organizations that believes that you don't need to worry about oil, that it is going to be there for a long time. This is CERA, the Cambridge Energy Research Associates, and they use this chart to try to convince you, and I don't find it very convincing but I just will ask you to look at it to see if you think it is convincing, that M. King Hubbert really didn't know what he was talking about. The little yellow symbols here are M. King Hubbert's predictions. The actual lower 48 are the green ones, and they are telling you that these two curves are so far apart that you should question the validity of M. King Hubbert's analyses. They look pretty close together to me. And they also show the total U.S. production, which is the Alaska production. And, of course, that produces this little perturbation, slipping down the other side of Hubbert's Peak.

This chart is a quote from one of four different agencies, groups that have done studies on peak oil. This is the first one, and this is the so-called Hirsch report and it was done by SAIC, Science Applications International Corporation, a very prestigious science organization paid for by the Department of Energy. And they produced a big report with very serious language:

World oil peaking is going to happen. World production of conventional oil will reach a maximum and decline thereafter. That maximum is called the peak. A number of confident forecasters project peaking within a decade. Others contend that it will occur later. Prediction of the peaking is extremely difficult because of geological complexities, measurement problems, pricing variations, demand elasticity, and political influences. Peaking will happen but the time is uncertain.

□ 2045

''Oil peaking presents a unique challenge.'' And then they make this statement, ''The world has never faced a problem like this. There is nothing in history that we can rely on to help us through this 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,'' is his statement.

The next chart is from a second of these studies, and there are a couple of these that we will go through very quickly. The Army Corps of Engineers did a study for the Army. And you can take their report and put in U.S. or world wherever they put Army. And the Army is clearly a microcosm of the United States and the United States is a microcosm of the world. But they say essentially the same thing; peaking is either present or eminent, with potentially devastating consequences.

Oil is the most important form of energy in the world today. Historically, no other energy source equals oil's intrinsic qualities of extractability, transportability, versatility and cost. And you really need to emphasize each of those.

The next chart. I wanted to show you this one because this was written just a couple of years ago. ''The current price of oil is in the $45–$57 per barrel and it's expected to stay in that range for several years.'' I think it's, what, $69 a barrel today? And after this it went up to $78 a barrel, then fell back and is rising again. Oil prices may go significantly higher, and some have predicted prices ranging up to $180 a barrel in a few years. Were that to occur, by the way, it would have disastrous effects on our economy.

The next chart is a schematic. And you can make this peak look steep or flat. Here we've spread out the abscissa and compressed the ordinate. But it's still a 2 percent growth, which doubles in 35 years, four times bigger in 70 years, eight times bigger in 105 years. Albert Einstein said that compound interest was the most powerful force in the universe. Very few people understand the power of exponential growth. It doubles in 35 years. That's the yellow shaded area. If, in fact, we are here near the peak where the demand is a bit more than the supply, which is why gas is $3 a gallon at the pump rather than $1, which it was not all that long ago, in 35 years the demand will be double? And if, in fact, we're peaking, the supply will be not more and maybe less than the supply now.

The next chart is a very interesting one because it includes a couple of predictions by CERA. There are two major organizations that I think are kind of in denial, one of them is CERA and the other one is ExxonMobil. All the other oil companies, watch their ads, they're pretty much admitting that we're at peak oil. BP is Beyond Petroleum. And Chevron has ads. It's very clear they believe that we've probably reached or we're about to reach our maximum production of oil.

Here we are, common curve, you've seen this a number of times, a stuttering in the 1970s and rising again. And they are predicting, and we don't have time this evening to go over some very interesting statistics. They're predicting we're going to find as much more oil as all of the known reserves yet to be pumped. And if we found that much more, in other words, if we go from the roughly two trillion barrels, which most authorities believe was the amount of oil which was recoverable, and we've recovered about half of that. If we went to three, then that moves the peak out they say to 2016. I just want to emphasize that for a moment. Even if we find as much more oil as all the known reserves in the world today, we push the crisis point out only 2016.

This chart further points out that if we use really aggressive techniques to develop that oil, like pumping live steam down there and sequestering CO_2 down there, pumping seawater down there, all the things we do to recover, we might recover a more quickly, which would push the peak out, but then look what happens? You fall off a cliff after that. You can't pump it twice; if you pump it now, you won't pump it then.

The next chart is a really interesting one. This occurs in one of their publications where they are saying there won't be any such thing as peak oil. And look what they show. They say it will be an undulating plateau. I won't argue. It's up and down. The price of oil is up and down. The price of gas is up and down. But they say it will be an undulating plateau. But notice, the undulating plateau falls off. There clearly is a peak. If there is only roughly two trillion barrels, then the peak is here. If we find another trillion barrels, that pushes the peak out to here. And then they have some confidence, I don't know how well-founded it is, that we're going to get a huge amount of oil from unconventional sources. And when we have more time another evening, we'll talk about the potentially huge amounts of oil that we can get from things like our oil shales in the west and the Canadian tar sands.

This next quote is an interesting one from one of the giants in this area. This is a quote from Laherrere, who says that ''The USGS estimate implies a five-fold increase in discovery rate and reserve addition 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 search, and the deliberate effort to find the largest remaining prospects.'' I think that he's right, that this is absolutely implausible.

The next chart is a quote from Hyman Rickover, as I mentioned earlier in that very famous speech he gave just a little over 50 years ago now. I suggest it's a good time to think soberly about our responsibility to our decendants, those who will ring out the

fossil fuel age. I led a delegation of nine members to China; we spent New Year's Eve in Shanghai. They began their discussion of energy by talking about post-oil. Post-oil. Mr. Speaker, I wish our guys got it as well as they.

We might give a break to these youngsters by cutting fuel and metal consumption so as to provide a safe margin for the necessary adjustments which eventually must be made in a world without fossil fuels. There will be a world without fossil fuels.

I have a few charts on conservation. California uses 65 as much electricity as we use; hard to argue they don't live as well as we. The next chart is a really interesting one. It shows the enormous potential for saving energy with lighting. And the incandescant bulb, we use that for brooding our chickens because 90 percent of all the energy is heat. Fluorescents are very much more efficient. Same amount of light from all of these, by the way. But look at the light emitting diodes, LEDs, over there; very little heat produced. Get an LED flashlight, you will forget when you put batteries in it, they just last and last.

The next chart is a really interesting one. I wish it were in living color so it's a little sexier to look at. This shows how satisfied one is with life compared to how much energy you use. Satisfaction with life here, how much energy you use there. Obviously we are way out there to the right. There we are, USA. But notice, there are 20-something countries that are as happy or happier with life than we are who use less energy than we. We don't need to use as much energy as we use to feel good about life.

The next chart is a really interesting one. It shows us the huge challenge that we have. And 85 percent of all of our energy comes from fossil fuels, only 15 percent of it from something else. And a bit more than half of that from nuclear. And 7 percent, and by the way, in 2000 our solar was 1 percent of 7 percent, which is .07 percent. It's been growing rapidly. It may now be .5 percent. But that's still a tiny, tiny percentage.

The next chart, I just want to look very quickly at something which has been in the press recently. And I have a couple of articles here I want to refer to very quickly. This is the energy that goes into producing corn. And if you see down here, almost half the energy that goes into producing corn comes from natural gas, and natural gas is a fossil fuel. There was a study done by the National Academy of Sciences, and then two of the authors there of that study wrote an article for the Washington Post, and it was March 25 of this year. And in both of these, in both the paper, and I have the paper here from the National Academy of Sciences and here is the article that was in the Washington Post. They point out that if we use all of our corn for ethanol, all of it, and discounted it for the fossil fuel input, it would displace 2.4 percent of our gasoline, only about one-fourth, less than one-fourth, one-fifth, they have 80 percent fossil fuel input. They noted that you can save that much gas by tuning up your car and putting air in the tires.

A lot of people today are focused on soybeans and diesel. They said, and this is National Academy of Sciences, if we use all of our soybeans for diesel, it would displace 6 percent of our diesel. And if you discounted it for the fossil fuel input, and it's much more efficient producing biodiesel from soybeans, that 6 percent shrinks to 2.9 percent. Well, both of these are trifling. And obviously we're not going to turn all of our corn into ethanol and all of our soybeans into diesel. But if we did, it would displace, what, 2.4 percent of our gasoline and 2.9 percent of our soybeans. We have huge challenges.

And the next chart is really interesting. When people tell you, don't worry about energy, we have all this coal, 250 years at current use rate. It's true. Grow only 2 percent, remember that compound growth? It shrinks to 75 years. Use some of it to convert it to gas of oil, you have now shrunk to 50 years. And remember, in today's world there is no way not to share your energy with the world because energy is bought and sold on a world market. So if we share our 50 years with the world, it's now 12½ years of coal energy, with only 2 percent growth in the use of coal. Think about it for a moment.

The next chart, and we will come here to the floor again and we will spend the whole time talking about this one, because we have a huge challenge. I'm really very enthusiastic about challenges. There is no exhilaration like the exileration of meeting and overcoming a big challenge, and boy have we got one in this energy. We are the most creative, innovative society in the world, and with proper motivation, I think we can do it. But we need to understand the challenge before us, and that's when I will come to the floor again. And we're going to talk about all of these, the finite sources, the nuclear sources and all of these renewables. What is realistic to expect to get from them? Is there a silver bullet out there? I'll tell you now, except for one, the only silver bullet out there is nuclear fusion. I don't see any other silver bullet. And the chances of them getting nuclear fusion I think are about the same as the chances of you solving your personal economic problems by winning the lottery; great if it happens, but don't mortgage the ranch, don't bet it on happening.

I would just like to end with a very interesting quote from Hyman Rickover. ''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 the necessary future changes, we shall ensure this dominant position for our own country.''

This, Admiral Rickover says, is a huge challenge for us today, with only 2 percent of the known reserves, using 25 percent of the world's oil and importing about two-thirds of what we use.

Thank you, Mr. Speaker. I yield back with the promise that I will come to the floor again and spend the whole time talking about the enormous challenges we have and the satisfactions that we will achieve as a nation when we do it, in spite of the difficulty.

LEAVE OF ABSENCE

By unanimous consent, leave of absence was granted to:

Mrs. JONES of Ohio (at the request of Mr. HOYER) for today.

Mr. ORTIZ (at the request of Mr. HOYER) for today and the balance of the week.

Ms. KILPATRICK (at the request of Mr. HOYER) for today, on account of official business in district.

Mr. CUELLAR (at the request of Mr. HOYER) for today, on account of inclement weather.

Mr. CARTER (at the request of Mr. BOEHNER) for today, on account of travel delays.

Mr. DAVIS of Kentucky (at the request of Mr. BOEHNER) for today and June 26 and 27, on account of illness in the family.

Mr. PAUL (at the request of Mr. BOEHNER) for today, on account of travel delays.

Mr. POE (at the request of Mr. BOEHNER) for today, on account of travel delays.

Mr. WESTMORELAND (at the request of Mr. BOEHNER) for today, on account of illness in the family.

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 Mr. MCNULTY) to revise and extend their remarks and include extraneous material:)

Mr. SPRATT, for 5 minutes, today.

Mr. KLEIN of Florida, for 5 minutes, today.

Ms. WOOLSEY, for 5 minutes, today.

Mr. DEFAZIO, for 5 minutes, today.

Ms. KAPTUR, for 5 minutes, today.

Mr. MCDERMOTT, for 5 minutes, today.

Ms. WATERS, for 5 minutes, today.

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

Mr. BURTON of Indiana, for 5 minutes, today and June 26, 27, 28, and 29.

Mr. POE, for 5 minutes, on June 28.

SENATE BILL REFERRED

A bill of the Senate of the following title was taken from the Speaker's