

avoided some germane topics, such as excessive litigation, upon which they could not agree, figuring that Congress might not be able to agree either.

SEVEN GRAND CHALLENGES

Plug-in electric cars and trucks, carbon capture, solar power, nuclear waste, advanced biofuels, green buildings, and fusion.

Here is where I invite your help. Rather than having members of Congress proclaim these challenges, or asking scientists alone to suggest them, I believe there needs to be preliminary discussion—including about whether the criteria are correct. Then, Congress can pose to scientists questions about the steps to take to achieve the grand challenges.

To begin the discussion, I suggest asking what steps Congress and the Federal government should take during the next five years toward these seven grand challenges so that the United States would be firmly on the path toward clean energy independence within a generation:

1. Make plug-in hybrid vehicles commonplace. In the 1960s, H. Ross Perot noticed that when banks in Texas locked their doors at 5 p.m., they also turned off their new computers. Perot bought the idle nighttime bank computer capacity and made a deal with states to manage Medicare and Medicaid data. Banks made money, states saved money, and Perot made a billion dollars.

Idle nighttime bank computer capacity in the 1960s reminds me of idle nighttime power plant capacity in 2008. This is why:

The Tennessee Valley Authority has 7,000–8,000 megawatts—the equivalent of seven or eight nuclear power plants or 15 coal plants—of unused electric capacity most nights.

Beginning in 2010 Nissan, Toyota, General Motors and Ford will sell electric cars that can be plugged into wall sockets. FedEx is already using hybrid delivery trucks.

TVA could offer “smart meters” that would allow its 8.7 million customers to plug in their vehicles to “fill up” at night for only a few dollars, in exchange for the customer paying more for electricity between 4 p.m. and 10 p.m. when the grid is busy.

Sixty percent of Americans drive less than 30 miles each day. Those Americans could drive a plug-in electric car or truck without using a drop of gasoline. By some estimates, there is so much idle electric capacity in power plants at night that over time we could replace three-fourths of our light vehicles with plug-ins. That could reduce our overseas oil bill from \$500 billion to \$250 billion—and do it all without building one new power plant.

In other words, we have the plug. The cars are coming. All we need is the cord.

Too good to be true? Haven't U.S. presidents back to Nixon promised revolutionary vehicles? Yes, but times have changed. Batteries are better. Gas is \$4. We are angry about sending so many dollars overseas, worried about climate change and clean air. And, consumers have already bought one million hybrid vehicles and are waiting in line to buy more—even without the plug-in. Down the road is the prospect of a hydrogen fuel-cell hybrid vehicle, with two engines—neither of which uses a drop of gasoline. Oak Ridge is evaluating these opportunities.

Still, there are obstacles. Expensive batteries make the additional cost per electric car \$8,000–\$11,000. Smart metering is not widespread. There will be increased pollution from the operation of coal plants at night. We know how to get rid of those sulfur, nitrogen, and mercury pollutants (and should do it), but haven't yet found a way to get rid of the carbon produced by widespread use in coal burning power plants. Which brings us to the second grand challenge:

2. Make carbon capture and storage a reality for coal-burning power plants. This was one of the National Institute of Engineering's grand challenges. And there may be solutions other than underground storage, such as using algae to capture carbon. Interestingly, the Natural Resources Defense Council argues that, after conservation, coal with carbon capture is the best option for clean energy independence because it provides for the growing power needs of the U.S. and will be easily adopted by other countries.

3. Make solar power cost competitive with power from fossil fuels. This is a second of the National Institute's grand challenges. Solar power, despite 50 years of trying, produces one one-hundredth of one percent of America's electricity. The cost of putting solar panels on homes averages \$25,000–\$30,000 and the electricity produced, for the most part, can't be stored. Now, there is new photovoltaic research as well as promising solar thermal power plants, which capture the sunlight using mirrors, turn heat into steam, and store it underground until the customer needs it.

4. Safely reprocess and store nuclear waste. Nuclear plants produce 20 percent of America's electricity, but 70 percent of America's clean electricity—that is, electricity that does not pollute the air with mercury, nitrogen, sulfur, or carbon. The most important breakthrough needed during the next five years to build more nuclear power plants is solving the problem of what to do with nuclear waste. A political stalemate has stopped nuclear waste from going to Yucca Mountain in Nevada, and \$15 billion collected from ratepayers for that purpose is sitting in a bank. Recycling waste could reduce its mass by 90 percent, creating less stuff to store temporarily while long-term storage is resolved.

5. Make advanced biofuels cost-competitive with gasoline. The backlash toward ethanol made from corn because of its effect on food prices is a reminder to beware of the great law of unintended consequences when issuing grand challenges. Ethanol from cellulosic materials shows great promise, but there are a limited number of cars capable of using alternative fuels and of places for drivers to buy it. Turning coal into liquid fuel is an established technology, but expensive and a producer of much carbon.

6. Make new buildings green buildings. Japan believes it may miss its 2012 Kyoto goals for greenhouse gas reductions primarily because of energy wasted by inefficient buildings. Many of the technologies needed to do this are known. Figuring out how to accelerate their use in a decentralized society is most of this grand challenge.

7. Provide energy from fusion. The idea of recreating on Earth the way the sun creates energy and using it for commercial power is the third grand challenge suggested by the National Institute of Engineering. The promise of sustaining a controlled fusion reaction for commercial power generation is so fantastic that the five-year goal should be to do everything possible to reach the long-term goal. The failure of Congress to approve the President's budget request for U.S. participation in the International Thermonuclear Experimental Reactor—the ITER Project—is embarrassing.

ANYTHING IS POSSIBLE

This country of ours is a remarkable place. Even during an economic slowdown, we will produce this year about 30 percent of all the wealth in the world for the 5 percent of us who live in the United States.

Despite “the gathering storm” of concern about American competitiveness, no other country approaches our brainpower advan-

tage—the collection of research universities, national laboratories and private-sector companies we have.

And this is still the only country where people say with a straight face that anything is possible—and really believe it.

These are precisely the ingredients that America needs during the next five years to place ourselves firmly on a path to clean energy independence within a generation—and in doing so, to make our jobs more secure, to help balance the family budget, to make our air cleaner and our planet safer and healthier—and to lead the world to do the same.

Mr. ALEXANDER. Mr. President, I yield the floor.

Mr. KYL. Mr. President, is there 10 minutes remaining on our side?

The ACTING PRESIDENT pro tempore. There is 9 minutes 20 seconds.

GRIDLOCK

Mr. KYL. Mr. President, the American people sent us here to get things done, and they are obviously very frustrated with the fact that this has been a do-nothing Congress, a do-nothing Senate. We have not gotten much done. In fact, the problem has been identified by both of the Presidential candidates, Senators McCain and Obama, who have railed about the fact that we need reform in this body because nothing is getting done on behalf of the American people.

The Democrats have been in charge of the Senate and House for the last 2 years. So one wonders why haven't we been able to get things done? For example, to fund the Government for next year, we are supposed to by now have passed 13 appropriations bills to fund all of the departments of the U.S. Government. Not one appropriation bill has been passed and sent to the President. We are going to have to bundle everything up in a giant ball at the end of September and, instead of carefully considering each individual department, we are going to have to adopt a continuing resolution so the Government can continue to operate. That is not the way to do business.

With rare exception, the majority leader in the Senate has been less interested in enabling the Senate to work its will and finding consensus than simply pushing an agenda of the majority in a sort of my-way-or-the-highway kind of approach. This has led to gridlock and, as I said, not much getting done.

Let me illustrate this by a simple statistic that says it all. In 2008 alone, so far, 28.4 percent of all rollcall votes have been cloture votes. That is a record historic high. Over 28 percent of our votes—over a fourth of them—have been cloture votes. Last year set the all-time record at 14 percent, and the average is 4.3 percent.

Why is this important? Because cloture stops debate, and it stops Republicans, in this case, from offering our solutions, alternatives, or amendments to what the Democratic leader puts on the floor. He says it is either this way

or nothing. You either vote on this or we are not going to let you have amendments and we are going to have a cloture vote. Again, 28.4 percent of the votes have been cloture votes.

I remember several years ago when my colleague John McCain stood on the Senate floor fighting for the right of a Democratic Senator to get a vote on an amendment. He said something we all agreed with, which is that a Senator has a right to get a vote on his or her amendment. That was then and this is now: Sorry, Republicans, no votes on amendments. We are going to fill the legislative tree—a parliamentary tactic—or file cloture and stop anything from being debated or voted on. We don't want to take tough votes or give Republicans a chance to win one of the votes.

What have been some of the results? Well, in 2007, some very important tax provisions expired. The research and development tax credit, for example, and the ability to fix the alternative minimum tax so it doesn't apply to most taxpayers. We have to pass what is called a tax extender bill to extend these expiring provisions and make sure the AMT doesn't get 23 million to 26 million American families this year. We have not gotten it done so far. Why? There is an obvious way to do this. The ranking member on the Finance Committee pretty well figured out how this could occur. No, we cannot get that done.

On energy production, both of my colleagues have talked about that issue. The majority leader called up the so-called antispeculation bill. We all agree we could add resources to the Commodity Futures Trading Commission and make sure it has the ability to regulate this futures trading in a way that would prevent manipulation and speculation in the market. But we also appreciate the fact that supply and demand is a much larger factor with regard to the price of gasoline, for example. So Republicans wanted to offer amendments that created some alternatives to the Democratic bill that would assist in nuclear energy production, coal to liquids, and allow offshore drilling as one of the key elements of it. We need relief from high gasoline prices. The Democratic leader said no.

The only thing the President could do was to at least remove an Executive moratorium, which he did. That moratorium no longer exists. What happened to gas prices? Oil prices have dropped, I should say, by \$40 a barrel, and gas prices have dropped somewhat off of the high above \$4 because of the market's belief now that when the President withdrew the Executive moratorium, it was the first step. The second step would be Congress doing something, and that would increase production, and therefore reduce the cost of the oil, and therefore enable the American consumer to pay less at the pump. But Congress still has not done anything.

Now we hear that next week the majority leader is going to allow a bill to

come to the floor, but it is not going to provide the kind of offshore drilling that Republicans have been advocating. The ability to debate it is going to be very circumscribed. We are not going to be able to present the kind of amendments we would like to present and have this debated and amended so we can come up with real solutions.

Another example is free trade. The Colombia Free Trade Agreement is one that almost everybody acknowledges is a good thing. It is critical for our relationship with this important country in our hemisphere, which is standing against the likes of Hugo Chavez of Venezuela. Yet the Democrats, because of their concern about the reaction of labor unions, have said, no, we are not going to take up this Colombia Free Trade Agreement.

These are the kind of issues—and let me add one more: judges. These are the kinds of issues Americans expect us to get done. We have only confirmed four circuit court judges this year, four in the entire year, less than the average of all of the last Presidents, certainly less than Bill Clinton. Yet the majority says we don't have time to do that.

Clearly, this is a do-nothing Congress. Clearly, our Presidential candidates, both of them, recognize reform is necessary.

Let me mention the last issue. I mentioned appropriations bills. We are going to have to ball them up into one giant bill called a continuing resolution. Mark my words, one of the things somebody is going to try to do is attach a rider to the appropriations bill—maybe in the middle of the night, I don't know—but it is going to be to continue a moratorium on offshore drilling. Mark my words, somebody is going to try to do that. We cannot allow that to happen. Will Republicans be cut off from our ability to prevent that rider from going on the appropriations bill or to allow us to vote it off, to have an amendment to say, no, moratorium and offshore drilling is not going to be on that continuing resolution? This is critical to the American future. Are we going to have this right?

These are the kinds of questions I think are going to be necessary for us to resolve before Congress is going to be able to get anything done. But I will suggest this as well: Republican Senators can only do so much in the minority when Democrats are in charge. As my colleague, Senator MCCAIN, said at the Republican Convention, if he is elected, change is on the way. And one of the big changes is going to go right back to what he said several years ago. As I said, whether it is a Democrat wanting a vote on an amendment or a Republican, they are going to get that vote, and we are not going to have so many cloture motions filed to cut off amendments, to cut off debate, and say it is my way or the highway.

The American people want something done. We still have time—even in the short time remaining in this year—to do something about the energy crisis in

this country, and that means to get offshore drilling. That has to be at the top of our agenda. Secondly, we have to get the Government funded so it can continue operating next year without, as I said, a moratorium on more offshore drilling.

I am hopeful that in the next 3 weeks we will be able to do some things we have not been able to do in the last 6 months. But if we get cooperation from the majority, the minority stands ready to try to work out these issues, to conclude this session on a positive note in a way we can finally say we accomplished something this session for the American people. After all, that is what they sent us here to do.

The PRESIDING OFFICER (Mr. PRYOR). The Senator from North Dakota.

Mr. DORGAN. Mr. President, I have been listening with great interest to my colleague from Arizona. I might say, before he leaves the floor, my hope is that after trying eight times and failing to pass a bill to extend the tax incentives for renewable energy, we will get a little cooperation from the other side in the coming weeks to begin the first step of what we ought to have been doing easily, and that is pass the tax extenders to encourage renewable energy.

One of the reasons they have opposed it is because we actually pay for it. One of the ways we pay for it is to say to hedge fund managers, who are only paying a 15-percent income tax rate anyway, that they cannot be running their income through foreign tax-haven countries as deferred compensation to avoid paying U.S. taxes. Because the other side is upset with that as a payoff for the tax extenders for renewable energy, eight times they have blocked our ability to extend renewable energy tax credits, which is a way of substantially expanding our country's home-grown energy.

It is interesting for people to comment on the floor and say we need more cooperation, when eight times we have tried to extend these tax incentives for renewable energy, and eight times we have been blocked by those who are concerned about protecting the ability of wealthy hedge fund managers to avoid paying Federal income taxes. Enough about that.

With respect to drilling, I was one of four Senators—two Republicans, two Democrats—who opened the 8.3 million acres called lease 181 in the Gulf of Mexico. I have other legislation I have had in for a year and a half to increase substantial drilling. It is a canard for a number of them to come to the Senate floor to say Democrats don't support drilling. It is simply factually wrong. That is a debate perhaps for tomorrow or another day.

(The remarks of Mr. DORGAN pertaining to the introduction of S. 3454 and S. 3455 are printed in today's RECORD under "Statements on Introduced Bills and Joint Resolutions.")