been possible for a terrorist group to have detonated it. That is one nuclear weapon. There are 25,000 on this planet.

This morning on the way to work I heard a description on the radio of the nuclear weapons possessed by Pakistan. The question by some people who know a lot about this is whether there is an impossibility of someone from al-Qaida or the Taliban infiltrating the structure by which there is security for the nuclear weapons in Pakistan. That is an open question.

Earlier this year I was in Moscow, about an hour and a half outside Moscow, at a training facility we have helped fund in Russia to train for the security of Russian nuclear weapons. It is in all our interests—it is in the interest of the future of mankind—to understand the urgency to prevent the spread of nuclear weapons and to stop rogue nations and terrorists from acquiring nuclear weapons and, finally, at least to begin substantially reducing the number of nuclear weapons. That is what brings us to the issue of the START treaty.

I don't denigrate anyone or suggest that anyone who raises questions about this is uninformed. That is not the case. All of us want what is best for this country and for the world. We want to have arms reduction treaties and weapons reductions in a way that is verifiable and will strengthen the world's security. There have been a lot of questions asked. A lot of them have been answered. It is my hope that all of us who have been interested in this—and that is both Republicans and Democrats—will find ways to come together and pass this START treaty.

If I might, I will describe the unbelievable success we know occurs from this kind of activity. We don't have to test this. We know it works. Through the Nunn-Lugar program, which has been around for some while, we actually fund the activities to destroy weapons that previously were aimed at the United States. Albania is now chemical weapons free; the Ukraine, Kazakhstan, and Belarus have no nuclear weapons any longer; 7,500 warheads have been deactivated; 32 ballistic missile submarines; 1,400 long-range nuclear missiles; 155 bombers.

I know it is repetitive, but I wish to again say that I have in my desk a piece of wing from a Soviet Backfire bomber. We didn't shoot this down. I ask unanimous consent to show it.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered.

Mr. DORGAN. As a result of Nunn-Lugar, we sawed the wings off. How is it that I stand on the floor with a piece of a wing from a bomber that used to carry nuclear weapons threatening to destroy this country? I do that because we know these work.

Ukraine is now nuclear free. This is a hinge from a silo that contained a nuclear-tipped missile aimed at the United States. This piece, from a silo containing an intercontinental ballistic missile aimed at America, is from a missile that no longer exists. The nuclear weapon is gone; the missile is gone. There are now sunflower seeds planted where there was previously a missile. I tell that to say: We understand what works. Arms negotiations, arms treaties with which we have tried to reduce delivery vehicles and nuclear weapons work.

I have just described the Nunn-Lugar program. Let me show a couple photographs of it. This is a Typhoon-class ballistic missile submarine that carried nuclear weapons. I have the copper wiring from this submarine in my desk, reminding all of us, again, that this works. We didn't have to destroy this submarine with a weapon under the sea in hostile action. We negotiated a treaty. It was taken apart.

This shows an SS–18 missile silo in Ukraine. We can see they planted dynamite and blew up the silo. Because we agreed with the Russians that we were going to reduce nuclear weapons, reduce delivery vehicles, that silo is now gone and sunflower seeds are planted where a missile previously had been.

Here is a photograph of a Blackjack bomber that the old Soviet Union and Russia had. We destroyed it, sawed off the wings. We know these kinds of treaties work.

The treaty negotiated is supported by so many people. ADM Mike Mullen, Chairman of the Joint Chiefs of Staff, says:

> I, the Vice Chairman and the Joint Chiefs, as well as our combatant commanders, stand solidly behind this new treaty. This treaty represents our country's best interests, in my judgment.

There are many things to say in support of concluding an arms control agreement with the Russians. There are many questions that have been raised about the treaty and have been answered. When I described earlier the large number of people who say it is in this country's interest to support this treaty, I did not put up several of these, but let me say, Dr. Kissinger, said:

> I recommend ratification of the treaty. It should be noted I come from the hawkish side of this debate so I'm not advocating these measures in the abstract. I try to build them into my perception of the national interest.

This morning George Shultz, James Baker, Lawrence Eagleburger, Colin Powell, and Dr. Kissinger wrote an oped piece in the Post making the case.

Those who have raised questions about this are as concerned about our national security as anybody else. They believe, as I do, in the same goals. Let's keep nuclear weapons out of the hands of terrorist organizations and rogue nations. Let's stop the spread of nuclear weapons and, ultimately, let's try to reduce the number of weapons on this planet. I think everybody here who is involved are people of good will. My fervent hope is that in the coming couple weeks, as we conclude this session of the Congress, we will find a way to have on the floor this treaty which is so widely supported and be able to say, all of us of every persuasion, we did something that will have a lasting impact on the future of this country, the security of this country, and the security of the world. We did something that reduces nuclear weapons, the number of nuclear weapons among the two nations that have, by far, the most nuclear weapons. We did something that substantially reduces the number of delivery vehicles for nuclear weapons. This will provide for a much greater measure of security for us and the rest of the world.

Those who have spoken on this issue, giving different views, offering different views, I have great respect for them. Many of them and I were part of the national security working group. Along the line when the treaty was being negotiated, we had meetings in an area that is for top-secret presentations. All along the way we understood what was happening and how it was happening. I think this is a treaty that is mutually beneficial and represents not only the best interests of both countries that are parties to the treaty but especially the best interests of the world.

I started by saying the loss of one nuclear weapon exploded in one city on the planet would change everything about our lives. We have about 25,000 nuclear weapons on the planet. The security of those weapons, the ability to keep them out of the wrong hands, the ability to keep others from acquiring weapons, the ability to reduce weapons, all of that urgent and important. It doesn't always rise to the top in the debate in the Senate, but now we have that discussion around this treaty which is only a first step. I hope, by the end of this month, perhaps all of us could celebrate having a significant achievement for the security of the country and for the world.

I yield the floor.

The ACTING PRESIDENT pro tempore. The Senator from Missouri.

Mr. BOND. Madam President, I ask unanimous consent to speak up to 15 minutes.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered.

ENERGY

Mr. BOND. Madam President, as America's energy needs continue to grow, so does our need for commonsense approaches to meeting these needs. Unfortunately, the Obama administration's announcement yesterday dealt a death blow to one of our most important ways to expand our domestic energy supplies. My message to the Obama administration is that we need to drill it, not kill it. Yesterday, the administration announced the eastern Gulf of Mexico and the Atlantic coast to be off-limits to any new offshore drilling for the next 5 years. In

other words, the Obama administration decided to deny Americans new domestic energy supplies, deny Americans new jobs, and make America's energy prices rise.

In the wake of the BP oilspill, there is no question we are reminded of the need to preserve our environment as we seek to expand our energy growth by drilling for more oil. As we continue opening up new sources of traditional energy in an environmentally friendly manner, preventing spills must be a top priority. However, arbitrarily—arbitrarily—closing off our own domestic supplies is not the answer.

First, this deathblow to offshore drilling will only make us more dependent on OPEC and Middle Eastern countries and hostile regimes that mean us harm. Also, this moratorium will cost us jobs at a time when America needs job creation more than ever.

The American Petroleum Institute estimates that we will not get 75,000 jobs as a result of the Obama administration's offshore drilling moratorium. Domestic production of energy will be integral for our economic growth. Production of domestic energy sources not only helps us meet growing demand and keeps us secure, but if the Obama administration removes their moratorium it will create jobs, and we need jobs.

Strict and arbitrary environmental regulations in place on coal mining, hydraulic fracturing of natural gas, and of offshore oil drilling just create a de facto moratorium on more production and on more jobs. Limiting production will make the sources we have available only more expensive. It is simply a matter of supply and demand.

As I have already mentioned, since energy demand will go up in the near future, these regulations—by hampering production—will serve as an indirect energy tax on consumers. Guess what. Remember, the $4-a-gallon gasoline we had a couple years ago? Well, we may see that, and even more, as a result of shutting off our domestic supply.

We should not be jumping to constrain domestic energy production without first giving any new regulations a very strict look to make sure we do not punish consumers just trying to power their households, fuel their vehicles, get jobs, and live their lives. We all know we need a new energy policy, one that enables us to find, create, and use domestically produced clean energy.

This is not the first time we have sought to do this, but the difference now is that we have a recession to contend with at the same time. People are struggling with high unemployment. In the Midwest, our manufacturing sector has lost thousands of jobs. In an economy with a stubborn, nearly 10-percent unemployment rate, the million-dollar question—or bigger than that—we all have these days is, How can we create jobs?

So as we approach changing our energy policy, while we all want to protect the environment—and we must—we have to ensure that the policies we choose will not have adverse consequences to economic growth. Unfortunately, too many of my colleagues, and some in the administration, are focusing on jamming through Energy bills that would impose job-killing tax increases on farmers, small businesses, and families. Their ideas have ranged from a cap-and-trade tax bill to others that pick winners by awarding massive taxpayer-funded incentives to some and, in the process, harming others.

I think there is a better way to move our Nation to energy independence. The commonsense approach we have to take would make use of the clean, reliable sources we have here without picking sources and technology winners. We need to develop affordable, homegrown, and clean energy solutions to help push our Nation toward an independent and more environmentally friendly future.

I am by no means an expert on this subject, but I have been around the block a time or two, so I support many strategies to reduce our dependence on fossil fuels and cut pollution. I have to stress that, in fact, we will continue to rely on fossil fuels to meet a large portion of our energy demand. Coal accounts, for example, for 50 percent of our Nation's electricity generation and over 80 percent of Missouri's electricity. So we have to harness our abundant supply of coal in a clean way by helping to advance carbon capture and sequestration, or CCS.

City Utilities of Springfield, MO, and others are conducting a project to assess the feasibility of carbon sequestration in smaller, shallower saline aquifers and individual powerplants. Much of the CCS research to date has focused on deep saline aquifers in large geological basins often far removed from most powerplant sites.

When complete, however, this pilot demonstration being conducted in Springfield may yield new lessons about CCS technologies that can be applied to powerplant sites in specific locations across the Nation.

Nuclear power, such as coal, is also an important source of base-load power, and it must also play a role in our energy future. Nuclear energy generates more than seven times as much zero-carbon electricity as all renewable sources combined.

In 2007, for example, nuclear energy prevented the emission of 693 million metric tons of carbon dioxide—roughly the equivalent of taking all U.S. passenger cars off the road. Of course, generating nuclear power results in waste that must be stored or otherwise dealt with, and we have spent billions of dollars on an improved site to store that waste at Yucca Mountain in Nevada. Unfortunately, political opposition has stalled, perhaps permanently, the operation of that site.

A real solution can be found in nuclear reprocessing, which reuses spent nuclear fuel and can produce the same amount of energy and leaves only 5 percent of the waste. France does it. Why should not we?

We must have policies in place that spur the development of more zero-emission nuclear power so we can harness all of its promise. And we must eliminate the layers and layers of bureaucracy and regulations which do not add to the safety of that power produced.

I agree we need to develop other zero-carbon sources, such as renewable energy sources. Missouri power providers are currently expanding their wind generation, and we have a number of wind turbines. Also, a few families and businesses receive a portion of their power from wind farms in Kansas.

Every day we are making advances in solar power, but this and wind power currently require huge taxpayer subsidies just to set up the operations, and it is followed by a $20-per-megawatt taxpayer subsidy when and if they produce power.

Our State of Missouri, however, is blessed with hydropower sources which could be expanded by installing hydropower generation on existing Mississippi River locks and dams. But it is unlikely these renewable sources can provide more than a fraction of the energy we use, even in Missouri.

So we must avoid national renewable energy standards that arbitrarily set requirements without ensuring that families and workers continue to receive the affordable power they need. Intermittent wind and sunlight mean we must always ensure that a reliable base source of power remains in place to back them up.

Another way to make these sources more viable is through new battery technology that will help stabilize these sources' power flow. As a longtime leader in the battery industry, Missouri is also leading the way in advanced lithium-ion batter development and energy storage.

For example, Dow-Kokam in Kansas City is using lithium-polymer technology to make batteries lighter, longer lasting, smaller, and quicker to charge. Not only would batteries make renewable sources more viable, they would help with peak shaving by storing large amounts of energy produced at offpeak times.

When talking about batteries, of course, we cannot help but think about the promise that electric cars have to transform our transportation system and get us off our dependence of foreign oil.

I am a strong supporter of the increased use of hybrid and electric vehicle technology. Smith Electric Vehicles in Kansas City is building delivery trucks, which are the world's largest electric vehicles with a top speed of 50 miles an hour and a range in excess of 100 miles on a single overnight charge of the truck's battery at a time when there is available electricity on the grid between 10 p.m. and 6 a.m. not otherwise being used.

But even with the promise of electric vehicles, American families, drivers, and workers still will need a plentiful supply of transportation fuels to power their cars. I do agree we eventually need to lessen our dependence on fossil fuels, and that is why I have been a longtime supporter of using renewable biomass for fuel and for energy.

The biofuels industry has created good, often high-paying jobs which are critical to the Midwest where we have lost so many manufacturing jobs to the recession. I have been a longtime supporter of keeping tax incentives in place for the ethanol and biodiesel industry. These tax incentives, plus increased support for infrastructure to deliver these fuels, will be imperative as the industry becomes more competitive with traditional fuels. We must extend the volumetric excise tax credit, which we promised in the Congress to the farmers who set up the cooperatives to develop ethanol and biodiesel sources. In my opinion, one of the most exciting things about this industry is that it drives the development of low-carbon feedstocks.

So I will close by talking about the potential that my home State of Missouri has to be a leader in a large part of our clean energy future by providing some of this homegrown energy, or biomass.

We have made great progress in Missouri in the use of algae and carbon dioxide from fuel. Missouri also has abundant farmlands and forests that can provide diverse biomass feedstocks to generate electricity or produce renewable fuels. For example, a University of Missouri study found that Missouri's 2.5 million acres of corn and 5 million acres of soybeans produce a combined 13 million tons of dry crop residue each year which can be converted into electric energy or, through cellulosic operation, into fuels.

Now, our forests alone can potentially provide 150 million tons of wood residues from scrub timber annually on a renewable basis. Together, that is a lot of biomass feedstock that is homegrown and that is carbon neutral because it takes in energy as it grows, releases that energy when it is burned, and takes it in again as replacements are grown. If we do not harness it, that energy is released when the wood or the biomass degrades.

Missouri entrepreneurs are developing new technology to convert municipal solid waste into clean burning biochar, which can supplement our biomass producers. In addition, Missouri is home to some of the foremost researchers in clean-burning biomass at the University of Missouri-Columbia.

Last but not least, the State of Missouri Department of Agriculture is on the cutting edge in supporting burgeoning biomass technology.

By creating a thriving biomass industry, we would not only help create our clean energy future, we would also create much needed new jobs in Missouri and Midwestern States by providing income to struggling farmers and agroforesters.

We must promote these clean energy strategies in a market-friendly way, and taxing our suffering families' and workers' use of energy is not the way. Produce more, do not tax more. Taxing it does not increase the production of it. Promoting these clean energy strategies is a bipartisan win-win-win, and I hope all of my colleagues will join me in helping this become a reality.

Madam President, I yield the floor and suggest the absence of a quorum.

The ACTING PRESIDENT pro tempore. The clerk will call the roll.

The assistant legislative clerk proceeded to call the roll.

The ACTING PRESIDENT pro tempore. The Senator from Florida.

Mr. NELSON of Florida. Madam President, I ask unanimous consent that the order for the quorum call be rescinded.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered.

NASA

Mr. NELSON of Florida. Madam President, we had a hearing in the Commerce Committee yesterday about the future of NASA. We had the President's science officer, the head of the Office of Science and Technology Policy, Dr. Holdren; and the Chief Financial Officer of NASA, Dr. Robinson. We pointblank asked both of them if they intended to follow the new law, the NASA authorization bill, that sets out a visionary course for the future of our manned and unmanned space program. They both indicated they would absolutely follow the direction of policy within the administration; they would follow the law.

Clearly, this has the President's stamp of approval. For once, we passed the bill unanimously in the Senate and by a three-quarters vote in the House of Representatives. The President then signed the bill into law. It is the President's policy. It is a policy that balances a number of things.

We continue the International Space Station at least until the year 2020, a space station, by the way, that is just now being completed after over a decade of construction. It is designated as a national laboratory, but a host of nations are all participants in the International Space Station, and cutting-edge research will be done utilizing the unique property of zero gravity of orbit as the space station orbits the Earth at 17,500 miles an hour.

We will start to develop new rockets that, as we speak, are being developed to carry cargo to and from the International Space Station. Those rockets will be in a competition between commercial companies, a competition conducted by NASA for making those rockets safe enough in order to take crew to and from the International Space Station and, at the same time, realizing that NASA's real vision is to go out and explore the heavens.

The NASA authorization bill starts the development of a heavy-lift rocket that will be able to take components up into low Earth orbit, where they can be assembled, and then ultimately to fulfill the President's goal he has set, which is to go to Mars.

The path by which we go to Mars is yet to be determined. A lot of that will depend upon the development of technology. There is within this NASA bill a robust technology development program for such missions as going to Mars or to an asteroid or whether we go back to the Moon. We were on the Moon 40 years ago. Now it is time to venture on out into the cosmos.

Under conventional technology, it would take 10 months for us to get to Mars, and by the time you got there, the realignments of the planets as they orbit the Sun would cause us to have to stay on the surface of Mars for a year until the planets were realigned where Earth was going to be close enough to Mars for the 10-month return journey. So, naturally, there is development going on by a number of entities, but one in particular headed by the astronaut who has flown more than any other astronaut—seven times—Dr. Franklin Chang-Diaz. He has been developing over the years, even from the time he got his Ph.D. at MIT, a plasma rocket, and that rocket is being now sufficiently developed that they are ready to do the testing stage and carry a small version of the rocket to the International Space Station, where it would be attached. A plasma rocket gives a constant stream of plasma energy that would keep the space station boosted to its height instead of constantly having to boost it every year or so because the orbit degrades. That plasma rocket would take us to Mars, if perfected, in 2 months instead of 10 months. If you go to Mars that fast—and by the way, that is going at 400,000 miles per hour—if you go that fast, then you don't have to stay on the surface of Mars for a year because you can stay there for a first trip for a few days, and the planets are still aligned so they are close enough so that in a 2-month period, you would be able to get back.

These are exciting things for the future of both the human space program and the nonhuman space program. The development of technologies in Earth science, the unmanned portion—we have a fairly significant increase in the NASA budget with regard to the science portion.

There is a huge increase in the budget of NASA for aeronautics. Remember, the first ''A'' in NASA—it is the National Aeronautics and Space Administration. The first ''A'' is aeronautics. There is a huge increase in the research and development for aeronautics. A lot of the airplanes we take for granted today or the cutting-edge advances in our military aircraft, where do we think that originally came in? It came from the research and development through NASA.