(Mr. WICKER), the Senator from Oregon (Mr. MERKLEY) and the Senator from Florida (Mr. RUBIO) were added as cosponsors of S. 3083, a bill to provide housing opportunities in the United States through modernization of various housing programs, and for other purposes.

S. 3132

At the request of Mrs. FISCHER, the name of the Senator from Virginia (Mr. KAINE) was added as a cosponsor of S. 3132, a bill to direct the Secretary of Veterans Affairs to carry out a pilot program to provide service dogs to certain veterans with severe post-traumatic stress disorder.

S. 3134

At the request of Ms. BALDWIN, the names of the Senator from Minnesota (Mr. FRANKEN) and the Senator from Massachusetts (Mr. MARKEY) were added as cosponsors of S. 3134, a bill to improve Federal population surveys by requiring the collection of voluntary, self-disclosed information on sexual orientation and gender identity in certain surveys, and for other purposes.

S. 3147

At the request of Ms. HIRONO, the name of the Senator from Oregon (Mr. MERKLEY) was added as a cosponsor of S. 3147, a bill to support educational entities in fully implementing title IX and reducing and preventing sex discrimination in all areas of education.

S. CON. RES. 43

At the request of Mrs. FEINSTEIN, the name of the Senator from Utah (Mr. HATCH) was added as a cosponsor of S. Con. Res. 43, a concurrent resolution supporting the bid of Los Angeles, California, to bring the 2024 Summer Olympic Games back to the United States and pledging the cooperation of Congress with respect to that bid.

S. RES. 521

At the request of Ms. AYOTTE, the name of the Senator from Rhode Island (Mr. WHITEHOUSE) was added as a cosponsor of S. Res. 521, a resolution expressing support for the designation of September 2016 as National Ovarian Cancer Awareness Month.

STATEMENTS ON INTRODUCED BILLS AND JOINT RESOLUTIONS

By Mr. REED (for himself and Mr. HELLER):

S. 3162. A bill to provide for the consideration of energy storage systems by electric utilities as part of a supply side resource process, and for other purposes; to the Committee on Energy and Natural Resources.

Mr. REED. Mr. President, today, along with my colleague Senator HELLER, I am introducing the Storage Technology for Operational Readiness and Generating Energy Act, or STORAGE Act. I thank Senator HELLER for his work with me on this bipartisan bill.

The advent of energy storage capacity means unused energy from renewable sources can be made available for use when needed, rather than wasted. As a result, advances in energy storage can help improve the reliability, resiliency, and flexibility of the grid, as well as reduce the potential for future rate increases for consumers.

To further encourage the research and development of energy storage, the legislation we are introducing authorizes the Secretary of Energy to coordinate efforts among various existing programs at the Department of Energy. By streamlining these energy storage research and development programs, we hope we will maximize efficiency of funds and expand this vital research. I am pleased that the Senate has already included an amendment I offered with Senator HELLER to add these provisions as part of the Energy Policy Modernization Act that we passed earlier this year.

Our bill also amends the Public Utility Regulatory Policies Act of 19781, or PURPA, to add energy storage systems to the list of strategies states should consider when developing their energy plan in an effort to promote energy conservation and greater use of domestic energy. The bill does not mandate the implementation of this or any technology. Rather it simply encourages states to analyze whether energy storage would provide benefits to the overall system. I look forward to working with Senator HELLER and our colleagues to also find a path forward for these provisions.

I urge our colleagues to join in supporting the STORAGE Act and taking commonsense steps to advance energy storage technology.

By Mr. ALEXANDER:

S. 3169. A bill to support basic energy research and eliminate the wind production tax credit; to the Committee on Finance.

Mr. ALEXANDER. Mr. President, I am here to talk about the importance of doubling funding for basic energy research and making $8.1 billion available in the Federal budget to pay for it.

The United States does many things well, but one thing we do better than any other country in the world is innovation through basic research. I have been talking a lot this year about biomedical research. Dr. Francis Collins, the Director of the National Institutes of Health—which he calls the ''National Institute of Hope''—tells me that in 10 years, researchers in our country may be rebuilding hearts from stem cells, giving patients an artificial pancreas which would help patients with diabetes, and there may be a vaccine for HIV/AIDS.

Just as remarkable are the opportunities available in clean energy research: lowering the cost of energy, cleaning up the air, improving health, reducing poverty, and helping us deal with climate change—not just in the United States, but all around the world.

Congress has been focused on doubling energy research since the 2007 America COMPETES Act that was passed with overwhelming bipartisan support and signed into law by President Bush. America COMPETES grew out of a report called ''Rising Above the Gathering Storm,'' a report on American competitiveness, written by Norm Augustine, who was the committee's chair. The report's main recommendation was to increase energy research because of the benefits it would provide to our country and around the world.

Eight years ago, in a speech at Oak Ridge National Laboratory, I called for a project that would duplicate the urgency of the World War II Manhattan Project and put the United States on a path to clean energy innovation. I proposed seven ''grand challenges''—No. 1, make plug-in electric vehicles commonplace; No. 2, find a way to capture and use carbon; No. 3, help solar become cost-competitive; No. 4, safely manage nuclear waste; No. 5, encourage cellulosic biofuels; No. 6, make new buildings green buildings; and No. 7, create energy from fusion.

In 8 years, energy researchers have made tremendous progress in these areas. For example, the price of solar panels has fallen over 80 percent since 2008. In some of the other challenges, we still have a long way to go. That is why we need to keep our focus on making energy research a priority. The biggest problem we have in funding basic energy research is how we pay for it.

Today I am introducing legislation that finds a way to pay for it by ending the 24-year-old wind production tax credit at the end of this year, rather than in 2019, as the law now says. Instead of slowly allowing the wind production tax credit to phase out, this bill would end it on January 1, 2017. Then Congress could use the $8.1 billion in savings to increase the funding authorization for the Office of Science for the same kind of basic energy research that helped drive our natural gas boom and will provide the basis for the next generation of energy innovation that will mean cleaner, cheaper, and more reliable energy.

Research at the Office of Science benefits other Department of Energy programs, including advanced nuclear reactor research at the Office of Nuclear Energy and research on carbon-capture technology at ARPA-E, which was formed by the America COMPETES Act. Energy research through the Office of Science, nuclear and fossil energy programs, energy efficiency research, and ARPA-E have led to amazing new discoveries. If more funding is available, it could be used to make sure energy research is a priority.

Let's not continue to give away this money to wind developers that have been using it to get rich over the last 24 years, often over the objections of communities, towns, and homeowners who don't want their farmlands and mountain lands covered with 45-story turbines with blades as long as a football field.

It is obvious what Congress ought to do, and it is obvious how we ought to

pay for it. In 2014, taxpayers committed to spend—or Congress committed for them—another $6 billion to extend the wind subsidy for 1 year. Let me emphasize that—$6 billion to extend the wind subsidy for 1 year. That amount is more than the United States of America spends in an entire year on energy research through the Office of Science. That money could be used instead to put us on a path to double government funding for basic energy research.

Let's not make that same mistake again. Basic energy research is one of the most important things we can do in this country. We need to unleash our free enterprise system to provide clean, cheap, reliable energy that will power our 21st century economy, create good jobs, and keep America competitive in the global economy.

Political scientist Bjorn Lomborg wrote in the Wall Street Journal last month that ''the Obama administration's signature power policy, the Clean Power Plan . . . will accomplish almost nothing.'' He said:

> We should focus more on green-energy research and development, like that promoted by Bill Gates and the Breakthrough Coalition. Mr. Gates has announced that private investors are committing $7 billion for clean energy R&D while the White House will double its annual $5 billion green innovation fund. Sadly, this sorely needed investment is a fraction of the cost of the same administration's misguided carbon-cut policies.
>
> Instead of rhetoric and ever-larger subsidies of today's inefficient green technologies, those who want to combat climate change should focus on dramatically boosting innovation to drive down the cost of future green energy.

Finally, Bjorn Lomborg writes:

> The U.S. has already shown the way. With its relentless pursuit of fracking driving down the cost of natural gas, America has made a momentous switch from coal to gas that has done more to drive down carbon dioxide emissions than any recent climate policy.

That is the end of the quote from the article in the Wall Street Journal.

In my own conversations with Mr. Gates, he has said the government should double its $5 billion annual investment in basic energy research in order to support clean energy innovation in the private sector. For example, that research could help develop small modular reactors which would allow inherently safe nuclear power to be produced with less capital investment and less resulting nuclear waste in more places. Small modular reactors are one way the country can increase cheap, clean, reliable power. Another way is to continue to develop new advanced reactors and do the research that is necessary to begin the process of extending reactor licenses from 60 to 80 years.

Why should we close reactors when our 100 reactors provide 60 percent of the carbon-free electricity in the United States? Nuclear power provides 60 percent of the carbon-free electricity in the United States today. It is available 92 percent of the time. On the other hand, wind, despite these huge subsidies, produces 15 percent of our country's carbon-free electricity. The wind often blows at night when electricity isn't needed, and it isn't easy to store that electricity.

It is hard to think of an important technological innovation since World War II that hasn't involved at least some form of government-sponsored research. Natural gas, our latest energy boom, is a very good example. The development of unconventional gas was enabled in part by 3–D mapping at Sandia National Laboratory in New Mexico and the Department of Energy's large-scale demonstration project. Then our free enterprise system and our tradition of private ownership of mineral rights capitalized on our basic energy research.

Supercomputing, which is part of the Office of Science, is another tool for energy innovation. Supercomputing could do for nuclear power what massive hydraulic fracturing, new mapping tools, and horizontal drilling did for natural gas. By the end of next year, we expect the world's fastest supercomputer will again be in the United States, and once again, it will be at the Oak Ridge National Laboratory in Tennessee.

That computer is called Summit, and it will help researchers better understand materials, nuclear power, and basic energy science to drive breakthroughs. Supporting the next generation of computers, known as exascale, an area of agreement between the Obama administration and Congress, is also essential to our ability to solve the most complex scientific problems for both our country's competitiveness and national security.

Exascale computers will have a 1,000-fold increase in sustained performance over today's petascale computers, which have been operating since 2008.

Congress can invest in this kind of innovation or we can invest in subsidizing giant wind turbines that produce a puny amount of electricity at a great cost to taxpayers. Some energy developers are reaping great financial benefits provided by the wind production tax credit, which has been in place now for 24 years. It has provided billions in subsidies to the wind industry and has been extended 10 different times.

The subsidy to Big Wind is so generous that, in some markets, wind producers can literally give their electricity away and still make a profit. This phenomenon is called negative pricing. Most of the time, wind power is unreliable and ineffective at meeting the demands of our industries, our computers, our homes, and almost everything else we depend upon. Nationwide, wind power is available about 35 percent of the time, and only 18 percent of the time in Tennessee, my home State, while nuclear power on the other hand is available 92 percent of the time.

Wind is not effective at meeting peak power demands because the wind blows, as I said, mostly when demand is low at night and does not blow when demand is high during the day. Wind production tends to peak in the spring and fall when the need for energy is at its lowest. In fact, wind production decreases in the winter and summer, when heating and cooling needs can dramatically increase the demand for electricity.

Until there is some way to cost-effectively store wind power, it would be dangerous for a country our size to rely significantly on wind. Relying on wind when nuclear plants are available is the energy equivalent of going to war in sailboats when a nuclear navy is available.

If reliable, cheap, and clean electricity is the goal, then four nuclear reactors, each occupying 1 square mile, would equal the production of a row of 45-story wind turbines strung the entire length of the 2,178-mile Appalachian Trail from Georgia to Maine. Even if you wanted to build all of those turbines along the most picturesque mountains in the Eastern United States, you would still need a nuclear reactor or gas plant to power your home or business when the wind does not blow.

These are not your grandma's windmills. Each one is over two times as tall as the skyboxes at the University of Tennessee football stadium and taller than the Statue of Liberty. The blades on each one are as long as a football field. Their blinking lights can be seen for 20 miles.

Many communities—take a look at the windmills in Palm Springs, CA—where wind projects have been proposed have tried to stop them before they go up because, once the wind turbines and new transmission lines are built, it is hard to take them down.

In October, the residents of Irasburg, VT, voted 274 to 9 against a plan to install a pair of 500-foot turbines on a ridgeline visible from their neighborhoods.

In New York, three counties opposed 500- to 600-foot wind turbines next to Lake Ontario. People in the town of Yates voted unanimously to oppose the project in order to ''preserve their rural landscape.'' Yet utilities are talking about closing nuclear reactors, which produce 60 percent of our carbon-free electricity.

In January, Apex Clean Energy announced it would spoil Tennessee's mountain beauty by building up to 23 wind turbines in Cumberland County, less than 10 miles from Cumberland Mountain State Park, where for a half century Tennesseans and tourists have camped, fished, canoed, and kayaked alongside herons and belted kingfishers around Byrd Lake. Residents are voicing their opposition. The city council has voted to oppose it.

Finally, Clean Line Energy is proposing to build a single 700-mile direct current transmission line from Oklahoma, through Arkansas, to deliver wind power to Tennessee and other

Southeastern States even though the Tennessee Valley Authority has announced publicly that it does not need the power. Yet the subsidies for wind are so large that developers are continuing with wind projects anyway. Arkansas objects to the project. Tennessee does not need the power. But the Federal Government is attempting to use Federal eminent domain to proceed. According to the Congressional Research Service, this would be the first time that Federal eminent domain authority has been used for electric transmission lines over the objection of a State.

The wind production tax credit is as bad for taxpayers as giant wind turbines are bad for the environment. Clean energy research can help us lower the cost of energy, clean the air and improve health, reduce poverty, and deal with climate change. Let's end the wind production tax credit this year instead of 2019 and authorize the $8.1 billion in basic energy research to find more ways to ensure that the United States has reliable sources of cheap, efficient, and carbon-free electricity.

SUBMITTED RESOLUTIONS

SENATE RESOLUTION 526—CALLING FOR ALL PARTIES TO RESPECT THE ARBITRAL TRIBUNAL RULING WITH REGARD TO THE SOUTH CHINA SEA AND TO EXPRESS UNITED STATES POLICY ON FREEDOM OF NAVIGATION AND OVERFLIGHT IN THE EAST AND SOUTH CHINA SEAS

Mr. GARDNER (for himself, Mr. MCCAIN, Mr. COTTON, Mr. SULLIVAN, Mr. RUBIO, and Mrs. ERNST) submitted the following resolution; which was referred to the Committee on Foreign Relations:

S. RES. 526

Whereas, on July 12, 2016, the Permanent Court of Arbitration (PCA) of the International Tribunal of the Law of the Sea (''Tribunal''), constituted under the United Nations Convention on the Law of the Sea (UNCLOS), done at Montego Bay December 10, 1982, issued a legally binding ruling on the parties in the case brought at the request of the Republic of Philippines against the People's Republic of China concerning a dispute over the maritime jurisdiction in the South China Sea;

Whereas the Tribunal supported the Philippines' claim that China breached its sovereign rights, ruling that ''China has, by promulgating its 2012 moratorium on fishing in the South China Sea, without exception for areas of the South China Sea falling within the exclusive economic zone of the Philippines and without limiting the moratorium to Chinese flagged vessels, breached Article 56 of the Convention with respect to the Philippines' sovereign rights over the living resources of its exclusive economic zone''

Whereas the Tribunal invalidated China's so-called ''nine-dash line'' sovereignty claims over the South China Sea, concluding that ''as between the Philippines and China, China's claims to historic rights, or other sovereign rights or jurisdiction, with respect to the maritime areas of the South China Sea encompassed by the relevant part of the 'nine-dash line' are contrary to the Convention and without lawful effect to the extent that they exceed the geographic and substantive limits of China's maritime entitlements under the Convention'';

Whereas, on January 22, 2013, arbitration began when the Philippines served China with a Notification and Statement of Claim pursuant to the UNCLOS provisions concerning the resolution of disputes and the arbitration procedure;

Whereas, on February 19, 2013, China rejected and returned the Philippines' Notification and since that date has refused to participate in the arbitration proceedings;

Whereas, on June 21, 2013, the Tribunal was constituted pursuant to the procedure set out in Annex VII of the UNCLOS to decide the dispute presented by the Philippines;

Whereas, on October 29, 2015, the Tribunal held that ''both the Philippines and China are parties to [UNCLOS] and bound by its provisions on the settlement of disputes,'' that ''China's decision not to participate in these proceedings does not deprive the Tribunal of jurisdiction,'' and that ''the Philippines' decision to commence arbitration unilaterally was not an abuse of the Convention's dispute settlement procedures'';

Whereas the South China is one of the world's most strategically important commercial waterways, and almost 30 percent of the world's maritime trade transits the South China Sea annually, including approximately $1,200,000,000,000 in ship-borne trade bound for the United States;

Whereas, according to the United States Energy Information Administration, there are approximately 11,000,000,000 barrels and 190,000,000,000,000 cubic feet of proven and probable oil and natural gas reserves in the South China Sea;

Whereas, according to the United States Department of Defense, ''[a]lthough the United States takes no position on competing sovereignty claims to land features in the region, all such claims must be based upon land (which in the case of islands means naturally formed areas of land that are above water at high tide), and all maritime claims must derive from such land in accordance with international law,'';

Whereas, according to the Department of Defense, ''[s]ince Chinese land reclamation efforts began in December 2013, China has reclaimed land at seven of its eight Spratly outposts and, as of June 2015, had reclaimed more than 2,900 acres of land'';

Whereas, according to Director of National Intelligence: ''China continued its land reclamation efforts at Subi and Mischief Reefs after 5 August 2015, based on commercial imagery. Between that date and late October, when reclamation activity ended, China reclaimed more than 100 additional acres of land.'';

Whereas, according to the Director of National Intelligence: ''We assess that China has established the necessary infrastructure to project military capabilities in the South China Sea beyond that which is required for point defense of its outposts. These capabilities could include the deployment of modern fighter aircraft, surface-to-air missiles (SAMS), and coastal defense cruise missiles, as well as increased presence of People's Liberation Army Navy (PLAN) surface combatants and China Coast Guard (CCG) large patrol ships.'';

Whereas, according to the Director of National Intelligence: ''We assess that China will continue to pursue construction and infrastructure development at its expanded outposts in the South China Sea. Based on the pace and scope of construction at these outposts, China will be able to deploy a range of offensive and defensive military capabilities and support increased PLAN and CCG presence beginning in 2016.'';

Whereas, on May 30, 2015, Secretary of Defense Ashton Carter stated at the Shangri-La Dialogue in Singapore, ''[T]he United States will continue to protect freedom of navigation and [overflight—principles] that have ensured security and prosperity in this region for decades. There should be no mistake: the United States will fly, sail, and operate wherever international law allows, as United States forces do all over the world.'';

Whereas, in October 2015, January 2016, and May 2016, the United States Navy conducted three freedom of navigation operations (FONOP) in the area, transiting inside the 12-mile nautical zone of the contested features in the South China Sea;

Whereas Article 5 of the Mutual Defense Treaty Between the United States and the Republic of the Philippines, signed on August 30, 1951, states that ''an armed attack on either of the Parties is deemed to include an armed attack on the metropolitan territory of either of the Parties, or on the island territories under its jurisdiction in the Pacific or on its armed forces, public vessels or aircraft in the Pacific''; and

Whereas the United States reiterates its security commitment to Japan and reaffirms that Article 5 of the United States-Japan Treaty of Mutual Cooperation and Security covers all territories under Japan's administration, including the Senkaku islands; Now, therefore, be it

Resolved, That the Senate—

(1) supports the July 12, 2016, ruling issued by the Tribunal as binding on all parties in the case, and calls on all claimants to pursue peaceful resolution of outstanding maritime claims in the South China Sea consistent with international law;

(2) urges all parties to take action to implement the Declaration on the Conduct of Parties in the South China Sea and take steps towards early conclusion of a meaningful Code of Conduct, which would provide agreed upon rules of the road to reduce tension among claimant states;

(3) opposes any actions in the South China Sea to change the status quo by coercion, force, or the threat of use of force;

(4) calls on the Government of the People's Republic of China to cease all reclamation and militarization activities in the South China Sea and end provocative actions in the East China Sea, which undermine peace and stability in the region;

(5) reaffirms Article V of the Mutual Defense Treaty Between the United States and the Republic of the Philippines;

(6) reaffirms Article V of the Treaty of Mutual Cooperation and Security between the United States and Japan;

(7) urges the Secretary of State to utilize all diplomatic channels to communicate worldwide unwavering United States support for freedom of navigation and overflight in the South China Sea; and

(8) urges the Secretary of Defense to routinely enforce freedom of navigation and overflight in the East and South China Seas, which is critical to United States national security interests and peace and prosperity in the Asia-Pacific region.

Mr. GARDNER. Mr. President, I rise to speak about American leadership in the Asia-Pacific region, an area that will be more and more critical to our economy and national security for generations to come.

Earlier today, an international tribunal issued an important ruling regarding maritime claims in the South China Sea, which can potentially have