

see the war going on in his sight while he was up on a wooden power pole.

He talked about the many experiences he had during World War II, as he said, making him a better American. He was very proud of his military service. He is the last World War II veteran having served in the Senate. We don't have any World War II veterans anymore. His death is a great loss to this institution in many different ways.

When FRANK came home from the war—he was obviously very smart—he was permitted to attend the very prestigious Columbia University. He did it, of course, on the GI bill—just as so many of the other returning Americans did.

He quickly founded his own company. He started the company with two boyhood friends. All three kids were from New Jersey. Under his leadership, his firm, Automatic Data Processing, known as ADP, grew into the largest computing company of its kind in the world.

He was so very proud of that company, and he never hesitated to tell everyone that he made money. He became rich. He was a poor boy who became wealthy as a result of being able to fulfill his dreams, as people can do, in America.

FRANK wasn't content with his personal success alone. He was proud of the civic and charitable things he did, but nothing made him more proud of what he did outside government than when he served as the top lay leader of the United Jewish Appeal, known as the Jewish Federations of North America. He was very proud of that.

FRANK LAUTENBERG was known for many things before he came to the Senate. He ran an impossible race for the Senate and was elected. He came to the Congress in 1982, the same year I did. Over the course of three decades he worked tirelessly on behalf of his State and the country.

He retired once. He could not stand retirement. He hated retirement. He could not stay away from public service, and he returned to the Senate in 2002.

He had a remarkable career. I just touched upon a few of his accomplishments. He had determination that made him successful in the private sector and also served him well in the Senate. Motivated by his own experience, Senator LAUTENBERG, a World War II veteran, cowrote the 21st century GI bill of rights. Recognizing how much this meant to him, he wanted to ensure that the vets returning from Iraq and Afghanistan enjoyed the same opportunities for education that helped him become so successful.

My youngest boy just hated cigarette smoke, and it really made him ill. There was a time when people could smoke everywhere in the airplane and then finally in a different part of the airplane; however, it didn't matter. Everybody sucked in the secondhand smoke.

FRANK LAUTENBERG took care of my boy and millions of other people who

would no longer have to suck in that smoke in an airplane. He is the one, more than anyone else, whom we have to thank for protecting us from deadly secondhand smoke in an airplane because his legislation banned smoking on airplanes.

He was also a long-time member of the Environment and Public Works Committee. Had he not retired in that very short period of time that he did, he would have been chairman of that committee. However, because he wasn't there, I had the opportunity to be chair of that committee on two separate occasions.

He focused on this Nation's infrastructure, such as roads and highways. One of the ideas he thought would make this country a much safer place was to pass a drinking limit so a person could not drink alcohol anywhere in the country until they were 21 years of age. It was called a national drunk driving standard.

He believed in helping the State of New Jersey as well as helping the country, but I am not sure in which order. It was hard to understand the difference because he was focused on the country and New Jersey at the same time.

FRANK wanted to make sure that women and children were protected from gun violence. Thanks to him, we passed legislation that convicted domestic abusers so they could not own firearms.

Those are just a few examples of his work in the Senate that literally saved lives. He came from his sick bed—in a wheelchair—to vote on gun legislation. He agreed with 90 percent of the American people—that people who had severe mental problems or were felons should not be able to buy guns. He agreed with 90 percent of the American people.

He came from his bed to be here and vote with us. He was so happy to be here. After that, he came once—just a few days ago—to vote when we needed him again. He tried so hard.

When I talked to Bonnie today, she said he was confident he would live to be 100. He was a very strong man physically.

A couple years ago, I took a big delegation to China. It was a bipartisan group. It was a wonderful trip. For FRANK LAUTENBERG, that was his last foreign travel. I can remember indicating what a strong man he was physically. I had never been to the Great Wall of China. I don't know how many of the other 10 Senators had been there, but I had not. It is pretty steep, and there are big rocks that have been there for centuries and centuries. Because FRANK was 88 years old at the time, somebody grabbed his arm to help him go up. He pushed them away. He wanted no help from anybody. He was on his own, and that is the way he wanted to be.

I and our Nation owe a great debt of gratitude to FRANK for his outstanding service. He had always been so kind to

me. He was someone who appreciated serving. He appreciated being here. He loved being in the Senate, and the Nation is going to miss his strength and his progressive leadership.

The other attribute that probably a lot of people didn't know about FRANK LAUTENBERG was his sense of humor. I always had him tell stories because no one could tell a story like him. Another reason I liked FRANK is he laughed at his own jokes. He thought they were funny, as did most everyone who listened to them.

One of our favorite jokes was about two wrestlers. It would take 5 minutes or more to tell the story, but it was hilarious. No one could tell it like FRANK. He had a sense of humor, and we certainly appreciated that. Even though the Senate has AL FRANKEN, there was room for two funny people prior to FRANK's death this morning. FRANK LAUTENBERG—and AL FRANKEN—always made us smile and often made us laugh. Now I guess it is going to be up to Senator FRANKEN to do this alone, because they were both funny, together and apart.

It is with deep sadness that his Senate family is going to say goodbye. We are going to do that Wednesday morning. We will say goodbye to an exemplary public servant and a faithful friend, Senator FRANK LAUTENBERG.

I note the absence of a quorum.

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

The legislative clerk proceeded to call the roll.

Mr. ALEXANDER. Mr. 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.

RESERVATION OF LEADER TIME

The ACTING PRESIDENT pro tempore. Under the previous order, leadership time is reserved.

MORNING BUSINESS

The ACTING PRESIDENT pro tempore. Under the previous order, the Senate will be in a period of morning business until 4 p.m., with Senators permitted to speak therein for up to 10 minutes each.

The Senator from Tennessee.

Mr. ALEXANDER. Thank you, Mr. President. If the Acting President pro tempore will let me know when I have used 10 minutes, I would appreciate it.

The ACTING PRESIDENT pro tempore. The Chair will so notify the Senator.

Mr. ALEXANDER. If no other Senator is on the floor, I will continue.

REMEMBERING FRANK R. LAUTENBERG

Mr. ALEXANDER. Mr. President, I am here today to speak on clean energy independence, but before I do that

I want to note the passing of Senator FRANK LAUTENBERG.

When I came to the Senate 10 years ago, there were a number of Members here who were veterans of World War II. Now there are none. Senator LAUTENBERG was the last. He was a member of the generation often described as the greatest.

He was the son of immigrants. He made a lot of money in business as an entrepreneur in the American dream. Then he did another entrepreneurial thing: He ran for the U.S. Senate and served twice here. He was an advocate for the things he believed in, and he was a productive Senator. Just in the last couple of weeks he helped to fashion an agreement on amending the Toxic Substances Control Act, of which I am a cosponsor. It has been a long time coming, and he had a major role in that.

We will miss him. To his wife Bonnie and to his family, they have my respect and condolences and admiration for his long service to our country.

CLEAN ENERGY INDEPENDENCE

Mr. ALEXANDER. Mr. President, 5 years ago I spoke at the Oak Ridge National Laboratory. I began with a story from our past about our future. It is a familiar story to those of us in Tennessee.

President Franklin Roosevelt called the chairman of the Senate Appropriations Committee into his office in 1942 and said: Mr. Chairman, I would like to ask you to hide a couple billion dollars in the budget for a secret project to win the war.

Senator McKellar replied: Mr. President. I just have one question: Where in Tennessee would you like me to hide it?

That place turned out to be Oak Ridge. That was how Tennessee became one of the sites where scientists worked to build the atomic bomb before the Germans.

I suggested 5 years ago that we have a new Manhattan Project—really mini-Manhattan Projects for clean energy independence.

Last week at Oak Ridge, 5 years after that first speech, I suggested four grand principles to help us chart a competitive energy future for the next 5 years to end our obsession with taxpayer subsidies and strategies for expensive energy and instead focus on doubling government-sponsored research and allowing marketplace solutions to create an abundance of cheap, clean, reliable energy. I would like to renew those comments today on the floor of the Senate. The four grand principles I mentioned were, No. 1, cheaper, not more expensive, energy; No. 2, clean, not just renewable, energy; No. 3, research and development, not government mandates; and No. 4, the free market, not the government, picking winners and losers.

The seven grand challenges I suggested 5 years ago were grounded in

challenges from the U.S. National Academy of Engineering. My challenges included making plug-in electric vehicles more commonplace, finding ways to capture and use carbon, helping solar become cost-competitive, safely managing nuclear waste, encouraging cellulosic biofuels, making new buildings green buildings, and creating energy from fusion.

My goal in laying out those seven challenges was clean energy independence. At the time, some took issue with the idea of a grand goal underlying these challenges, but I thought independence was a good goal then, and it is a good goal now because the United States should not be held hostage by any other country because of our energy needs.

Since I spoke 5 years ago, the Department of Energy has established the energy innovation hubs that are producing fuels from sunlight and advancing nuclear reactor and battery technologies. That, paired with the work of the new energy research agency—which we call ARPA-E—and others, has moved us forward on my seven grand challenges in a number of ways. Let me summarize that briefly.

Electric vehicles sales are approaching 100,000 in the United States, and ARPA-E has helped a company that has doubled the energy density of lithium-ion batteries.

Carbon capture. We are developing commercial uses for carbon dioxide, such as liquid fuels produced from microbes.

Solar power. Though the goal is around \$1 per watt installed by 2020, the cost has fallen from \$8 to \$4 per watt in the past five years. It still has a long way to go, but it is promising.

Nuclear waste. Four of us in the Senate have drafted comprehensive nuclear waste legislation. For the first time in 30 years, we are building new large reactors, and we are moving forward on small modular nuclear reactors.

Advanced biofuels. There are three new bioenergy research centers that are developing next-generation bioenergy crops for industrial-scale production.

Green buildings. Research and development has meant 20 new commercial products in energy efficiency.

Fusion. We have already demonstrated human-engineered fusion on a small scale, and now we are trying to scale it up for commercial energy production.

The United States has made gains, but we still have challenges. Even as other parts of the world grow rapidly, the U.S. still uses about 20 percent of the world's energy, and the Energy Information Administration estimates that our country's energy demand will increase more than 10 percent by 2040.

Second, we have record oil and gas production at home, but we need to be as independent as possible from those who might want to use our demand for oil to hold us hostage. Former Sec-

retary Condoleezza Rice once said she had "never seen anything warp diplomacy like high oil prices." And affording a tank of gasoline remains a struggle for many families.

Another challenge is failing to keep up with energy research and development, which is one of the major points I want to make today—failing to keep up with energy R&D. That energy research has given us abundant, reliable, clean, cheap energy from unconventional gas to nuclear power. The amount we spend on energy research and development—nearly \$5 billion a year at the Department of Energy in nondefense and noncleanup research; or nearly \$9 billion if you count other agencies and their energy-related research, such as the National Science Foundation, the Department of the Interior, and the National Institute of Standards and Technology—still, those dollars are lower as a percentage of our gross product than major competitors such as France or Japan or Korea or China.

Another challenge is that while the United States has made more gains in reducing the use of carbon than any other industrial country, the National Academies of the United States and 12 other countries have warned that human activity has contributed significantly to climate change and global warming.

So thinking about the progress we have made from 5 years ago and taking into account the challenges we still have, let me suggest four grand principles that could guide our energy future. First, cheaper, not more expensive energy. Five years ago all the talk was about a cap-and-trade program for the United States and deliberately raising the price of energy as a way of achieving clean energy independence.

Last year I was in Germany, a country that adopted exactly that policy. In addition, Germany is closing its nuclear powerplants and becoming more dependent on natural gas but buying both forms of energy from other countries rather than producing it on its own. The Germans are subsidizing wind and solar but are building new coal plants in order to have enough reliable electricity.

In short, what I found in Germany was an energy policy mess that discourages job growth. The end result is that Germany has the second highest household electricity prices in the European Union. When I asked an Economic Minister what he would say to a manufacturer about energy costs in Germany, he said: I would suggest he go somewhere else. Well, that somewhere else is turning out to be the United States: Virginia, Tennessee, other States.

In the United States, we pursued a different track, the most conspicuous example of which is finding unconventional gas and oil. This has created for our country a remarkable phenomenon, a large amount of cheap, clean energy with our own domestic price for natural gas.