President Nixon, the FISA court was established in 1978 to provide oversight for intelligence gathering, in addition to that already provided by the executive and by Congress. Now, there are those who complain that the FISA court accedes too often to requests for government access to information, and does not appear to resemble a true court in that there is no public advocate opposing the government position.

But the nearly uniform success of the government before the FISA court is due both to the government's careful restraint in presenting applications, and to pushback from the court itself—which results in the amendment of applications. Even when the government applies for wiretaps or search warrants in ordinary criminal cases there is no advocate opposing the application.

Nonetheless, this new bill would establish a permanent advocate appointed by the court to oppose the government's applications before the FISA court. This provision has elicited an extraordinary written objection from a former presiding judge of the FISA court. U.S. District Judge John D. Bates points out that the presence of such an advocate, who cannot conceivably be aware of all the facts, would simply add to the burdens of the court and could wind up sacrificing both national security and privacy.

This bill redefines the FISA court, which was never meant to be an adversary tribunal and was imposed simply as an added safeguard in the 1970s, without regard to its history or its purpose. Worse, it is a three-headed constitutional monster: It is a violation of both the separation of powers principle and the Constitution's appointments clause by having judges rather than the president appoint the public advocate, and then it has the advocate litigate against the Justice Department when both executive offices are supposed to be controlled by the president.

The bill is not an unrelieved disaster. It rightly allows for the expansion of metadata gathering to include more calls made by cellphones.

Not surprisingly, the bill has received the endorsement of President Obama's attorney general, Eric Holder, and his director of national intelligence, James Clapper, who in a Sept. 2 letter to the Senate Judiciary Committee said they were ''comfortable'' with the bill's provisions—even as they conceded that the bill may have ''additional impacts that we will be able to identify only after we start to implement the new law.''

If that calls to mind the Affordable Care Act and the suggestion that we should wait and find out what is in the bill until after it passes, bear in mind that ''additional impacts'' here may include holes in the ground where buildings used to stand and empty chairs where people used to sit.

There is no immediate or emergency need for this piece of legislation. Current surveillance authorities do not expire at the end of this year, which is fortunate given the current threats we face at home and abroad. The USA Freedom Act should await the attention of the Congress that will actually oversee it. A change to national-security procedures is not something to be rushed through in a lame-duck session.

KEYSTONE XL PIPELINE

Mr. MCCONNELL. On an entirely different matter, later today the Senate will vote on whether to send Congressman CASSIDY's Keystone jobs bill to the President. It is a vote that is long overdue but certainly welcome. Keystone XL is just common sense. It is a shovel-ready jobs project that would help thousands of Americans find work. It would increase our supply of North American energy. It would do all of that with minimal net climate impact. That is why the American people support it. That is why Republicans support it. That is why so many rank-and-file Democrats support it too.

I wish the Senate would have followed the lead of Congressman CASSIDY and his House colleagues in approving Keystone years ago. It is just common sense. Those who took a serious look at the science and the potential benefits reached that conclusion long ago. They understand that the whole drama over Keystone has been as protracted as it has been unnecessary. We hope to turn the page on all of that today.

The reason we are able to have this vote is because the American people sent a strong message earlier this month. They told us they just want Washington to get on with approving serious policies such as Keystone and then move on. That is why after years of delay and so many thwarted attempts to bring Keystone up for a vote, the Democratic leadership is finally, after 6 years, allowing us to vote on passage of the Cassidy Keystone bill. That is a good thing. It is a step forward. Now it will be up to our friends on the other side to vote with us and actually pass the Cassidy Keystone bill through Congress.

The President's remarks opposing this bipartisan legislation are certainly not helpful. Republicans are committed to getting Keystone approved. We want to see those jobs created as soon as possible. That is what the people want. The House already acted long ago, and Congressman CASSIDY and his colleagues, such as Senator HOEVEN, who is here on the floor, deserve recognition for their years of hard work on this issue.

So I would urge a ''yes'' vote on the legislation to send Congressman CASSIDY's Keystone bill to the President and create more American jobs. If not, then a new majority, after the beginning of the year, will be taking this matter up and sending it down to the President.

I also wish to take a moment to thank the Senator from North Dakota for his persistence on this issue for literally years.

Without his leadership I don't know where we would be. I just want to extend my gratitude to him for his great work on this matter.

I yield the floor.

Mr. LEAHY. Would the Republican leader yield for a question?

The minority leader will not yield for a question, but I would note, based on his concerns about the bipartisan piece of legislation regarding the NSA and others and his concern about ISIL—which we all share—that the NSA and all of our intelligence community had every single tool the Republican leader advocates for, while ISIL built up its strength, while ISIL had Iraq's army flee from them while they went forward. With every single one of those elements the Republican leader advocates for, there was not one single alarm bell that rang. So let's deal with the facts and not hypotheses.

RESERVATION OF LEADER TIME

The PRESIDING OFFICER. Under the previous order, the leadership time is reserved.

TO APPROVE THE KEYSTONE XL PIPELINE

The PRESIDING OFFICER. Under the previous order, the Senate will proceed to the consideration of S. 2280, which the clerk will report.

The legislative clerk read as follows:

A bill (S. 2280) to approve the Keystone XL Pipeline.

The PRESIDING OFFICER. Under the previous order, there are 6½ hours of debate equally divided between proponents and opponents of this measure.

The Senator from California.

Mrs. BOXER. I have a parliamentary inquiry. I am confused because Senator MCCONNELL called the bill the Cassidy Keystone bill, and I thought we were debating the Hoeven-Landrieu bill. Could you tell me which bill it is, because that is very important.

The PRESIDING OFFICER. The Senate is considering S. 2280.

Mrs. BOXER. So we are considering the Hoeven-Landrieu bill. I just wanted that to be clear.

The PRESIDING OFFICER. Yes. The Senator from North Dakota.

Mr. HOEVEN. Today we vote on S. 2280, introduced by myself and Senator LANDRIEU. There are actually 54 sponsors on the legislation with us. So we have a total of 56 sponsors of this bipartisan bill. That is the same bill that has been passed in the House of Representatives. That was passed on Friday—the same version. The prime sponsor in the House was Representative CASSIDY.

The bill we vote on today, S. 2280, is approval of the Keystone XL Pipeline. We have actually passed legislation on the Keystone XL Pipeline before. This is not the first bill. In 2012, we passed legislation that required the President to make a decision on the Keystone XL Pipeline. We attached it to the payroll tax holiday. At that time the President turned down the pipeline project.

So today we have submitted a number of different pieces of legislation, but this legislation actually has Congress approving the Keystone XL Pipeline.

When the President turned down the project, what we did was we went back and we did the research.

Under the commerce clause of the Constitution, Congress has the authority to oversee commerce with foreign powers, with other countries.

So in this situation, Congress has the authority to approve the Keystone XL Pipeline crossing the border from Canada into the United States, and that is

what we crafted in this legislation. So rather than the President making a national interest determination, which he seems to be unwilling to do—and I say that based on his actions—we have now been at this for about 4 years in this Senate trying to get approval. But this project has been in the application process for 6 years.

I was Governor of North Dakota in September of 2008 when the TransCanada Corporation applied for a permit to get approval to build the Keystone XL Pipeline. They had already built the Keystone pipeline, so they were applying for approval to build the sister pipeline, the Keystone XL Pipeline. It started in September of 2008, and 2 years went by. We started actually working on it in about 2011 in the Senate, as I say, and we passed legislation, trying to get the President to approve it. But it has now been—and I can show a chart with the time line, but it is a little hard to see—6 years in the permitting process.

The time has come to act. The time has come to act, and that is what this legislation is all about. It provides approval of the Keystone XL Pipeline so they can move forward and it can be constructed.

We have debated this issue in the Chamber for almost 4 years. So we have gone through all of the merits, and we will do that again today. We have not only come to an agreement on getting a vote, but we have also come to an agreement on the parameters for the debate. It is 6 hours of debate, with 3 hours for the proponents and 3 hours for the opponents.

On the Republican side of the aisle we are taking 2 hours solely on the proponent side because all 45 Republican Senators are in support of the project, will be voting for the project, and will be making the case for the project. On the majority side there will be 3 hours for opponents of the project making their case and 1 hour for the proponents making their case, and we will alternate throughout this debate.

We will be having this debate today and we will make our case. I will continue with my colleagues to make the case for the pipeline. There will be Members of the majority party that will make that case and there will be some Members, obviously, in opposition.

So I will reserve some of my time to speak later, but the point I want to make at the outset is this is really about the American people making this case. When we look at this project, it is about energy, it is about jobs, it is about economic growth. It creates tax revenue to help reduce the deficit and the debt. It doesn't cost 1 penny of Federal money or government money. It is privately funded, and it is about national security. It is about national security by helping us build energy security in this country with our closest friend and ally, Canada, working together with Canada so that we don't have to get energy from Venezuela or from the Middle East or from other parts of the world, and so we can produce at home.

That is not only a vitally important issue in terms of our economy and being competitive in a global economy because energy is truly a foundational sector for all the other industry sectors. When we have low-cost dependable energy, we are more competitive as a country, but it really is a national security issue.

I see the good Senator from Vermont is on the floor. He has a bill that deals with how we handle surveillance and covert information, given the terrorist threat we face. It is important that we do that well.

But one of the ways to truly strengthen our country is to make sure we are energy secure, to make sure we don't have to get oil from the Middle East, to help our friends and allies in Europe so they are not dependent on Russia for energy when Putin engages in the kind of aggression he has. So when we talk about this energy issue, it is not just jobs, it is not just the energy we get that makes us stronger in a competitive global economy, it really is a national security issue, and it is long past time to act. It has been 6 years.

Today we will have that debate again, and I hope at the end of the day we will have the 60 votes that we need. We will find out this evening when we vote.

Again, it comes back to what do the American people want. We are here representing the American people. Overwhelmingly, in poll after poll when they have been asked, 60 percent, sometimes 70 percent or more say: Build the Keystone XL Pipeline. That is whom we work for.

I hope today, at the end of the day, that is the work we will get done for the American people.

I see my cosponsor on the floor, and I would turn to the good Senator from Louisiana.

The PRESIDING OFFICER. The Senator from Louisiana.

Ms. LANDRIEU. I thank my cosponsor and lead sponsor on the bill, a former Governor and good Senator from North Dakota who has been a great leader and partner with me on this bill.

As the American people have absolutely figured out, Democrats cannot do anything alone and neither can Republicans. It has taken us a while to figure this out in the Senate and in the House of Representatives, but the American people figured this out a long time ago, just as they figure out practical things such as how to keep a roof over their heads, food on the table, and how to keep their kids moving forward even through difficulty.

The American people are very smart. I trust them. I always have. I have been honored to represent the people of Louisiana, 4.5 million people, and I have done my very best to represent them in the time I am in the Senate, and I hope to continue for years to come.

One of the things they know that is not clear to people here is that it takes both parties working together, compromising, to get the job done for them—not for us, for them—and I think we forget that a lot.

I am in a lot of meetings around here where people talk about what is good for the Democratic caucus, what is good for the Republican caucus, what is good for Leader REID, what is good for Leader MCCONNELL. It is kind of interesting to me because the family I grew up in was all about public service—not for ourselves but for the people we represent. That is why I am on the floor today. That is why I have actually been on the floor dozens of times on this bill and on similar bills.

This is the Keystone bill, which I have supported with Senator HOEVEN, literally for years. In fact, I have a letter from 2011 with ORRIN HATCH, who was the lead signer with me. Senator MCCONNELL's signature wasn't on the letter. Maybe he was busy that day and couldn't sign it. But about 15 of us sent a letter in 2011 urging Secretary of State Clinton—this is how far back it goes, and people can hardly remember she was Secretary of State because now John Kerry is Secretary of State—a long time ago saying it was very important for us to get this pipeline built for any number of reasons. The main reason is that it will signal a great sign that America understands that energy independence for our Nation is possible for the first time ever.

When I mean energy independence, I mean energy independence for the North American continent. We might be able to do it in just the lower 48. We might. Hawaii can contribute some. Alaska, clearly, can contribute a lot. So we might be able to do it in the 50 States.

But I know, beyond a shadow of a doubt, that with our partners in Canada and Mexico, this can be done and North America can be the super energy powerhouse of the planet.

Why is that important? There are so many reasons. I will name two, and then I am going to sit down and reengage in this debate because BARBARA BOXER, who is the lead opponent, wants and has indicated her time on the floor, and I have more time later today.

But one of the reasons this is so important is because what people in Louisiana want, what people in Texas want, what people in Mississippi want, what people in New Jersey want, what people in South Dakota, Illinois, Kansas, and Vermont want are good-paying jobs.

When a country or a continent, as blessed as we are, uses its resources wisely to create wealth not only for those at the top, which is what is happening now—just at the top—and the people at the top are doing great. In the fancy restaurants I walk by I see—and sometimes I am actually in them myself—people are drinking champagne. They are buying new cars. I see

Mercedes, and other people see that. But the people in the middle class in this country are really struggling, and our job as leaders is to have our eyes on them, providing for them.

These energy jobs are not minimum wage jobs. They are not even $15-an-hour jobs. They are not even $30-an-hour jobs. They are $45-an-hour jobs. Our laborers—men and women who represent the middle class—some are unionized, some are not, but all are hard working. I am going to say that again. Some are unionized and some are not, but all are hard working.

How would I know? Because I have stood in line with them at 4 or 5 in the morning during a shift change. I do that a lot during my elections. I do it regularly, but I do it a lot during election time. I have felt their hands. I know how cold they are in the morning and how rough they are because they work all day. Those people would expect us to work longer than we do here. We have very short weeks—Tuesday through Thursday. We take long lunch hours, long weekends. Most Americans think we have completely lost it because they work hard, from morning until night. Their hands are tough, and so they expect us to stand up for them. That is why I am standing here.

I have been fighting for this because of energy independence for America. I would know something about that because Texas and Louisiana and Oklahoma—our area of the country—we are proud producers of energy. We produce mostly oil, mostly gas, and a little bit of coal. We generate a lot.

Just an FYI to everybody who thinks this pipeline is the end of the world, we already have 2.6 million miles of pipe in America—2.6 million miles of pipe. We are only completing basically 1,000 miles. What is everybody upset about? We have been building pipelines in this country for a long time, and we need to build this one. This is about energy independence, it is about jobs, and that is why I am here. This is what the people want.

I am going to close with this. For the 25th time at least I am going to say this because I want the record of the Congress to reflect the truth, whether people acknowledge it or not. The record of this Congress will reflect this to be the truth. Some of us, not just me, have worked to get this bill to the floor for years, and it was blocked by both majority leader HARRY REID and minority leader MITCH MCCONNELL for their own political reasons. Those reasons cleared up after the election. They just cleared up.

MITCH MCCONNELL couldn't bring this bill to the floor without allowing a vote on the EPA coal regulation. BARBARA BOXER knows this—this is the truth—and she wouldn't allow the vote because she is adamantly opposed to having a vote on EPA. I respect that. I respect her. Everyone here knows that is the truth.

HARRY REID didn't want this vote to come up because there were one or two Members of our caucus who had a serious issue with this being voted on. I knew that. As part of a team—and I try to be part of a team, but I am independent—I knew the results of the election, with Senator MCCONNELL winning and some of our Senators, unfortunately, my dearest friends, losing, that we had an opportunity, and so I took that opportunity and I called for this vote—not HARRY REID, not MITCH MCCONNELL, I called for it, and I think it is worth fighting for.

The last thing I want to say is that Thanksgiving is coming up and Christmas is coming up, and it is a shame this Congress has not delivered more in the last 5 or 6 years for the middle class. We say we try. I am not sure we are trying hard enough. So I am going to lead by example. It is the way I was raised. We are going to truly try today.

This is one of the first debates I have been in, in 8 years at least, where the outcome is uncertain. All the rest of the stuff we do here is preset, preordained. It is similar to theater for the American people. We usually know the outcome of the vote before we take it because the deals are all cut.

So I brought this bill to the floor, knowing in my heart we have 60 votes. I sure hope we have the courage that supports that.

I yield the floor.

The PRESIDING OFFICER. The Senator from California.

Mrs. BOXER. Mr. President, I will be controlling the time in opposition, very strong opposition, to this legislation. Before I yield to the first debater on our side, who will be Chairman LEAHY—and I am very honored that he will be—let me just say before Senator LANDRIEU leaves the floor that Senator LANDRIEU is the only reason we are debating this today. So anyone who wants to play games about this and name this bill the Cassidy bill, that kind of is a joke because I believe I am correct that he introduced it November 12 of this year and the Hoeven-Landrieu bill was introduced in May. But setting politics aside, let the RECORD be clear forever that this debate would not be before this body were it not for Senator LANDRIEU's insistence. I want that to be clear.

Secondly, we will hear today, I think, a terrific debate because the people who support this think not only that this is a good thing for the country—to build the Keystone XL Pipeline—they think it is a great thing for this country. I have great respect for them. On the other side, we have those of us who think it is not a good thing for this country, it is not a good thing for jobs, it is not a good thing for energy independence because it will be exported, all that oil, and it is actually dangerous.

In my case, I was thinking, what does ''XL'' stand for? They named it the Keystone XL. It has no meaning, but to me it is extra lethal. My debate will show why, as we analyze the tar sands oil that will be coming into this Nation, 45 percent more than we have now, the risky business that it has proven to be and what the health costs are for our people. That is not me speaking, those are nurses and doctors saying so. I haven't even gotten into climate and all the other issues.

At this point I yield 5 minutes to my friend Senator LEAHY.

The PRESIDING OFFICER. The Senator from Vermont.

Mr. LEAHY. Mr. President, I know the distinguished Senator from Louisiana has the majority of votes in this body for the Keystone Pipeline, and that is a compliment to her hard work in getting from a minority of votes to a majority of votes.

I will not be one of them, as she knows, because I represent what is the view of my fellow constituents in Vermont. I strongly oppose the fast-tracking of this process.

This pipeline poses considerable safety and environmental risks here in the United States, and it threatens the natural landscapes that are in the heartland of America. We feel this pipeline is one of the most striking examples of the unquenchable thirst for oil that is destroying our environment. We feel that destruction is going to move forward unless and until we get a comprehensive national energy plan. This pipeline will not lead us towards that. It leads us to an energy policy of the past instead of a sustainable energy future, while simultaneously accelerating our impact on the climate. These tar sands require an energy-intensive process, complete with pollutants and harmful emissions to get them out of the ground, to extract them, and to refine them.

We should not rubberstamp a project like this that poses such serious risks to the Nation's and the world's environment, and to our communities' safety. I was astounded by the fact that in its first year of operation the existing Keystone Pipeline—billed as you recall as the safest pipeline in history when it was built just a few years ago in 2010—spilled 12 times in its first year of operation. That is more than any other pipeline in U.S. history.

The worrisome part about these spills is that tar sands oil is harder to clean up. Ask the communities along the Kalamazoo River in Michigan. It has cost more than $1 billion so far—$1 billion so far—to clean up a tar sands spill in 2010. Now, more than 4 years later, it is still a mess, and landowners continue to wait for help in restoring their property and to rebuild the ravaged pipeline.

We do not need more empty assurances from the oil industry. Before the Valdez spill in Alaska, Exxon executives told us their oil tankers were safe. We heard similar promises from BP, which insisted that it could handle an oil spill in a deep-water drilling operation. The images from both of those spills are still fresh in our memories.

I realize that proponents argue that this pipeline will create jobs and will

help our energy security here in the United States. But this pipeline will bypass refineries in the Midwest instead of heading to American gas stations to help lower the price of gas here at home. It will head straight for the coast so the oil can be used in export markets, pumped onto ships headed for China. That may be good news for the Chinese, but it is not good news for the American people who are stuck with the safety risks, the health challenges, future environmental disasters, and the rapid acceleration of our contribution to climate change.

These facts are clear: The Keystone pipeline significantly worsens the problem of carbon pollution, and it is not in our national interest. The Presidential Permit should be denied, not fast-tracked by Congress here today.

So I will not be among the majority who will vote for it today.

USA FREEDOM ACT

On another matter, while I have the floor, the distinguished Republican leader spoke against the USA FREEDOM Act earlier this morning. Unfortunately, he was too busy to respond to a couple of simple questions, even though he was asked to. But I would note that last year, Americans learned that section 215 of the USA PATRIOT Act had been secretly interpreted for years to allow the bulk collection of telephone records. Unlike the comments made earlier that there were no hearings on this, the USA FREEDOM Act of 2014 came about after numerous congressional hearings, including six—six—public hearings in the Senate Judiciary Committee.

At least two panels of independent experts have concluded that the bulk collection program has not been essential or even a key part of keeping our country safe. We now have wide bipartisan agreement in the Senate and the House that the bulk phone records collection program is not essential, it violates Americans' privacy, and it has to end. So the question before Congress is not whether to end the program, but when and how.

The USA FREEDOM Act of 2014 ends the NSA's bulk collection program, but does so responsibly. The bill contains key reforms to safeguard Americans' privacy by prohibiting the indiscriminate collection of their data. It also provides for greater accountability and transparency of the government's surveillance programs, and it improves the FISA Court. The bill also ensures that the intelligence community has the tools it needs to keep our country safe.

This legislation is the result of several months of intense discussions and deliberations with the intelligence community and stakeholders across the political and economic spectrum. It has the unprecedented support of the Director of National Intelligence, the Attorney General, American technology companies, and privacy and civil liberty groups ranging from the ACLU and EEF to the NRA and TechFreedom, as well as the Director of NSA and lawmakers from all parts of the political spectrum who support it.

We cannot afford to delay action on these reforms any longer, as the American people continue to demand stronger protections for their privacy. Unfortunately, some would rather use scare tactics than legislate. Some would have us wait while American businesses continue to lose tens of billions of dollars in the international marketplace. Or we could even wait until we are facing down the expiration of Section 215 in a matter of months, thereby creating dangerous uncertainty and risk for the intelligence community.

The American people have had enough delay; they want action and real reform. It is time to get back to work, to show leadership, and to govern this country responsibly. The USA FREEDOM Act of 2014 is an opportunity to do just that.

Let us get it done now, when it can be done.

Mr. President, I ask unanimous consent to have printed in the RECORD several letters and editorials in support of the USA FREEDOM Act of 2014.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

OFFICE OF THE DIRECTOR OF NATIONAL INTELLIGENCE, DEPARTMENT OF JUSTICE,
Washington, DC, September 2, 2014.

Hon. PATRICK J. LEAHY,
Chairman, Committee on the Judiciary, U.S. Senate, Washington, DC.

DEAR CHAIRMAN LEAHY: Thank you for your letter of August 19, 2014, asking for the views of the Department of Justice and the Intelligence Community on S. 2685, the USA FREEDOM Act. We appreciate your extensive efforts to develop a bill in coordination with the Administration, privacy and civil liberties advocates, and representatives from the communications providers that builds upon the good work done by the House in its bill passed on May 22, 2014. As discussed below, the Intelligence Community believes that your bill preserves essential Intelligence Community capabilities; and the Department of Justice and the Office of the Director of National Intelligence support your bill and believe that it is a reasonable compromise that enhances privacy and civil liberties and increases transparency.

The USA FREEDOM Act bans bulk collection under a variety of authorities. In particular, the bill permits collection under Section 215 of the USA PATRIOT Act using a specific selection term that narrowly limits the scope of the tangible things sought to the greatest extent reasonably practicable, consistent with the purposes for seeking the tangible things. Recognizing that the terms enumerated in the statute may not always meet operational needs, the bill permits the use of other terms, provided there are court-approved minimization procedures that prohibit the dissemination and require the destruction within a reasonable period of time of any information that has not been determined to satisfy certain specific requirements. We believe that this approach will accommodate operational needs while providing appropriate privacy protections.

The bill also provides a mechanism to obtain telephone metadata records in order to identify potential contacts of suspected terrorists inside the United States. The Intelligence Community believes that, based on communications providers' existing practices in retaining metadata, the bill will retain the essential operational capabilities of the existing bulk telephone metadata program while eliminating bulk collection.

The bill also increases transparency by expanding the amount of information communications providers can disclose and increasing public reporting by the government. Although balancing national security and the public's legitimate interest in additional transparency can be difficult, we are comfortable with the transparency provisions in this bill because, among other things, they recognize the technical limitations on our ability to report certain types of information.

We note that, consistent with the President's request, the bill establishes a process for the appointment of an amicus curiae to assist the FISA Court and FISA Court of Review in matters that present a novel or significant interpretation of the law. We believe that the appointment of an amicus in selected cases, as appropriate, need not interfere with important aspects of the FISA process, including the process of ex parte consultation between the Court and the government. We are also aware of the concerns that the Administrative Office of the U.S. Courts expressed in a recent letter, and we look forward to working with you and your colleagues to address those concerns.

The USA FREEDOM Act represents the result of extensive discussions and deliberations and has the support of a wide range of interests. Admittedly, it is possible that there are additional impacts that we will be able to identify only after we start to implement the new law. You have our commitment to notify Congress if we determine that the new law is impeding the Intelligence Community's ability to protect national security. Overall, the bill's significant reforms should provide the public greater confidence in our programs and the checks and balances in the system.

Sincerely,

ERIC H. HOLDER, Jr.,
Attorney General.
JAMES R. CLAPPER,
Director of National Intelligence.

REFORM GOVERNMENT SURVEILLANCE

OPEN LETTER TO THE SENATE: The Senate has an opportunity this week to vote on the bipartisan USA Freedom Act. We urge you to pass the bill, which both protects national security and reaffirms America's commitment to the freedoms we all cherish.

The legislation prevents the bulk collection of Internet metadata under various authorities. The bill also allows for transparency about government demands for user information from technology companies, and assures that the appropriate oversight and accountability mechanisms are in place.

Since forming the Reform Government Surveillance coalition last year, our companies have continued to invest in strengthening the security of our services and increasing transparency. Now, the Senate has the opportunity to send a strong message of change to the world and encourage other countries to adopt similar protections.

Passing the USA Freedom Act, however, does not mean our work is finished. We will continue to work with Congress, the Administration, civil liberties groups and governments around the world to advance essential reforms that we set forth in a set of principles last year. Such reforms include: preventing government access to data without proper legal process; assuring that providers

are not required to locate infrastructure within a country's border; promoting the free flow of data across borders; and avoiding conflicts among nations through robust, principled, and transparent frameworks that govern lawful requests for data across jurisdictions.

Now is the time to move forward on meaningful change to our surveillance programs. We encourage you to support the USA Freedom Act.

AOL, Apple, Dropbox, Evernote, Facebook, Google, LinkedIn, Microsoft, Twitter, Yahoo.

NOVEMBER 14, 2014.

Hon. PATRICK J. LEAHY,
Chairman, Committee on the Judiciary, U.S. Senate, Washington, DC.

Hon. CHARLES E. GRASSLEY,
Ranking Member, Committee on the Judiciary, U.S. Senate, Washington, DC.

DEAR SENATORS LEAHY AND GRASSLEY: The USA Freedom Act, now under consideration in the Senate, is broadly consistent with the recommendatins we made last year in our report on how to safeguard both liberty and security in a rapidly changing world.

Specifically, we note the close similarity of the bill with our first recommendation, that orders under Section 215 should be issued by the Foreign Intelligence Surveillance Court about particular individuals and only where there are reasonable grounds to believe that the particular information sought is relevant to an authorized investigation.

Sincerely,

RICHARD CLARKE,
MICHAEL MORELL,
CASS SUNSTEIN,
GEOFFREY STONE,
PETER SWIRE.

[From the Washington Times, Nov. 14, 2014]

BIPARTISANSHIP IN DEFENSE OF THE CONSTITUTION

REINING IN THE NSA IS SOMETHING THAT ALL AMERICANS CAN EMBRACE

(By Chris Cox and Laura Murphy)

Washington politicians are squaring off for another round of confrontation following an election in which millions of American voters demanded an end to the squabbling and a commitment to actually solving the many problems facing the country. There are, of course, issues on which agreement shouldn't be expected, but there are others on which there should be broad agreement, regardless of party and ideology.

As representatives of two organizations, the National Rifle Association (NRA) and the American Civil Liberties Union (ACLU), with very different perspectives on some issues, we are joining together today because of our belief in the constitutional guarantees of free speech and privacy and our concern that both could be lost unless we rein in governmental surveillance and monitoring that characterizes life in this country.

The NRA last year joined the ACLU in court proceedings aimed at limiting the surveillance of private citizens in the name of national security. While we agree that government should have the power it needs to protect the American people from terrorist threats, those charged with doing so must be accountable and play by the rules set down by the Founders in the Constitution and its Bill of Rights.

Our lawsuit involved the National Security Agency's program to collect what the government likes to call ''metadata,'' including records of phone calls made by every single American. That data can paint an intimate portrait of someone's life—who they talk to, the organizations they support and who their friends are. However, that same information can be used to target innocent Americans involved in perfectly legal activities that our government doesn't happen to like.

For example, by using metadata, the government can identify and track most gun owners by tracing contacts with gun ranges, firearms retailers and the like, facilitating the establishment of the national firearms registry that gun owners fear and federal law prohibits. It can also be used by government officials to get information on journalists or any activists that are critical of government policies.

In our view, current surveillance practices violate the First and Fourth Amendments and threaten other rights, such as those guaranteed by the Second Amendment, and they are not making us any safer. President Obama's own review panel and the Privacy and Civil Liberties Oversight Board have found that these call-records programs have not provided any crucial information in even one terrorism case. Even James R. Clapper, the nation's director of national intelligence, supports legislation known as the USA Freedom Act, a modest reform proposal that brings current practices more in line with what the Constitution requires.

While there is much the Senate shouldn't or needn't do during the ''lame-duck'' session, the USA Freedom Act is badly needed legislation that has bipartisan support and will protect the rights of all Americans. The NRA and the ACLU, along with many members of Congress from both parties, support these reforms and they should be enacted, without weakening amendments, by the Senate and sent to the White House as soon as possible.

Public frustration with Congress is heightened when essential and widely supported legislation such as the USA Freedom Act languishes and dies for reasons that defy common sense. It's happened before. After all the rhetoric and after the case is made, nothing happens. If the Senate can't pass and the president can't sign a widely supported package of reforms to protect the basic constitutional rights of the American people, is it any wonder that Americans of both parties conclude that Washington is simply dysfunctional?

Every day that the Senate fails to vote on these reforms is a day in which law-abiding citizens have reason to fear that the constitutional protections so dear to the Founders and so crucial to the functioning of a free society no longer apply. That is a fear the Senate can begin to correct by passing the USA Freedom Act before the end of this year.

[From the Washington Post, Nov. 17, 2014]

THE SENATE SHOULD APPROVE A BIPARTISAN PROPOSAL TO REFORM THE NSA

(Editorial)

The Senate is set to vote Tuesday on the USA Freedom Act, the most promising National Security Agency reform proposal before Congress. Neither national security hawks nor civil libertarians get everything they want from the legislation, which means it could fail to get the 60 votes it needs to advance, or it could get pulled too far in one direction or another during an open amendment process after that. Either road to demise would be unfortunate: The bill deserves to be approved, reconciled with a House-approved version and sent to President Obama.

The headline of the Senate's bill, sponsored by a varied group of Democrats and Republicans with Sen. Patrick Leahy (D-Vt.) in the lead, is that it would end the government's bulk collection of so-called metadata—phone calling records, for example. In its place, the bill would give the government authority to demand calling records from phone companies in specific cases, if the collection is ''narrowly'' limited. Even then, the government would have to discard information lacking bona-fide intelligence value, and its metadata collection operations would be subject to more oversight.

That's fine, but bulk metadata collection is not the most important issue the bill addresses. The act would bring change to the Foreign Intelligence Surveillance Court, which helps oversee the NSA's activities. The court, which generally hears only the government's side of any issue, would get balance from a panel of advocates tasked with arguing for civil liberties when the judges are considering important questions of law. The proposal also foresees appeals courts reconsidering more FISA cases, and the bill would press for major court decisions to be released.

The bill would enable a more orderly and informed debate on NSA activities as well. It would require the government to release much more information on how much it is using various authorities and, crucially, on how many people's information it has swept up in the process. It also harmonizes the expiration of many surveillance authorities. Americans, then, would have more information to assess surveillance activities and a single date on which surveillance policy will be up for debate.

Technology companies have come out strongly in favor of the plan, as have many—though not all—civil liberties advocates. So, too, has the Obama administration. Though the intelligence community would have to change its behavior—significantly in certain programs—it would get clear legal authorities that it wants and an extended expiration timeline for some of them. It would also maintain its core, foreign-focused surveillance authorities without much change. Therein lies the bill's careful balance. As the Senate works on the proposal over the coming days, it should preserve that delicate and authentic compromise.

[From the New York Times, Nov. 17, 2014]

A CRUCIAL VOTE ON THE SURVEILLANCE BILL

(Editorial)

The Republican Party is so badly fractured that it is impossible to tell what steps it will take on domestic surveillance once it assumes control of Congress in January. Its rising libertarian wing wants to crack down on abuses of Americans' privacy, but many of its leaders express full support for any action the intelligence agencies want to take.

That's why it's important that the Senate break a filibuster on the USA Freedom Act, which would reduce or end the bulk collection of telephone records, in a vote scheduled for Tuesday afternoon. If the bill doesn't pass in the current lame-duck session of the Senate, still controlled by Democrats, it may never get past the 60-vote hurdle in the next session of Congress.

The bill, sponsored by Senator Patrick Leahy, Democrat of Vermont, would require the National Security Agency to ask phone companies for the records of a specific person or address when it is searching for terrorists, instead of scooping up all the records in an area code or city. It would force the agency to show why it needs those records, and to disclose how much data is being collecting.

The bill would also create a panel of advocates to support privacy rights and civil liberties in arguments before the Foreign Intelligence Surveillance Court; currently, there is no one to offer opposition to government requests before the court. The government would have to issue clear summaries of the court's most significant rulings.

Not every potential surveillance abuse is addressed in the measure. For example, it leaves open the possibility of ''backdoor'' searches of American data that investigators come across when searching for the communications of foreigners. It exempts the F.B.I. from transparency on searches. And it is not clear whether the government believes there is some other hidden legal authority for bulk collection other than the one addressed in the USA Freedom Act.

Nonetheless, the bill is a good way to begin restoring individual privacy that has been systematically violated by government spying, revealed through the leaks provided by Edward Snowden. It has been supported by the American Civil Liberties Union, the Electronic Frontier Foundation, and other privacy watchdogs. On Sunday, a group of the biggest technology companies—including Google, Microsoft, Facebook and Twitter—endorsed the bill because it allows more disclosure of the demands for information made of them by the government.

In addition to Senate Democrats, the bill is supported by some hard-right Republicans, including Ted Cruz of Texas and Mike Lee of Utah. But Mitch McConnell of Kentucky, who will soon be the Senate majority leader, has supported the N.S.A.'s spying on Americans. That's a good a reason to pass it before a new Senate can water it down.

Mr. LEAHY. I yield the floor, and I thank the distinguished Senator from California for giving me this time.

The PRESIDING OFFICER. The Senator from California.

Mrs. BOXER. Mr. President, I thank the distinguished chairman of the Judiciary Committee for his remarks. They mean a lot.

I want to put this vote into perspective. This is a major decision. People sometimes say: Oh, what is the big deal. It is a little pipeline. We build pipelines all the time. Well, it is a major decision, and I know each of us, regardless of our party, before we cast a major vote, thinks about whether our vote is going to make life better for our people we represent, the people who send us here and who count on us every day. I am going to do everything in my power to make the case that building the Keystone XL tar sands pipeline is going to make life worse for the people we represent and those generations to follow because I think I will prove today that misery follows the tar sands.

I said before it is called Keystone XL—extra lethal—not extra large but extra lethal. Senators should ask themselves three questions before they cast their vote on the Hoeven-Landrieu bill. First, why does it make any sense for the Senate to force the approval of a project that will bring millions of barrels of the dirtiest pollution you could think of into America? Why do we want to bring barrels of filthy, dirty, dangerous pollution into America? This isn't an ordinary pipeline. This pipeline is carrying tar sands oil, which is, in fact, the most polluting kind of oil and I am going to tell you why. This isn't hyperbole.

Tar sands oil contains levels of toxic pollutants and metals that are much higher than conventional crude oil. I want to make this case. President Obama said when he became President that he would do everything in his power to make us energy efficient and to make us energy independent, and he has worked on both fronts. We have seen a tremendous rise in domestic oil production. It is not tar sands oil. It is not filthy oil. Conventional crude oil is different than the tar sands. The tar sands have 11 times more sulfur and nickel, 6 times more nitrogen, and 5 times more lead. Let me say that again.

Before we invite a 45-percent increase in this filthy, dirty oil, let's take a look at what this tar sands is. It has got more sulfur and nickel and nitrogen and more lead.

I know my colleague who is sitting in the chair cares deeply about environmental justice, and in the course of my presentation I am going to show what happens in places such as Port Arthur, TX, in minority communities when this oil is refined. We can show that photograph now.

What I am trying to impress on the body today is I am proving the point that I am making. The facts are the facts are the facts. This is what it looks like in Port Arthur, TX. This is what the kids have to put up with. Here is a playground in a low-income community, and I had the activists from Port Arthur, TX, here saying, please, please, please, protect us from this oil.

Now these dangerous pollutants I cited and these metals can be very harmful to human health. Sulfur dioxide penetrates deeply into sensitive parts of the lungs and it causes respiratory diseases such as emphysema and bronchitis. You will not hear a word about that from the proponents, but this needs to be looked at. This is why I stood with the nurses, that is why I stood with the public health doctors, to say time out for a minute here.

What are we doing to our people that we are saying we are helping with the tar sands?

It aggravates heart disease, leading to increased toxic emissions and premature death. Nitrogen dioxide increases symptoms in people with asthma. When I go to the various schools in my State, I ask the kids: How many of you have asthma or how many of you know someone who has asthma? Almost half the class raises their hands, if not more.

Tar sands will exacerbate that problem. We know how dangerous lead is, how long it took us to get lead out of paint. It adversely affects the nervous system, the kidney function, the immune system, the cardiovascular system. Misery follows the tar sands. The Keystone XL—extra lethal—pipeline.

We are talking about huge quantities coming through this pipeline—830,000 barrels of filthy tar sands oil coming across the Canadian border heading down to our gulf coast region every single day—again, a 45-percent increase in the tar sands oil, a 45-percent increase in those heavy metals and those dangerous pollutants. This project could be just the beginning.

We already know again, misery follows the tar sands from the extraction to the transportation to the refining to the waste disposal.

Let me show you a picture of petcoke, petroleum coke.

Again, it is an environmental justice question, because what we have is what is left after the refining, and it gets sent all across the country. This is a picture of petcoke piles in Chicago. Senator DURBIN is going to talk more about this. This is a serious environmental hazard. The poison that is in this residue in a windstorm just blows around and we have stories in the press in Chicago of a Little League game being interrupted because the petcoke was blowing all over the field, and the kids were getting pitch black with the petcoke.

So, yes, I have stood with doctors and nurses and people in these communities who have faced harm along each step of the tar sands oil process. These are cancer-causing pollutants. So when somebody tells you: Oh, this is nothing. This is a pipeline. We have a lot of pipelines. This is nothing. No big deal. Why are you fighting? Why are you standing up here? Why did I demand 3 hours of time in opposition? Because this is a dangerous project.

Why should we vote to force the approval of a project that would bring this dirty, polluted tar sands into the United States when we know it is the most difficult type of oil to clean up in case of a spill?

According to the EPA, tar sands oil creates especially difficult challenges to clean up when the pipelines rupture because it is so heavy it sinks to the bottom of the water. You only have to look at the spill in Michigan's Kalamazoo River in 2010 which they still haven't cleaned up.

In Mayflower, AK, in 2013, we will show you a picture from there. This is what happened when there was a spill. These spills are not cleaned up. This came right into residential communities. So again, dirty, filthy oil and the toughest to clean up in case of a spill. We know as sure as I am standing here if this is built there will be a spill, because that happens; and it has already happened in 2010 and in 2013.

Of the projected 830,000 barrels of tar sands oil, most of it isn't going to our domestic use. And that is the other question. Why would you want to bring this dirty, polluted tar sands oil that you cannot clean up into our country if practically all of it is going to be exported? And we will have to bear the burdens of the refining, the filth in the air, the petcoke in our cities, as we see the products being exported to other countries.

Now I could stop here—I am sure the proponents wish I would, but I am not, because if you are not convinced this is an enormous mistake, I have got five reasons—a deeper look at the health of our people. I have already said tar

sands is the filthiest oil on the planet. And I have already told you that I have stood with nurses and doctors to make this point. Downwind from the tar sands extraction site and the refineries in Canada there are significantly higher levels of dangerous pollutants and carcinogens have been documented.

People living in the nearby communities are suffering. I have met them. I have talked to them on the phone. They flew down here to stand by my side to call attention to the health impacts. People living in nearby communities are suffering higher rates of cancers linked to toxic chemicals including leukemia, non-Hodgkin's lymphoma. That is a fact. The big oil companies won't talk about it. The Koch brothers won't talk about it. My Republican friends won't talk about it. But I am going to talk about it and I am going to enter into the RECORD a University of California-Irvine, University of Michigan peer-reviewed study documenting elevated cancer rates near tar sands processing zones. This was a peer-reviewed article dated September 2013.

Mr. President, I ask unanimous consent that this article be printed in the RECORD.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

ATMOSPHERIC ENVIRONMENT—AIR QUALITY IN THE INDUSTRIAL HEARTLAND OF ALBERTA, CANADA AND POTENTIAL IMPACTS ON HUMAN HEALTH

(By Isobel J. Simpson, Josette E. Marrero, Stuart Batterman, Simone Meinardi, Barbara Barletta, Donald R. Blake)

HIGHLIGHTS

Alberta's Industrial Heartland is Canada's largest hydrocarbon processing center.

We characterize 77 volatile organic compounds (VOCs) emitted in this region.

Dozens of VOCs, including carcinogens, were enhanced in the industrial plumes.

Sources include propene fractionation, diluent separation and bitumen processing.

Male hematopoietic cancer rates are higher in this region than elsewhere in Alberta.

ABSTRACT

The ''Industrial Heartland'' of Alberta is Canada's largest hydrocarbon processing center, with more than 40 major chemical, petrochemical, and oil and gas facilities. Emissions from these industries affect local air quality and human health. This paper characterizes ambient levels of 77 volatile organic compounds (VOCs) in the region using high-precision measurements collected in summer 2010. Remarkably strong enhancements of 43 VOCs were detected, and concentrations in the industrial plumes were often similar to or even higher than levels measured in some of the world's largest cities and industrial regions. For example maximum levels of propene and *i*-pentane exceeded 100 ppbv, and 1,3-butadiene, a known carcinogen, reached 27 ppbv. Major VOC sources included propene fractionation, diluent separation and bitumen processing. Emissions of the measured VOCs increased the hydroxyl radical reactivity (k_{OH}), a measure of the potential to form downwind ozone, from 3.4 s^{-1} in background air to 62 s^{-1} in the most concentrated plumes. The plume value was comparable to polluted megacity values, and acetaldehyde, propene and 1,3-butadiene contributed over half of the plume k_{OH}. Based on a 13-year record (1994–2006) at the county level, the incidence of male hematopoietic cancers (leukemia and non-Hodgkin lymphoma) was higher in communities closest to the Industrial Heartland compared to neighboring counties. While a causal association between these cancers and exposure to industrial emissions cannot be confirmed, this pattern and the elevated VOC levels warrant actions to reduce emissions of known carcinogens, including benzene and 1,3-butadiene.

1. INTRODUCTION

Volatile organic compounds (VOCs) are emitted from natural biogenic sources such as vegetation and biomass burning, and from anthropogenic sources such as the production, distribution and consumption of fossil fuels, including vehicular emissions (Guenther etal., 2000; Buzcu and Fraser, 2006). VOCs play key roles in the radiative forcing and chemistry and of the atmosphere, for example producing tropospheric ozone (O_3) and secondary organic aerosol (SOA) (Sillman, 1999; Robinson et al., 2007). VOCs also control concentrations of the hydroxyl radical (OH) (Guenther et al., 1995), the principal oxidizing agent in the troposphere. Several halogenated VOCs are potent greenhouse gases and cause stratospheric ozone depletion, and are regulated under the Montreal Protocol and its Amendments (MPA) (UNEP, 2012).

In addition to their influence on air quality and climate, VOCs are of concern because of their potential health effects. As examples. benzene and 1,3-butadiene are known carcinogens (IARC, 2010). Biological evidence supports the causal linkage between certain pollutants and certain cancers, for example, between leukemia incidence/mortality and exposure to benzene (Snyder, 2002; Forrest et al., 2005) and 1,3-butadiene (Cheng et al., 2007; Kirman et al., 2010). Increased rates of leukemia, melanoma and genotoxic risk have been shown in petroleum workers and populations living downwind of petrochemical facilities such as oil refineries (Wong and Raabe, 2000; Whitworth et al., 2008; Barregard et al., 2009; Basso et al., 2011), although elevated rates and cancer mortality are not consistently observed (Tsai et al., 2004; Axelsson et al., 2010).

Established in the 1950s, the Industrial Heartland of Alberta is currently a large (582 km^2) industrial area with more than 40 companies, including chemical, petrochemical, and oil and gas facilities (http://www.industrialheartland.com). It is situated about 30 km northeast of Edmonton (53°32′N, 113°30′W; population 812,000) and a few km northeast of Fort Saskatchewan (53°43′N, 113°13′W; population 19,000) in an otherwise rural farming area Alberta (Fig. 1 and Fig. S1). The Industrial Heartland is the largest hydrocarbon processing region in Canada, and major land holding include Shell Canada, Dow Chemical Canada, and Provident Energy & Williams Energy Canada (now Pembina Pipeline & Williams Energy Canada) (http://www.industrialheartland.com). Their products include ethane, propane, propene, butane, styrene, hexane, benzene, heavy aromatics, synthetic crude oil and condensate (AIHA, 2012). For example, Shell Scotford is the largest land holding in the Heartland and includes a chemical plant, a refinery, and an upgrader that separates diluent and processes bitumen from oil sands mined approximately 450 km to the north, with a current processing capacity of 255,000 barrels/day (AIHA, 2012).

Industrial emissions in the Heartland affect the local air quality, for example causing intermittent odor episodes in the nearby community of Fort Saskatchewan. However, there have been very few independent, peer-reviewed analyses of air quality in the region. Thirty VOCs were measured in the Heartland from 2004 to 2006, and elevated VOC levels were attributed primarily to industry followed by vehicles (Mintz and McWhinney, 2008). Air quality is monitored locally by the Fort Air Partnership (FAP), a multi-stakeholder group with members from industry, government and the public (http://www.fortair.org). Though the FAP data have not been published in the peer-reviewed literature, they show several exceedances of Alberta Ambient Air Quality Objectives (AAAQO) in 2010 for $PM_{2.5}$, SO_2, NH_3 and NO_2 (FAP, 2010). There were no reported O_3 exceedances in 2010 both for AAAQO standards (82 ppb in 1 h) and for Canada-Wide Standards (65 ppb in 8 h). The annual O_3 average for 2010 was 22 ppb, and a maximum 1-h O_3 value of 72 ppb was recorded in June (FAP, 2010).

Here we present concentrations of VOCs and carbon monoxide (CO) measured in the Industrial Heartland in August 2010, and we discuss potential impacts of industrial VOC emissions on air quality and on human health in the local population.

2. METHODS

2.1. Ground-based air sampling

Previously our group identified VOC emission hot-spots within a 12 × 12 km region of the Industrial Heartland, during a grid study on April 10, 2008 (n = 58) as part of an Environmental Impact Assessment in the Heartland (unpublished data). For example, maximum levels of benzene, ethylbenzene and styrene downwind of the Shell Scotford complex were 1.6, 2.0 and 4.0 parts per billion by volume (ppbv, 10^{-9}), respectively, or 19, 435 and 6070 times higher than local background concentrations measured on the same day. During the 2010 study the sampling strategy focused on these emission hotspots. Speciated VOC measurements were obtained by collecting whole air samples (WAS) into evacuated 2 L stainless steel canisters, followed by analysis at our University of California, Irvine (UC Irvine) laboratory using multi-column gas chromatography (see Supplementary material). Individual air samples were collected concurrently at an upwind farm and downwind of several Heartland industries throughout the day and evening of August 12 and 13, 2010 (n = 80; Fig. 1). In many but not all cases, strong odors were associated with samples collected downwind of industrial activity. Because the sampling campaign occurred over a limited 2-day time frame, the results are not intended to represent an assessment of conditions over longer time scales.

Based on climate data from 1990 to 2002, the predominant wind direction in the Fort Saskatchewan area (Strathcona County) is from the southwest (SW) quadrant in fall and winter, the northwest (NW) and southeast quadrants in spring, and NW in summer (McCallum et al., 2003). During this study most of the sampled air masses arrived from the NW—i.e., not from Edmonton to the SW—at a median wind speed of 15 km h^{-1} or a moderate breeze (Fig. 52). Therefore we do not expect emissions from Edmonton to be a confounding factor in this study. The temperature ranged from 14 to 21 °C (http://www.casadata.org/Reports/SelectCategory.asp) and conditions were overcast with occasional drizzle and rain—in other words not ideal for active in situ photochemistry.

2.2. Laboratory analysis

Each air sample was returned to UC Irvine and analyzed within 10 days for CO and 77 VOCs, including C_1–C_{10} hydrocarbons, C_1–C_2 halocarbons, C_1–C_5 alkyl nitrates and C_1–C_2 sulfur compounds. Our analytical procedures and calibration protocols are described in

the Supplementary material. The detection limit of our measurements varies by compound and ranges from 0.005 to 100 pptv (Tables SI–S3). The measurement precision and accuracy also vary by compound and are 3% and 5%, respectively, for alkanes, alkenes and aromatics. Rigorous sensitivity tests have shown that most measured VOCs are stable within our canisters, though oxygenated hydrocarbon levels can increase or decrease at a rate of a few percent per day, which is reflected by their more poorly constrained precision and accuracy (Tables 51–53).

2.3. VOC data analysis

Trace gas concentrations typically vary with factors including season and latitude. During this study the background VOC concentrations showed little diurnal variability for most compounds (Fig. S3), and the upwind farm samples were used to calculate the average local background concentrations for this latitude and time of year (n = 8). Because the plume samples were collected outside the perimeter of the industrial facilities, perhaps 500 m or more downwind of the emission source, the extent to which the plumes had become mixed and diluted with background air before being sampled is unclear. As a result the industrial plume averages were calculated as the average of the top 10th percentile concentrations for each species (n = 8). We note that these industrial plume values will be less concentrated than stack samples.

2.4. Human health data analysis

To investigate potential impacts of exposure to industrial pollutants on human health, in particular cancer incidences, two memos, tables and figures were obtained from the Alberta Cancer Board (Chen, 2006, 2008) under the Canadian Freedom of Information and Protection of Privacy (FOIP) Act. These documents provide limited analyses of cancer incidences in the region, specifically comparing the three-county area of Fort Saskatchewan, Strathcona County and Sturgeon County (Fig. 1) to the rest of the Edmonton-area health region, and also to the rest of Alberta. Currently Fort Saskatchewan houses 18 major industries, Strathcona County has 16 industries, and Sturgeon County has 9 industries (AIHA, 2012).

Based on surveillance data from 1994 through 2006 (inclusive), Chen (2008) remarks that the age-standardized incidence rates for male hematopoietic cancer and male non-Hodgkin lymphoma in the three-county area are elevated with respect to the two comparison areas. We extended this analysis by computing the mean ($t$standard error) standardized incidence rate for male hematopoietic cancers in the three-county region using two five-year periods (1997–2001 and 2002–2006) that help to reduce the year-to-year fluctuations in cancer cases (since the population is relatively small).

3. RESULTS AND DISCUSSION

3.1. VOC concentrations

Complete results for the 2010 sampling campaign are summarized in Tables 51–53. With the exception of methane (CH_4), which is long-lived and relatively abundant in the atmosphere, background VOC levels ranged from sub- or low- parts per trillion by volume (pptv, 10^{-12}) up to low ppbv levels. By comparison, concentrations of many VOCs were clearly elevated in the industrial plumes compared to background values (Tables S1 and S2). Of the 77 measured VOCs, 43 were very strongly enhanced in the plumes, with concentrations spanning roughly 1 to 4 orders of magnitude (Fig. 2a–f and Fig. S4a–c). These compounds include all 14 aromatics that were measured, 12 alkanes, 6 alkenes, 5 oxygenated compounds, 5 halocarbons and ethyne (Table S1). After CH_4, the most abundant VOCs in the industrial plumes were, in descending order, propene (maximum of 107 ppbv), i-pentane (103 ppbv), n-pentane (97 ppbv), acetaldehyde (74 ppbv) and 2-methylpentane (62 ppbv). By comparison, their average background levels ($\pm 1\sigma$) ranged from 0.031 ± 0.013 ppbv to 1.4 ± 0.8 ppbv, or factors of 55–1980 lower. The most strongly enhanced compounds were methyl *tert*-butyl ether (enhanced by up to a factor of 6194), ethylbenzene (6179×), 3–methylpentane (4414×), *trans*-2-butene (3609×) and 2,3-dimethylbutane (3048×).

An additional 15 compounds showed small-to-moderate, statistically significant enhancements (up to 1.06–2.8-fold) in the industrial plumes compared to background values (Table S2). These include CH_4, two sulfur compounds (DMS, OCS), three methyl halides (CH_3I, CH_3Br, CH_3Cl), three brominated compounds (CH_3Br, CH_2Br_2, $CHBr_3$), four long-lived halocarbons (9–26 years; HCFC-141b, HCFC-142b, HCFC-22, CCl_4), and three short-lived solvents (1–5 months; acetone, methyl acetate, $CHCl_3$) (Fig. S2d–f). With the exception of CH_4, their plume averages remained below 1 ppbv (Table S2). Although carbon tetrachloride (CCl_4) is restricted under the MPA, the precision of these measurements is 1% (about 0.8 pptv at the measured mixing ratios), and CCl4 shows clear and measurable enhancements in industrial plumes downwind of Dow and Shell compared to the background of 89.4 ± 0.4 pptv (Fig. S2f).

We speculate that these elevated plume concentrations are due to emissions from pre-existing reservoirs.

Carbon monoxide and the remaining 19 of 77 measured VOCs showed similar concentration ranges in both background air and plumes, and were not appreciably impacted by industrial emissions (Fig. S3a–d). This group comprises a number of halocarbons (CFCs, halons, CH_3CCl_3, HFC-134a, 1,2-dichloroethene), biogenic compounds (isoprene, α-pinene and β-pinene) and alkyl nitrates (Table S3). Several of the halocarbons are restricted under the MPA, and their lack of industrial emission is not surprising (Fig. S3a). Although the pinenes have previously shown an unexpected association with industrial emissions from oil sands operations near Fort McMurray (Simpson et al., 2010), an industrial signature was not evident here (Fig. S3b). Carbon monoxide was not enhanced in the industrial plumes (Fig. S3c), showing that combustive sources (including vehicular emissions) did not significantly impact the measured plumes. Alkyl nitrate levels remained in the low pptv range (Fig. S3d), indicating little evidence of secondary photochemistry. This is most likely explained by a combination of unfavorable conditions for *in situ* photochemistry (Section 2.1) and the short travel time from plume emission to sample collection. For example, an emitted plume could reach the sampling sites in as little as a few minutes based on a wind speed of 10–20 km h^{-1} (Section 2.1) and a downwind sampling distance of 500 m.

3.2. Emission signatures

Based on linear correlations among the measured VOCs using least squares linear fits (Simpson et al., 2010), the emitted VOCs fell into at least five distinct correlating groups. First, the C_3–C_4 alkenes were strongly correlated ($0.99 \le r^2 \le 1.00$), driven by high concentrations measured downwind of the Provident/Williams facility (Fig. 2a), which includes a natural gas liquids and propene fractionation project and produces C_2–C_4 alkanes and C_3–C_4 butenes (AIHA, 2012). Remarkably, the maximum propene level (107 ppbv) was almost double that measured in the Houston–Galveston Bay area (56 ppbv), even though Houston is both a much larger metropolitan area than Fort Saskatchewan and the largest petrochemical manufacturing center in the United States (Ryerson et al., 2003; Gilman et al., 2009).

Second, the C_5–C_7 alkanes and methacrolein were highly correlated ($0.81 \le r^2 \le 1.00$), with largest concentrations downwind of Shell Scotford, which separates diluent and processes bitumen (Section 1), and Access Pipeline, which produces diluent and blended bitumen (Fig. 2 band Fig. S4a). The maximum n-hexane level (52 ppbv) was 2.5–17 times higher than maximum values measured in some of the world's megacities (Beijing, Mexico City, and Tokyo) (Parrish et al., 2009), although lower than the maximum levels measured during a ship-based study in Houston/Galveston Bay (81 ppbv) (Gilman et al., 2009). Simpson et al. (2010) associated elevated levels of C_4–C_9 alkanes with emissions from oil sands and its products and/or diluent, and this second group of VOCs is consistent with a diluent/bitumen signature. Even though methacrolein and methyl vinyl ketone are both major isoprene oxidation products (Montzka et al., 1993) they were uncorrelated during this study (r^2 0.01). Because the maximum methacrolein level (20 ppbv) far exceeds the amount that isoprene oxidation chemistry can explain, its excess concentrations are attributed to industrial emissions.

Third, acetaldehyde (Fig. 54b), i-butane (Fig. 2c) and n-butane were correlated strongly with one another ($0.88 \le r^2 \le 0.98$) and somewhat with the C_3–C_4 alkenes ($0.58 \le r^2 \le 0.68$). Maximum levels of all three compounds (26–74 ppbv) were measured downwind of Provident/Williams, which produces C_2–C_4 alkanes (AIHA, 2012); Shell Scotford, which lists C_3–C_4 mix as a product; and Access Pipeline. Surprisingly, the maximum butane levels were comparable to those in central Mexico City during the mid-1990s when liquefied petroleum gas (LPG) was a major source of butanes and contributed to poor air quality (Blake and Rowland, 1995). The characteristic emission ratio of i-butane/n-butane is 0.2–0.3 for vehicular exhaust, 0.46 for LPG, and 0.6–1.0 for natural gas (Russo et al., 2010 and references therein). Here the average ($\pm 1\sigma$) ratio in the top 10% of plumes (based on the highest i-butane and n-butane concentrations) was 0.47 ± 0.18, similar to that for LPG and to that measured downwind of the oil sands industry (0.42 ± 0.03) (Simpson et al., 2010), suggesting that the i-butane/n-butane ratio for various petrochemical processes resembles that for LPG. The main global source of acetaldehyde is photochemical hydrocarbon oxidation, with a relatively small industrial source (Singh et al., 2004; Millet et al., 2010). Here, however, the very high acetaldehyde levels cannot be explained by secondary photochemical production (Section 3.1) and they are attributed to direct industrial emission from various facilities. For example, the Shell Scotford chemical plant reportedly released 3.9 tonnes of acetaldehyde in 2010 (NPRI, 2012).

Fourth, toluene and the xylenes correlated strongly with one another ($0.79 \le r^2 \le 0.98$) and with the second group of compounds ($0.60 \le r^2 \le 0.89$). The highest levels of toluene and the xylenes (2.7 ppbv and 0.65–3.4 ppbv, respectively) were measured downwind of the Shell Scotford complex (Fig. S4c), which lists heavy aromatics among its products. The maximum toluene level was 69 times higher than background (Table S1), but lower than maximum values in megacities such as Mexico City, Tokyo and Beijing (10 ppbv) and near major petrochemical complexes in Texas and Spain (16–77 ppbv) (Gilman et al., 2009; Ras et al., 2009).

Fifth, n-octane and the C_9 aromatics (ethylbenzene, trimethylbenzenes, n-

propylbenzene) correlated strongly ($0.74 \leq r^2 \leq 1.00$), and with highest concentrations downwind of the Shell Scotford complex. The maximum ethylbenzene mixing ratio (23 ppbv; Fig. 2d) was much larger than for other compounds in this group (0.22–0.83 ppbv), indicating clear emissions of this possible carcinogen. The Shell Scotford refinery manufactures a range of products including gasoline, diesel and jet fuel, and reportedly released 0.562 tonnes of ethylbenzene in 2010 (NPRI, 2012).

Other chemicals were clearly emitted but did not necessarily correlate strongly with other VOCs. Ethane and propane were moderately correlated ($r^2 = 0.62$), with highest levels measured downwind of Keyera and Provident-Williams (ethane and propane) and Dow Chemical (ethane only). The maximum propane mixing ratio (45 ppbv) was lower than in Houston/Galveston Bay) (347 ppbv) (Gilman et al., 2009). Benzene showed some correlation with ethylbenzene ($r^2 = 0.58$) and the highest benzene level (6.6 ppbv; Fig. 2e) was measured downwind of Shell Scotford, which produces benzene and reportedly released 2.5 tonnes of benzene from its refinery in 2010 (NPRI, 2012). The highest 1.3-butadiene level was also measured downwind of the Shell facility (27 ppbv; Fig. 2f), though 1,3-butadiene is not listed in the National Pollutant Release Inventory (NPRI) for Shell. The combustion tracers ethene and ethyne were only weakly correlated ($r^2 = 0.52$) and their highest concentrations were measured downwind of Dow, which produces ethene. Ethene/ethyne ratios of 1–3 and 10–30 are characteristic of tailpipe emissions and petrochemical facilities, respectively (Ryerson et al., 2003). Here the ethene/ethyne ratio was 9.7 ± 1.0, which confirms the industrial rather than vehicular nature of the observed plumes.

3.3 Air quality impacts

The contribution of individual VOCs to O_3 formation is a function of their concentration and their reactivity towards OH, and can be expressed as the total OH reactivity (k_{OH}) Kovacs et al., 2003; Mao et al., 2010; Kim et al., 2011):

$$k_{OH} = \sum (k_{OH+VOC_i}[VOC_i] + k_{OH+CO}[CO] + k_{OH+NO}[NO] + k_{OH+NO2}[NO_2] + \ldots) \quad (1)$$

Here k_{OH} is used to evaluate the relative contributions of CO and the measured VOCs to downwind photochemistry. Because we did not measure nitrogen oxides (NO_X), which can contribute 15–50% to k_{OH} in cities such as Houston, Mexico City and New York (Mao et al., 2010), the reactivity reported here is likely underestimated and is understood to be only for the measured species, rather than total OH reactivity.

The OH reactivity in background air was 3.4 s^{-1}, similar to clean air values of 1–3 s^{-1} (Kim et al., 2011; Lou et al., 2010). Not surprisingly, isoprene was the primary contributor to k_{OH} in background air, followed by CO, acetaldehyde and CH_4 (Fig. 3a). By contrast, k_{OH} in the top 10th percentile of data with highest VOC loadings was 62 s^{-1}, or 18 times larger than background. Even though we have missing reactivity, this plume k_{OH} value is already comparable to levels in polluted megacities such as Mexico City, Tokyo and Hong Kong/Guangzhou, which typically range from 10 to 100 s^{-1} (Lou et al., 2010 and references therein). Because of their abundance and reactivity, propene, acetaldehyde and 1,3-butadiene were responsible for more than 50% of k_{OH} in the plumes, while alkanes contributed another 23% (Fig. 3b). These results show some similarity to airborne studies in the greater Houston area, where propene and ethene were identified as the two VOCs primarily responsible for rapid O_3 formation (Ryerson et al., 2003; deGouw et al., 2009) and alkene emissions from petrochemical facilities are the primary source of formaldehyde, also an O_3 precursor (Parrish et al., 2012).

Despite the abundance of VOC precursors and strong OH reactivity in the industrial plumes, no O_3 exceedances were measured in the Fort Saskatchewan region in 2010 (Section 1). In general, the highest monthly O_3 averages occur during spring, and the highest 1–h O_3 averages occur during hot summer afternoons when wind speeds are low (FAP, 2010). Ozone levels are lower within the center of the Heartland airshed, likely due to the presence of NO_X which lower O_3 concentrations through titration (FAP, 2010). Simpson et al. (2010) also found relatively low levels of O_3 downwind of the Alberta oil sands because titration with NO exceeded O_3 production on the short time-scale since precursor emission. Overall, it appears that industrial VOC sources in the Fort Saskatchewan area are emitted into a relatively clean background for O_3, and local O_3 exceedances are not common.

3.4. Gaps in VOC emission reporting

Although 43 of 77 measured VOCs were strongly elevated in the industrial plumes compared to local background concentrations, only 16 were quantified in the 2010 NPRI for the industries discussed in this paper (ethene, propene, 1,3-butadiene, 1,2-dichloroethane, *n*-hexane, benzene, toluene, ethylbenzene, total xylenes, styrene, 1,2,4-trimethylbenzene, acetaldehyde, carbonyl sulfide, chloroform, trichloroethene, HCFC–22; NPRI, 2012), with individual companies reporting 0–10 VOCs. As a first example, while strongly elevated levels of at least a dozen C_2–C_8 alkanes were detected downwind of several Industrial Heartland facilities (Table S1, Fig. 2b–c and Fig. S4a), only *n*-hexane is included in the NPRI. The VOCs reported in the NPRI include light alkenes and are weighted towards aromatic species, yet our study shows that alkanes are a leading contributor to k_{OH} in the Heartland (Fig. 3b). Second, while 1,3-butadiene is a known carcinogen, emissions of this VOC are reported by only one of the companies considered here.

Even when emission rates are reported, they require verification to ensure that the reporting is accurate. For example, recent NPRI listings of VOC emission rates (including benzene) from an unnamed Canadian refinery were found to be underestimated by 15–18-fold (Chambers et al., 2008). In addition to improved reporting of speciated VOCs in the NPRI or other publically available inventories, especially 1,3-butadiene and light alkanes, we recommend independent air quality monitoring and VOC emission estimates in the Heartland region so that emitted compounds can be externally identified, quantified and reported in the peer-reviewed literature.

3.5. Human health impacts

Of the 77 VOCs measured here, at least 10 are either known human carcinogens (Group 1: benzene, 1,3-butadiene), probable carcinogens (Group 2A: trichloroethene, tetrachloroethene), or possible carcinogens (Group 2B: carbon tetrachloride, chloroform, 1,2-dichloroethane, dichloromethane, ethylbenzene, isoprene, styrene) (IARC, 2010). Of these, 1,3-butadiene and ethylbenzene were the most abundant in the industrial plumes, with maximum levels of 23–27 ppbv, or 3–4 orders of magnitude larger than their background values (Table S1).

An analysis of cancer incidences in the Industrial Heartland shows elevated incidence rates of male hematopoietic cancers in the three-county area where the industries are located (Fort Saskatchewan, Strathcona County and Sturgeon County) compared to neighboring regions for both 1997–2001 and 2002–2006, although the error bars are large due to small sample sizes (Fig. 4). Several steps would help to confirm such trends and possibly provide a more direct link between these cancers and emissions of toxic VOCs in the Heartland: improved estimates of VOC emissions and exposure estimates that included more detail and historical data; better cancer surveillance that included regular evaluations, breakdown by cancer type (e.g., myelogenous, monocytic and lymphocytic leukemias) and geocoding of cases; collection of potential covariates and confounders (e.g., residence and work history); and use of statistical and epidemiological techniques to investigate spatial, temporal and exposure-related patterns of disease in the community.

Elevated risk of hematopoietic cancers has also been found in other populations living downwind of industrial facilities, even at relatively low VOC exposures. For example, leukemia incidence an exposed population living near a large Swedish oil refinery known to emit benzene and other VOCs was significantly elevated (33 cases vs. 22 expected cases) compared to local controls (50 cases vs. 56 expected), despite an estimated refinery contribution to annual average VOC concentrations of only 0.63 ppb for benzene and 0.23 ppb for 1,3-butadiene (Barregard et al., 2009). The authors note that risk estimates extrapolated from high-level exposure would not predict an increase of leukemia at low VOC exposures, and they suggest that risk estimates using standard carcinogenic unit risk or slope factors do not adequately represent true risks from much lower exposures. As a second example of a population-based study, higher exposure to benzene and 1,3-butadiene in 886 census tracts surrounding Houston, Texas was associated with increased incidence of childhood lymphohematopoietic cancers (Whitworth et al., 2008). Some of the highest exposures occurred in the Houston Ship Channel area, which contains a large number of petroleum and chemical industries.

Recommended exposure limits and risk-based criteria evolve as our understanding of the chemical toxicity of carcinogens improves. Using benzene as an example, the recommended exposure limit relevant for occupational settings has decreased from 100 ppm in 1947 to 1 ppm (Wong et al., 1999; McHale et al., 2010; Smith, 2010); the 1–h average ambient air quality guideline in Alberta is 9 ppb (Chambers et al., 2008). However, adverse health outcomes, including hematological changes and gene perturbations, have been reported at exposure levels below 1 ppm (McHale et al., 2010; Qu et al., 2002; Lan et al., 2004; Xing et al., 2010). Indeed, recent literature suggests that there is probably no safe exposure level to benzene because it does not appear to have a functional low-dose threshold, and because the effects of exposure appear to be additive in a linear or supralinear fashion (Smith, 2010). Further, in environmental settings (as compared to workplace), exposure to compound mixtures rather than a single compound at a time is common, and simultaneous exposure to complex mixtures, including multiple carcinogens, may involve interactions and possibly synergistic effects on target organs or systems at low exposure (Basso et al., 2011). Although VOC levels were significantly elevated above concurrent local background values in the Heartland, concentrations remained below existing guidelines for short-term exposure. Guidelines for long-term exposures generally use a risk-based approach, and there is considerable uncertainty regarding the unit risk factors that describe the toxicity of a chemical (or mixture) for the public and susceptible individuals, as well as debate over what is acceptable or protective. (A number of U.S. state and federal rules use individual lifetime cancer risks in the range of 1 in 10,000 to 1 in 1,000,000.)

The elevated incidence of cancers within the Industrial Heartland that are known to be linked to VOCs released in the region raises questions regarding whether ambient levels, emission controls, and risk calculations are adequately protective of public health. In addition, on-site workers may be at increased risk because of their closer proximity to emission sources. While several factors might well explain an observation of increased cancer rates, e.g., variability of a population's genetic makeup, differences in dietary or lifestyle factors, and statistical variability, it is also important and responsible to improve health surveillance and VOC exposure measurements, to utilize epidemiological studies that can better link environmental factors to disease, and to reduce exposures to pollutants that might plausibly be related to adverse health impacts.

4. CONCLUSIONS

Ambient monitoring in the Industrial Heartland of Alberta, the largest hydrocarbon processing region in Canada, showed remarkable enhancements in VOC concentrations. Even though the Heartland is situated within a generally rural area, many maximum concentrations were comparable to those measured in the world's largest cities. Thirty VOCs were present at levels above 1 ppbv, and maximum propene and *i*-pentane levels exceeded 100 ppbv. Some of the largest VOC excesses were measured in samples designated as ''no smell'', showing that absence of odor does not necessarily indicate good air quality. The industrial plumes showed distinct chemical signatures that varied not only between facilities but also within individual facilities. An analysis of OH reactivity in the plumes suggests that propene, acetaldehyde and 1,3-butadiene have the greatest potential to form downwind O_3.

Excess numbers of hematopoietic cancers were observed in the same region that emits substantial quantities of complex mixtures of industrial pollutants, including several VOCs that are known to cause these cancers. While there are many factors that preclude a causal linkage, including a lack of exposure history for the local population and uncertainties associated with the health impacts of low exposures to multiple compounds, we suggest that immediate reductions in emissions of known carcinogens such as benzene and 1,3-butadiene are warranted and prudent.

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APPENDIX A. SUPPLEMENTARY DATA

Supplementary data related to this article can be found at *http:/dx.doi.org/10.1016/j.atmosenv.2013.09.017*.

Mrs. BOXER. Once it leaves Canada and is transported to refineries in the United States, the tar sands would increase the pollution in already plagued communities such as Port Arthur, which I showed you and I will show you again.

Port Arthur is already refining tar sands oil. This is going to greatly increase the amount of tar sands oil they are going to be refining. They are on the EPA's list of cities with dangerous ozone levels, people suffering from asthma, respiratory ailments, skin irritations, and cancer.

The oil companies aren't going to tell you about this and the Koch brothers aren't going to tell you about this and my Republican friends aren't going to tell you about this, but I am going to tell you about this. Tar sands will add another threat to Port Arthur and other communities that are already in distress.

I ask unanimous consent to have printed in the RECORD an article describing health problems experienced by families living near Port Arthur refineries, and it is entitled ''Everyone Deserves Clean Air and Equal Protection From Pollution,'' dated August 12, 2014.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

[From Chron, August 12, 2014]

EVERYONE DESERVES CLEAN AIR AND EQUAL PROTECTION FROM POLLUTION

EVERY ONE SHOULD HAVE AN EQUAL RIGHT TO BREATHE CLEAN, SAFE AIR

(By Hilton Kelley and Anne Rolfes)

Would you want your child to live next door to an oil refinery and face an increased risk for cancer, heart or breathing problems?

Millions of Americans live very close to some 150 oil refineries in 32 states, including our home states of Texas and Louisiana, and have an increased cancer risk because of the air pollution coming from refineries. Those most vulnerable to this pollution are disproportionately black, Latino, children and lower income.

Port Arthur, for instance, is home to eight major oil and chemical industrial sites, including oil refineries.

And cancer deaths in Jefferson County, where Port Arthur is located, are 40 percent higher among African Americans than they are for the average Texan, according to the Texas Cancer Registry.

Children in the predominantly Latino Manchester neighborhood of Houston—home to a Valero Refinery—have a 56 percent greater chance of getting leukemia than children who live elsewhere, according to researchers from the University of Texas School of Public Health.

By conservative estimates, oil refineries emit more than 20,000 tons of hazardous air pollutants each year, including cancer-causing benzene, lead and hydrogen cyanide.

This public health and environmental problem must be addressed. Everyone should have an equal right to breathe clean, safe air, including the people who live nearest the country's oil refineries. Now, there's a possibility of meaningful change nationwide. For the first time in nearly two decades, the EPA has proposed updated standards to reduce oil refineries' toxic air emissions. The current federal standards do not require the most recent and up-to-date technology that would limit hazardous air pollution and fail to protect public health. For example, the existing rules do not require refineries to monitor the hazardous pollutants they emit at the edge of the property where refineries are situated—called the fenceline—which would provide a more accurate measure of the pollutants that are really going into these communities.

In recent years, some refineries have adopted new technologies that reduce toxic air emissions and prevent pollution spikes and accidents. These pollution control methods are available and affordable, but they have not been adopted throughout the industry.

Under the EPA's proposed standards, oil refineries would be required to measure benzene, a carcinogen, at the fenceline as it drifts into the local community and then make that data publicly available. This is a significant proposal on a problem that communities living near refineries have been raising for years.

The proposed standards would require tighter controls on emissions from storage tanks and other parts of refineries that are major contributors to toxic air pollution.

The oil industry has objected to the new rules, claiming that they are unnecessary and burdensome. In reality, the EPA's analysis shows that the new rules will reduce toxic air pollution by 5,600 tons each year and that the cancer risk will be significantly reduced for 1 million people.

The costs to the industry will be negligible, according to the EPA, but even if the costs were significant, it would be worth it to save lives. It is not fair for children living near refineries to bear the hidden costs of oil production—in the form of cancer, asthma, birth defects and other serious illnesses—when the industry could fix a lot of problems and reduce the toxic pollution it creates.

The EPA's proposed rules on air pollution from oil refineries are a welcome step forward. The agency should, in fact, make the rule even stronger by doing more to protect people from the real-world health consequences of living next door to an oil refinery, by incorporating a fenceline monitoring requirement that would employ the best current technology to give neighborhoods a real-time, continuous measure of pollution, not just a snapshot, and ensure refineries quickly fix pollution problems.

[From USA Today, Oct. 20, 2007]

TEXAS TOXIC TOWN LURES INDUSTRY WHILE RESIDENTS WHEEZE

(By Monica Rhor)

PORT ARTHUR, TX.—There is a quiet battle for the future of this industrial town, one of America's most polluted places.

On one side is ex-mayor Oscar Ortiz, who in the waning days of his administration worried about one thing. But it wasn't the toxic chemicals that spew from petrochemical plants, the town's richest landowners, through the windows of its poorest residents.

What rattled the white-maned, barrel-chested Ortiz, who ran Port Arthur for nine years, was that someday the petrochemical plants would go away.

''The only money here in the city of Port Arthur that amounts to anything comes from industry, from petrochemical companies,'' said Oritz, leaning back in his chair in an office decorated with framed photographs of refineries. ''If industry goes away, people might as well go away too because there'll be no money. That's the continued salvation of this city.''

Hilton Kelley, like Ortiz born and raised in Port Arthur, is the opposition.

Kelley does worry about the toxic chemicals, the foul-smelling air and the west side residents who suffer from asthma, respiratory ailments, skin irritations and cancer. As the city's most visible environmental activist, Kelley has long campaigned for more restrictions on industrial construction and stricter monitoring of plant emissions.

''I grew up smelling the S02 (sulfur dioxide) smell, the chemicals. I remember seeing little kids with sores on their legs, with mucus running in August. It's ridiculous what we've had to deal with,'' says Kelley, a former actor with the sonorous voice of a radio announcer. ''We're not trying to shut doors of industry. We're just trying to push these guys to do what's right.''

Ortiz calls Kelley an alarmist who likes to ''stir things up'' in the minority community Kelley accuses Ortiz of sacrificing the community's welfare in exchange for slim tax revenue from the plants.

One man represents Port Arthur the way it has always been; the other symbolizes a growing call for change.

But change, especially in a place like Port Arthur, never comes easily.

''This city is not going to change. It is a refinery town—tomorrow, next year, 100 years from now. It will always be a petrochemical area,'' says Ortiz.

And if its residents are getting sick from the pollution?

Well, says Ortiz: ''We've all got to die of something.''

Port Arthur, located next to the Louisiana line, sits in a corridor routinely ranked as one of the country's most polluted regions. Texas and Louisiana are home to five oil refineries considered among the nation's 10 worst offenders in releasing toxic air pollutants, emitting 8.5 million pounds of toxins together in 2002.

Yet even here, Port Arthur stands out.

Its skyline is framed by the smokestacks and knotted steel pipes of the refineries and chemical plants clustered along the edges of the town. Flares from the plants glow red against the night sky, as incinerated chemicals filter into the air.

The smell of rotten eggs and sulphur hangs stubbornly over the apartments and shotgun houses on the west side. Port Arthur, population 57,000, is on the EPA's list of cities with dangerous ozone levels, and the state has flagged its excessive levels of benzene.

Many cities along the Texas Gulf Coast are dotted with refineries. But the companies' high tax bills are used to improve schools, create green space and bulk up city coffers. Port Arthur waives most property taxes to lure industry.

Eric Shaeffer, a former EPA official who runs the Environmental Integrity Project in Washington, D.C., a nonprofit advocacy group, has written two studies on pollution in Port Arthur. ''It's one of the worst I've seen,'' he said.

The Veolia Environmental Services plant in Port Arthur recently alerted incinerating nearly 2 million gallons of VX hydrolysate, the wastewater byproduct of a deadly nerve gas agent.

Besides the pollution the state and EPA allow as part of the cost of doing business, the plants spew more toxins during ''upset events''—unpermitted releases caused by lightning strikes, human error, start-ups and shutdowns.

Plant officials cite statistics showing steady progress in reducing some emissions, but Shaeffer cites a continuing hazard.

Around 2 a.m. Thursday, a pipeline explosion sent ethylene-fueled flames shooting 100 feet into the air. The Union Carbide-Dow Chemical pipeline lies about a quarter-mile from the nearest home, Kelley said. No injuries were reported, but officials warned people to stay indoors.

''When you get releases, it really hits people tight in the chest,'' said Shaeffer. ''It's one thing to be driving past the plants on the highway. It's another thing for kids to be out on the swing sets when there's a release.''

Jordan, 5, and Justin, 7, play on the swings at Carver Terrace, the public housing project they live in next door to refineries run by Motiva and Valero that produce half a million barrels of oil a day and belch thousands of pounds of pollutants into the air.

Jordan's lungs are so weakened from a lifelong battle with asthma and bronchitis that he can't shout or call for help like other children, says their mother, LaShauna Green.

He must inhale medicine every four hours through a plastic mask that swamps his chubby face. Every two hours, he must take one of seven prescription drugs that keep his air passages from tightening.

Justin struggles to breathe after climbing just one flight of stairs.

Those troubles vanished when the Green family left the area for a year following 2005's Hurricane Rita. But two days after their return to Carver Terrace, Justin was rushed to a hospital twice in one day with respiratory attacks.

''When you start getting this kind of toxic chemical soup, we don't really know what the combination of all these things are doing,'' said Debra Morris, an assistant professor at the University of Texas Medical Branch in Galveston who studied Port Arthur-area pollution.

Texas oil was first discovered near Port Arthur. For decades, the region nurtured industrial build-up with generous tax abatements. In return, the companies would promise to pay later and to create local jobs.

Oritz defends the incentives as the only way to keep his city alive.

''The one main substance that keeps the city floating is the refineries,'' he said.

Refineries and chemical plants contribute about 67% of the city's budget through some taxes, Ortiz said, Still, without the abatements the city would have collected tens of millions of dollars more.

The city of Port Arthur has at least 28 tax-abatement deals with refineries and chemical plants. Surrounding Jefferson County has at least six, including with Motiva, Total, and Valero, which will pay no property taxes for the first two years of a nine-year contract and then pay 10% of the taxes it would owe for the next seven.

Motiva will pay no taxes on a $3.5 billion expansion project for the next three years. Total taxes rise to $4.16 million by 2012.

Jeff Branick, assistant to Jefferson County executive Ron Walker, says the Motiva expansion is expected to create thousands of temporary construction jobs and 300 permanent jobs; Valero's project is expected to create 40 to 65 jobs, he said.

''It's going to be pumping a whole lot of money into the local economy,'' Branick said. ''It creates hotel-motel tax revenue and will be attracting people from the outside who will be coming here to work and renting houses.''

Ortiz also points to a new development on Pleasure Island, a resort with golf courses, new hotels and bustling shopping centers springing up on the city's south side. All, says Ortiz, spurred by the growth of the industrial complexes.

However, that prosperity bypassed Port Arthur's predominantly black west side and central city neighborhoods where singer Janis Joplin and sports legend Babe Zaharias were raised.

''This town is like a forgotten grandmother. It helped nourish the growth of the area, now all the wealth is moving (out),'' said Kelley. ''It's not fair to leave this entire community unnourished.''

Despite the development Port Arthur is not as prosperous as other refinery towns. Its median household income is two-thirds the Texas average; its homes are valued at less than half the state average. Port Arthur public high school students pass the test required for graduation at about half the state rate.

By comparison, the Houston suburb of Deer Park—home to its own refinery row—collects more taxes from its petrochemical complex. Before the state equalized school funding, its school district was nearly the richest in the state. The median home price is 25% higher than the state average and its median household income is 30% above the state average.

Both cities have roughly the same percentage of residents in chemical or construction fields.

Kelley is not the only one raising questions about how things are done in Port Arthur.

Some city officials have also started to question the benefits of the tax abatement deals.

In most, companies promise to ''give Port Arthur residents a fair opportunity to apply for employment'' but don't require jobs go to city residents. One company's pledge to use local labor and contractors defined ''local'' as covering a nine-county region.

Councilman Michael Sinegal says he frequently hears from residents who say they have been rejected for jobs at the plants. Overall unemployment here is about 6%, while among blacks it's 14%, he said; the state rate is 4%.

''The bottom line is that the people of Port Arthur are getting the negative byproduct from the plants, but should be getting an abundance of positive byproduct,'' Sinegal said.

Valero said the refinery has hired 161 people since Jan. 1, 2005. About 20% live in Port Arthur.

The city council recently ordered a study on contractors' hiring practices so it can devise a monitoring plan.

''We've let the community down.'' Sinegal said.

In late August a group of 28 state lawmakers joined Kelley and others in urging Texas Gov. Rick Perry to block further shipments of VX hydrolysate to Port Arthur. Perry declined to intervene.

The latest assessment by state environmental regulators of Port Arthur showed that benzene had dropped to acceptable levels for the first time since 2000. Valero officials said they reduced emissions by more than 82% between 1996 and 2005, and had reduced ''upset'' emissions by 98%. Residents, however, still suffer higher rates of progressive pulmonary diseases than people elsewhere in the state.

Last year, Motiva agreed to give $3.5 million to help fund medical care, air monitors and a revitalization program for Port Arthur's west side community. The agreement was part of a settlement with Kelley's Community In-Power Development Association, after it challenged the plant's expansion.

And, 50 years after Carver Terrace was built, the Port Arthur Housing Authority plans to demolish the units and move residents to new homes throughout the city.

Was Carver Terrace's proximity to the refinery the authority's prime motivation? No, said authority chief Cele Quesada. ''Of course, in the back of everyone's mind, there is awareness that we are on the fenceline. We would rather see a green area here than 180 families.''

The likely buyer? Motiva Enterprises.

Kelley, who was born in Apartment 1202–E in Carver Terrace, commented: ''When you appeal to the conscience of man, how these things are impacting our children. you can get them to see our point. But a lot of the times, the bottom line still wins.''

Mrs. BOXER. To get to the gulf coast, tar sands will be transported by pipeline through communities in environmentally sensitive areas in six States. We know from experience how harmful this could be, again, because of how hard it is to clean up after a spill, and we know about the petcoke. I have shown you the petcoke, which is black dust containing some heavy metals.

Open piles of this waste began to appear at unprecedented levels in midwestern communities and it sparked health and environmental concerns in many neighborhoods in Detroit and Chicago.

Let's take this back and show the Chicago picture again.

In this Chicago neighborhood, billowing black clouds of petcoke forced Little League players off the baseball field. The children were forced to seek cover from the clouds of black dust that pelted homes and cars. According to one newspaper, ''Kids that were playing ball were sent scurrying away because the stuff was getting into their eyes, on to their faces and into their mouths and everything. They just had to get the heck out of there.''

I would like to enter into the RECORD at this time an article that says, ''In Chicago, piles of petroleum coke suggest the future of Canadian tar sands oil,'' dated November 17, 2014.

I ask unanimous consent that the article be printed in the RECORD as well.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

[From the Marketplace, Nov. 18, 2013]

IN CHICAGO, PILES OF PETROLEUM COKE SUGGEST THE FUTURE OF CANADIAN TAR SANDS OIL

(By Dan Weissmann)

This summer, residents of Chicago's far southeast side noticed mountains of black dust growing in one corner of the neighborhood. It's petroleum coke—pet coke for short. That's what gasoline refineries produce as a byproduct of refining gasoline. It's full of carbon, sulphur and heavy metals.

On August 30, a big wind brought the coke piles to the whole neighborhood's attention. At a baseball field a block or two away, a little league game ended in a hurry.

''Kids that were playing ball were sent scurrying away because the stuff was getting into their eyes and their face and their mouths and everything,'' says Tom Shepherd, a volunteer with the Southeast Environmental Task Force. ''They had to just get the heck out of here.''

He calls the 30th ''a day that will live in infamy.'' He says, ''People were calling 911 and saying, 'There's a fire! We don't know where the fire is, but the neighborhood's full of smoke.' ''

But it wasn't smoke. It was dust from the piles that had been growing throughout the summer.

They're a sneak preview of what's ahead. At least some of the dust came from a local BP refinery. It's across the state line in Indiana, but it can be seen from the neighborhood. And that refinery is about to triple the amount of pet-coke it turns out. BP is finishing a huge upgrade this fall, to process oil from Canada's tar sands.

That oil is ''heavier'' with elements that get refined out and turned into pet-coke. Post-upgrade, the Indiana refinery will turn out 6,000 tons a day. Eventually, it gets sold as fuel, much of it to countries like Mexico and China. But meanwhile, it piles up.

''It's the most visual part of the success of North American energy independence,'' says Phil Verleger, an economist who studies energy markets.

That success has both an upside and a downside: Nearby sources of oil should mean lower fuel prices in the Midwest, which has high gas prices. And more piles of pet coke.

''So the question is,'' Verleger says, ''How do we deal with this pile of black stuff that's bringing us this supply of fuel?''

So far, nobody's got an answer.

In early November, Illinois Attorney General Lisa Madigan filed a complaint in state court. Her office said the dust from the piles violated environmental regulations. Madigan says she doesn't know exactly what it would take to make pet-coke a good neighbor. ''Well, you know, if it's not safe where it is, it may have to go somewhere else,'' she says.

That would be a popular answer on the Southeast Side. Last week, neighbors packed a local church when Illinois EPA officials came to gather input. Again and again, the meeting got stopped by a chant: ''Move the piles! Move the piles!''

So far, neighbors have blamed BP and Koch Industries, which owns the yard with Chicago's pet-coke piles. BP and Koch say there's been a misunderstanding so far. BP says that it wasn't actually sending more pet coke than usual to the Chicago yard this summer.

Koch has its own explanation for the taller piles: It was moving petroleum coke around in the yards to make room for new safety equipment. It installed big water cannons, which are supposed to keep the piles wet so the dust doesn't blow around. Making room meant more activity, and some piles got taller for a while.

Mrs. BOXER. Now when this petcoke started to blow all across the communities, residents felt they could not safely open the windows during the summer for fear the black clouds would trigger their children's asthma, and with good reason. We know this type of toxic air pollution can increase the number and severity of asthma attacks, cause or aggravate bronchitis, or contribute to other diseases.

Asthma. The Federal Government has said that asthma has become a national epidemic. This is a picture of a little girl who is having a hard time breathing.

I say to my friend from Kansas, I have another 15 minutes, just for his information.

This is a photo of a little girl who is having difficulty breathing because she has asthma. The Federal Government has said asthma has become ''a national epidemic''—which is that 1 out of every 12 people, or 26 million Americans, and 7 million of these are children. We don't need more asthma. American communities don't need more petcoke. My Republican friends are not going to talk to you about asthma. They are not going to quote the oil companies saying what a great job they are doing preventing it. Ultimately, the Keystone tar sands pipeline decision should be based on whether the project is in the national interest.

Today I ask rhetorically of my colleagues: How are more Americans with asthma in the national interest? How are more Americans with cancer in the national interest? How is it in the national interest when kids playing baseball have to duck and cover from dangerous pollution?

The health of our children and our families is at stake, and we have a right to know how tar sands oil will affect our health. Unfortunately, we don't have all the information we need to have.

Senator WHITEHOUSE and I wrote to Secretary John Kerry and asked for a comprehensive health impact study on the tar sands oil and how the Keystone Pipeline will impact the health of communities across the Nation. We don't have the studies. Again, Senator WHITEHOUSE and I are not physicians. That is why we stood with the nurses and the doctors.

A Gallup poll has found 12 years in a row that nursing is the most trusted profession. So National Nurses United, which is the Nation's largest professional association of registered nurses—185,000 strong—has joined our call for a comprehensive health study.

I ask unanimous consent to have their letter printed in the RECORD.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

NATIONAL NURSES UNITED,
March 13, 2014.

Hon. JOHN KERRY,
Secretary of State, U.S. Department of State, Washington, DC.

DEAR SECRETARY KERRY, On behalf of the 185,000 registered nurses of National Nurses United, we are writing to endorse the request by Senators Barbara Boxer and Sheldon Whitehouse for an immediate, comprehensive State Department study on the human health impacts of the proposed Keystone XL pipeline project.

As the State Department must make a national interest determination on whether to approve the pipeline, NNU believes that a project that places the health and safety of Americans at substantial risk cannot possibly be in our national interest

Therefore, we call on the State Department to issue an affirmative finding, prior to any final decision on the project, that the Keystone XL pipeline will have no adverse health Impact on the U.S.

National Nurses United is the largest US. organization with 185,000 members in all 50 states, including those along the proposed path of the pipeline. NNU nurses now care daily for patients with health problems, including asthma, other respiratory disorders, cancer, skin diseases, and other ailments associated with environmental pollution.

Our organization has expressed our opposition to the pipeline, in particular to the health hazards already identified with tar sands oil, including tar sands extraction in Alberta, Canada, tar sands pipeline spills, and the effects of tar sands refining.

TAR SANDS HEALTH HAZARDS

In Alberta's Athabasca region, researchers have linked tar sands pollutants to carcinogens, elevated rates of leukemia and other cancers of the lymph and blood-forming systems. Water bodies within the watershed adjacent to tar sands production have been found to be contaminated with chemicals linked to cancer, genetic damage, birth defects, and organ damage, according to a National Academy of Sciences 2012 study.

Tar sands pipeline spills are a significant concern. The 2010 Kalamazoo River spill in Michigan—the effects of which are still being felt by that community—resulted in inhalation of benzene and other chemicals and more than 150 cases of illness. Michigan's Department of Public Health identified cardiovascular, gastrointestinal, neurological, ocular, dermal and respiratory impacts. Similarly, following a 2013 spill near Mayflower, AK. residents reported persistent coughs, headaches, nausea, and respiratory problems for months afterwards.

Refining raw bitumen from the tar sands is also likely to have a negative impact on health. Tar sands contains up to 11 times more sulfur than conventional crude oil with high levels of sulfur compounds linked to serious ailments of the nervous and respiratory systems. Residents of South East

Texas, particularly refinery towns like Port Arthur and Houston, already live in known 'cancer zones.' Refining raw bitumen from the tar sands threatens to make a bad situation worse.

Further, the petroleum coke byproduct of tar sands refining dumped in large ''petcoke'' piles contains high concentrations of mercury, lead, arsenic, chromium, vanadium, and nickel. Black dust clouds from petcoke piles in Detroit and Chicago have led to neighborhood evacuations amidst concerns about acculumation in homes and areas where children play. The EPA has said the particulate matter in the dust contributes to such health effects as heart attacks, decreased lung function, asthma and premature death.

CLIMATE CHANGE AND HEALTH

NNU is also concerned about the long term contribution that tar sands oil and the Keystone pipeline will make to the global rise on greenhouse gas emissions and the climate crisis.

In its Fourth Assessment Review (2007) the Intergovernmental Panel on Climate Change has made a direct connection between global warming and climate instability to a wide range of negative health outcomes.

Higher air temperatures can increase bacteria-related food poisoning, such as salmonella, and animal-borne diseases such as West Nile virus. Ground level ozone contaminants can damage lung tissue, reduce lung function, and increase respiratory ailments. Pediatricians have said they are already witnessing a rise in vector-borne diseases including diarrhea, cholera, gastroenteritis, typhoid, and hepatitis due to environmental factors and the effects of climate change.

For several years NNU has been dispatching teams of RN volunteers to provide disaster relief in response to weather disasters, such as Hurricanes Sandy and Katrina, and most recently Typhoon Haiyan in the Philippines, all of which many experts believe are fueled by climate change. Our members have provided care for thousands of patients who have suffered serious injuries as well as the loss of family members, their homes, and their livelihoods.

WE NEED A CHANGE OF COURSE

NNU concurs with Senators Boxer and Whitehouse that what is known today about the health hazards associated with the expansion of the tar sands could well be just a sampling of a much larger set of significant risks to human health. NNU believes that the health consequences of Keystone XL have been substantially ignored in State Departments FEIS, and needs to be addressed as a matter of urgency.

Nurses and their families are also affected by environmental pollution, and the increased harm associated with Keystone XL, greater tar sands operations, and the climate crisis. It is for our patients, our members, our families, and our communities, that we speak out, and urge you order an immediate health impact study and not authorize a pipeline that will harm our planet and our health.

Sincerely,

DEBORAH BURGER, RN,
KAREN HIGGINS, RN,
JEAN ROSS, RN,
Council of Presidents, National Nurses United.

Mrs. BOXER. The nurses concur with Senators BOXER and WHITEHOUSE that what is known today about the health hazards associated with the expansion of tar sands is just a sampling. They believe the consequences of Keystone XL have been substantially ignored in the State Department's final EIS, and it needs to be addressed.

The American Public Health Association wrote a letter, and I ask unanimous consent to have that letter printed in the RECORD as well.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

AMERICAN PUBLIC HEALTH ASSOCIATION, NATIONAL ASSOCIATION OF COUNTY & CITY HEALTH OFFICIALS,

April 11, 2014.

Hon. JOHN KERRY,
Secretary of State, U.S. Department of State, Washington, DC.

DEAR SECRETARY KERRY: We write in support of the request of Senators Barbara Boxer and Sheldon Whitehouse that the U.S. Department of State conduct a comprehensive study of the health impacts of the proposed Keystone XL pipeline, including a review of the available peer-reviewed research on the health impacts from the processing of tar sands.

Our organizations support the concept of ''health in all policies'' and the consideration of potential health impacts in all decisionmaking. There is an increasing recognition that the environments in which people live, work, learn and play have a tremendous impact on their health. The administration will certainly benefit by having a clear understanding of how the proposed Keystone XL pipeline could impact the public's health, including the health of our most vulnerable citizens.

The full spectrum of health considerations are often overlooked in important decisions and their omission can lead to policies and practices that are unnecessarily harmful to public health. We thank you for your consideration and strongly urge you to respond positively to the senators' request for a comprehensive study of the health impacts of this proposed project.

Sincerely,

GEORGES BENJAMIN, MD,
Executive Director.
ROBERT M. PESTRONK,
Executive Director.

Mrs. BOXER. They say the same thing.

There is an increasing recognition that the environments in which people live, work, and learn have a tremendous impact on their health. The administration will certainly benefit by having a better understanding of how the proposed Keystone Pipeline could impact the public health.

They go on to say: The full spectrum of health considerations are often overlooked, and their omission can lead to policies and practices that are unnecessarily harmful to the public health.

Maybe Senators feel they know more than doctors and nurses. Maybe they do. Good luck. They don't. We should listen to doctors and nurses just like we should listen to scientists when they talk to us about climate change.

This whole thing of saying ''I am not a scientist,'' yes, that is right, you are not, Republicans. Listen to the scientists. This answer is perplexing to me. If you are not a scientist, then be humble and listen to the peer-reviewed scientists. If you are not a doctor or a nurse, be humble. They don't have a special interest; they have an interest in giving us information on which we should base our decisions.

Now I am going to talk about the environment. This pipeline is going to go through the Ogallala Aquifer—one of the world's largest underground sources of freshwater. It provides water to farms in eight States, accounting for a quarter of the Nation's cropland as well as municipal drinking wells. Remember what I said before: When this oil gets into water, it is the most difficult oil to clean up because it is so heavy. Well, there are 2,537 wells within 1 mile of the proposed pipeline, including 39 public water supply wells, and 20 private wells within 100 feet of the pipeline right-of-way. If the pipeline were to leak near the aquifer, the tar sands oil would quickly seep into the sandy soil and contaminate the water supply for millions of people. I have already shown you a spill in Arkansas. These spills happen. If a spill occurred near any of these aquifers, it would be tragic.

Local residents know the harm the pipeline could cause. I will show you pictures of locals objecting to the pipeline.

In April, a group of ranchers, farmers, and tribal leaders gathered in Washington, DC, for a rally. They wanted to send a strong signal to Congress that they want their way of life protected—their farms, their tribal lands, and their ranches.

You are going to hear from proponents of the tar sands who will say the Keystone Pipeline will be a safe alternative to rail shipment of oil, but experience tells us otherwise.

In 2010 that pipeline ruptured, spilled over 1 million gallons in Michigan. The local health department ordered the evacuation of 50 households, and approximately 100 families were advised not to drink water. One resident living near the Kalamazoo River had to abandon her home because the stench from the spill made her dizzy, nauseous, and sick—classic signs of acute exposure to tar sands. Another resident who was pregnant said she could not breathe. She said:

> My eyes were burning, and my nose was burning. It smelled like a diesel tanker had turned over in the front of my house.

You will not hear this from the proponents.

The Michigan spill was the largest inland spill in history, and more than 4 years and $1 billion later, it is not cleaned up. This summer parts of the Kalamazoo River were closed as dredging efforts continued to remove oil from the bottom of the river.

Earlier I spoke about Arkansas. Residents were exposed to benzene—a known carcinogen—and hydrogen sulfide. People suffered from dizziness, nausea, headaches, respiratory problems—all classic symptoms of exposure to the chemicals found in the tar sands.

There is a section of tar sands that has already been built in the gulf region, and it is already experiencing problems that could result in a pipeline spill, but you will not hear that from

the proponents. According to Bloomberg Businessweek, the Pipeline and Hazardous Materials Safety Administration, PHMSA, found a systemic problem with substandard wells on a portion of the pipeline. In fact, during 1 week when the pipeline was being monitored, regulators found that over 70 percent of the wells were flawed and required repairs.

Senators should pay attention to the facts. People are sick around the tar sands. When it spills, it threatens their way of life and physically harms them. All you have to look to is the evidence to see that ''XL'' stands for ''extra lethal'' and misery follows the tar sands.

Now I am going to talk about the climate. I wish to explain that once we begin transporting the dirty tar sands oil through that pipeline, it will unleash more carbon pollution and harm our Nation's effort to address dangerous climate change. The State Department says a barrel of tar sands oil will create at least 17 percent more carbon pollution than domestic oil. The State Department says that compared to average crude oil, burning the amount of tar sands oil from the Keystone ''extra lethal'' Pipeline could add an additional 27.4 million metric tons of carbon pollution each year. That is a fact. You don't hear the proponents talk about that.

(Mr. SCHATZ assumed the Chair).

The Senator from Hawaii has now taken over the Chair. He already knows what climate change is doing to Hawaii. I was in the State, and I took a tour. I was at a conference that he organized, and we know we can't afford this.

If we allow this to happen, we would see the carbon pollution that would come from adding 5.8 million new cars to the road. It would wipe out the carbon pollution reductions we gained from the first round of fuel economy improvements for heavy-duty trucks—wiped out.

I believe this is a fact: If we do this, the damage to the environment will be the equivalent of eight new coal-fired plants, and those are dirty. That is the equivalent of what we would be getting here in terms of the carbon pollution every year.

In August 2014 a study in the peer-reviewed journal ''Nature Climate Change'' estimated that the increase in oil consumption caused by Keystone XL could result in up to 110 million metric tons of carbon pollution each year. That is four times the State Department's high-end estimate.

I already talked about the eight coal-fired plants. This peer-reviewed study says it is 29. We have two estimates. One says it is the equivalent of building 8 new, dirty coal-fired powerplants, and another peer-reviewed study said it would be equal to building 29 new coal-fired powerplants here in the United States—29. Think about it in your mind's eye.

All you need to do is look at China to see what happens when you throw the environment under the bus. Is this the kind of world we want to see for our kids? Is this the future? This isn't hyperbole; this is a picture of the pollution in China.

I was in China on a fantastic trade trip for 10 days, and I never saw the Sun except for one day when it sort of peaked out. The guide said: Isn't it a beautiful day? No, it was not at all a beautiful day. There was a semblance of a little Sun behind the cloud.

Why do you think people love the Environmental Protection Agency in our country—70 percent strong? It is because they know this could be America. If you throw the environment under the bus, this is what it will look like here.

Some of my colleagues say they don't want to the act on climate change—especially my Republican colleagues. I don't know of one who is ready. They say: Well, China is building coal-fired plants. Well, the President just came back, and the President did have an agreement with China to move forward because the Chinese people can't live like this anymore. The social unrest that is the big fear of Beijing that starts to bubble up has a lot to do with this. We have a breakthrough agreement. Is this the time, in the face of this progress, to approve this pipeline? I say it is ridiculous timing. It is ridiculous.

I remember a time when saving the environment was bipartisan. I remember leaders such as John Chafee and John Warner. Now I don't see one Republican ready to step forward and say: It is time to put a price on this pollution and stop this pollution. My State has done it. My State is doing just great. We have new jobs, and I will put some information into the RECORD on that.

Canada's Natural Resources Minister said:

> In order for crude oil production to grow, the North American pipeline network must be expanded. So we know this is just the start.

Now climate. Everyone can say what they will: I am not a scientist; I don't know. Over the past few months we have seen everything from the hottest August, the hottest September on record, and the hottest October on record. We have seen historic droughts and extreme wildfires. I have seen them in my State. We have seen vanishing wildlife habitat in Alaska, toxic algae out of control and contaminating drinking water supplies in Toledo, OH, because the water is getting hot and the algae that couldn't survive in the colder waters survives in the warmer waters. We see these wake-up calls every day. But instead of confronting that crisis, we have the party of no saying: No, I am not a scientist and, no, I will not listen to them, and we do nothing. This project does the opposite. It makes matters worse.

There is a lot of talk about how we need this oil to become energy independent. Let me tell my colleagues, we are going to see gas prices go up if this goes forward, and I will explain why. This is from economists, not from me. This is not a win for America. Big Oil will be the winner. We have to know that U.S. gasoline demand is on the decline, and economists say it will continue to be through 2040. Since 2011, the United States has exported more gasoline, diesel, and other fuels than it imported. So Big Oil will be the big winner now if this project moves forward, not American workers or families filling up at the gas pump.

The reality is Keystone ''extra lethal'' will increase the price Americans pay for gas at the pump. It is cheaper to buy gas in the Midwest today than it would be if the pipeline were built. That is because moving tar sand oil to the gulf coast gives it access to international markets, which will increase the price Canadians can charge for it. So right now that oil stays in America. Now it is going to be pumped out, they can get higher prices, and our prices are going to go up. The exports will reduce the supply of gasoline right here in America and drive up the price.

As Bloomberg reported earlier this year, three separate studies have shown Keystone XL Pipeline could raise domestic prices by 20 to 40 cents because it would divert Canadian oil away from refineries in the Midwest where it is easier to export. Gulf coast refiners plan to process the cheap Canadian tar sands crude that would be supplied by the pipeline into diesel and other products for export.

During a congressional hearing at the end of 2011, my Senate colleague, then-Congressman ED MARKEY, who is now a member of our environment committee—Senator MARKEY—asked TransCanada's pipeline head if the company would commit to keeping the Canadian oil and refine products in the United States ''so that this country realizes all of the energy security benefits your company had promised.'' Mr. Pourbaix said, No, I can't do that.

So the head of TransCanada is not promising to keep the oil here or the products here. We know that. So all of this talk of energy independence—let me tell my colleagues how we get energy independence. We produce what we can here, and we have been doing that where it is appropriate, and we also utilize the Sun and the wind and the geothermal and the clean energies of the future that, believe me, when we embrace that clean energy agenda, we have far more jobs. We don't have pollution. We have safer communities.

One refinery in Port Arthur owned by Valero is expected to be a major customer for crude oil. Let's show that picture of Port Arthur. Because that refinery is in a foreign trade zone, Valero can operate tax free. In the fist 9 months of this year, Valero has reported a net income of $2.475 billion. Today we will also hear from tar sands advocates that the tar sands oil will just be shipped by rail even if the tar sands pipeline is not built. It is very

expensive to ship it by rail, and the truth is it is not a clear-cut case. In fact, both the rail companies and tar sands producers that pioneered transporting Canadian tar sands oil by rail are on the verge of insolvency because of the high transportation costs. So don't buy into the argument that if we don't build the pipeline, we will just ship it by rail. Then they say it is safer, and we know it is not safer.

We just heard the operator of the pipeline say it is 35 permanent jobs. I don't belittle the 1,900 construction jobs for 2 years we would have. I don't belittle that. But I can truly tell my colleagues that coming from my State—and later I will talk about the successes—we can dwarf that by the hundreds of thousands if we truly embrace a clean energy economy.

The materials needed for the pipeline—that is not a domestic boon. A 2011 analysis found 50 percent or more of the steel pipe would be manufactured outside of the United States. We need clean energy policies. As we know, it is appropriate to drill for oil in our country where it is safe, where it is appropriate, and if we can get to clean coal, it is appropriate, and it is appropriate if we can get to safe nuclear. The fact is this pipeline is going to bring filthy, dirty oil. It is going to bring misery all across the country.

Let's look at the wind industry which supports over 560 manufacturing facilities and supported over 50,000 full-time jobs in 2013 alone. So 50,000 full-time jobs compared to 35 full-time jobs for the pipeline? Come on. The solar industry in 2013 employed 142,000 Americans, an increase of 24,000 additional jobs just last year. This is the future, not the misery that follows the tar sands, not communities that have to suffer with the filthiest of oils, dirtiest of oils, and not having this petcoke stored all over the Midwest where it blows on kids so kids get asthma.

Here is the spill in Arkansas. They still can't clean it up. It happened in 2013. This photograph isn't what we want the future to look like—not this, having to wear masks. We want the air to be clean and the water to be clean. This is China. This is what happens when we ignore our people who are telling us they are having increased asthma attacks, increased respiratory disease. We are not going to hear a word about it from my colleagues. They are going to make a jobs argument that falls flat on its face.

Look. We know climate change is real. Whether someone says they are not a scientist—we all know you are not a scientist. I am not a scientist. Climate change is real. Unleashing this filthy, dirty oil unleashes far more carbon and makes the problem worse. We are not going to hear any of that. We are going to hear claims that just aren't true. We are going to hear about all of these jobs—35 permanent jobs compared to tens of thousands in clean energy. We are going to hear about how this is the greatest project. We are going to hear, Oh, it is better to transport it by pipeline than by rail, when in fact that is not a fact in evidence that they would do that because it is so expensive. They are not going to talk to us about the spills, as shown in this photograph.

We have a very important process to go through before this pipeline is approved. This legislation derails that process, and that process was established by an executive order and was updated by President George W. Bush. Before a finding is made as to whether this should go forward, the President must consult with experts in many Federal agencies to determine whether this pipeline is in the national interest. This includes the Department of Defense, the Department of Homeland Security, and other agencies before a permit is granted. This bill before the Senate short circuits this review. It cuts off expert opinions of our military leaders and others when determining whether the pipeline is safe. Is it in the interests of the country? Is it going to be another target? We need to know, and we don't have the answers on the full public health implications.

What is also interesting is the tar sands supporters gloss over the fact that this bill tramples States rights—the rights of citizens in South Dakota to have a say in their State's ongoing proceedings concerning construction of the pipeline. How about this fact. Here we see it. These voices have to be heard. I will tell my colleagues, 2 million people submitted comments on the tar sands project, and passing this bill now does not allow those comments to be given due consideration by our country.

I am very surprised at this, given my colleagues who speak of States rights, public comments, local viewpoints. They want to bypass all of this because they have decided they know better than 2 million people, many of whom have to live side by side with this pipeline and many of whom would have to breathe the kind of air they are breathing in Port Arthur, TX, right now. I will guarantee my colleagues this: Not one Senator in this Chamber will live next to a refinery that refines this filthy, dirty oil—not one. If I have not spoken the truth, please correct the RECORD. Tell me. I will apologize. We don't live near refineries here. I will tell my colleagues who does: a lot of kids who get asthma, just ask the nurses.

If I told people that if we embrace a clean energy agenda we could create far more jobs, be far more healthy, and save this planet, wouldn't people say yes? I think people would. But, no, not in this Chamber. They listen to Big Oil and the Koch brothers, and these are the people who will profit. They are not going to live next to the Port Arthur refinery. Their children aren't going to live there. Their grandchildren aren't going to live there.

They brush aside that this is filthy, dirty oil—the dirtiest—with the most dangerous pollutants, including lead, including sulfur. When we meet with the citizens of Port Arthur, TX, as I have done, and the activists there who want to protect the kids, they say: Please, we have enough of this stuff; we don't want any more. Misery follows the tar sands, and that is why I call this pipeline the Keystone XL ''extra lethal'' Pipeline.

The evidence is clear. The Keystone tar sands pipeline will be harmful to our family's health. It will hurt the environment. It will worsen the impact on climate change. It will raise the price of gas. These statements are not made by me. I respect economists, and this is clearly the economists' view. It is just plain dangerous because it will transport the dirtiest oil on the planet.

Forcing the approval of the Keystone when so many concerns remain does not allow for the kind of review our affected communities deserve.

I hope enough of my colleagues will vote no on this. I see the handwriting on the wall. I do. I know what happens in this Chamber. I know the votes will eventually be there. This is an issue which impacts the health and safety of our families and our planet, so if it means I will have to stand up here time and time again to tell the story of the Keystone ''extra lethal'' Pipeline, I will do it. I will do it for as long as it takes. If I didn't think it was important, I wouldn't do it.

I just hope that if this body does pass this pipeline today, the President will veto this dangerous legislation. I feel so strongly that the way to a prosperous job-producing future is the embracing of clean energy. Yes, we will continue with our coal and make it as clean as we can. We will continue with our drilling here. Yes, we will have an ''all of the above'' where it is safe to do. We don't need a project that is so harmful to our families and to our communities.

I talked to the people in Canada who live near there. You won't hear that from my friends. It is all in the RECORD. I hope they read the articles I placed in the RECORD about the kinds of cancers we are seeing around this stuff.

I don't want to see a trail of misery extending from one end of the country that I love to another, so I hope we will vote no on this—enough of us will. But if we can't stop it today, then I hope the President will veto this and tell the story of why this trail of misery should not be put upon the American people.

One of the biggest shocks I think I had when meeting those Canadians who have been putting up with this and then meeting the Americans who live around these refineries and hearing from them what happened and hearing from my friends from Chicago who remember that story—we will close with this—of these kids sitting around getting ready to play Little League Baseball when all of this petroleum coke that is stored all over the Midwest just blew, and it got into the mouths of

these kids and it got on their clothes. They ran away. How can anyone believe this is what the future should look like when I can show you case after case on the RECORD, substantiated by the numbers, that clean energy produces far more jobs—far more jobs—and will lead us in the right direction in terms of our health.

People don't want to become like China. They don't want to look like this. They don't want to have their air look like this.

I come from a State where before the Clean Air Act—by the way, it was done by a Republican President; thank you, Richard Nixon—we had dirty, filthy air. You couldn't see a foot in front of you. We cleaned it up because we stood up to the polluters and said: You know what, we know we want to work with you, and we want to have your product. Do it in a clean manner. Do it in a safe manner.

The EPA—again, created by Republicans—came in there and cleaned up the air, along with the local people in our State.

We have rebounded in California from the recession, with clean energy jobs leading the way. We are so proud of it. And our people can still see the sky.

I will tell you, I am not going to go in this direction, if I have to stand on my feet until they hurt. As you know, I have to wear heels because I am very little, but I don't care—I am not going to let us go in this direction. No way.

I hope we defeat this today. If we don't, I hope the President will veto it, and I hope we can move to a positive, bipartisan clean-energy agenda that is really the future of this Nation and this planet.

I yield the floor and reserve the remainder of our time.

The PRESIDING OFFICER. The Senator from Kansas.

Mr. ROBERTS. I intend to speak under the time reserved by Senator HOEVEN. Could the Presiding Officer tell me how much time remains?

The PRESIDING OFFICER. The Senator from North Dakota has 112 minutes remaining.

Mr. ROBERTS. Splendid. I intend to speak for about 8 minutes.

I admire the commitment, the perseverance, and the oratory skills of my colleague from the State of California. I know how strongly she feels about this issue.

I rise today without a portfolio. I do not have the charts my distinguished colleague has. Senator HOEVEN has six in the Cloakroom. There are 12 over there. I thought at one time I would introduce legislation to ban charts from the floor, but that didn't go very far.

I rise today in support of the bipartisan, bicameral legislation offered by Representative CASSIDY from the House and Senator LANDRIEU from here in the Senate to approve the construction of the Keystone Pipeline.

(Mrs. BOXER assumed the Chair.)

Simply put, my point would be that this project is long overdue. It has been said time and again, but it is worth repeating: 6 years of delays and five separate environmental impact statements, and finally we are voting on this legislation—already passed by the House last week—to grant approval of the project.

Let me repeat myself. Five environmental impact statements have been rolled out since the year 2010, all five concluding that construction of the pipeline would neither exasperate carbon emissions nor increase development of the Canadian oil sands.

Let's briefly take a look at the conclusion reached by each of the five environmental impact statements to see what President Obama's own State Department had to say about whether construction of the Keystone Pipeline is in the national interest.

In April 2010, after a 1½-year review of TransCanada's application to construct the pipeline, the State Department published the findings of its draft environmental impact statement, which concluded that the pipeline's construction would have limited environmental impact and would help reduce U.S. reliance on crude oil imports from other less stable regions of the world. ''Less stable'' is an understatement as of today. Considering what is going on right now in the Middle East and Russia, it cannot be understated how important this project is from a global security perspective and also from a national security perspective.

A year later, in April 2011, the State Department issued a supplemental environmental impact statement to consider alternatives to the Keystone Pipeline and to address some of the concerns raised by agencies, groups, and individuals who submitted comments on the project's construction. Keep in mind that the State Department did this despite the fact that it believed the original environmental impact statement sufficiently addressed all concerns.

Four months later, in August 2011, the State Department released its final environmental impact statement concluding yet again that this project should be built. The State Department concluded that construction would ''result in a project that would have a degree of safety greater than any typically constructed domestic oil pipeline system under current regulations.''

Despite this conclusion—which under law triggered a 90-day window for the State Department to make yet another final national interest determination—the State Department decided to delay the final decision rather conveniently until after the 2012 elections.

After three earlier reviews, in March of 2013 the State Department issued its draft supplemental environmental impact statement to consider potential impacts of the new route which would avoid the Sand Hills region in Nebraska. Once again, the State Department concluded that this project should be built.

Finally, on January 31, 2014—about a year ago—the State Department issued its fifth and final environmental impact statement. Nevertheless, it concluded that the Keystone Pipeline poses no serious environmental dangers, would create thousands of jobs, and would decrease our reliance on crude from despotic regimes—more of them today—around the world and expand trade with our closest ally, Canada.

We have two options. The first is to finalize construction of the Keystone Pipeline, which will immediately result in thousands of construction jobs all throughout the United States. The second option is we can reject construction of this pipeline and instead transport the crude to the United States by rail or allow Canada to simply export the crude to other countries, such as our good friend China. China is so concerned with the environmental standards that it may—it may, according to the bargain so highly publicized by the administration—begin reducing carbon emissions by 2030 if the leaders of China 16 years from now feel like it or make that decision.

What is the big deal about China's carbon-reduction commitment, by the way? It is meaningless.

There is simply no option available that would somehow prevent Canada from developing these oil sands. Despite what any Senator says or any charts that may be used, it is happening and it will continue to happen.

Facts are stubborn things. We either move this oil by pipeline, which is the safest way to transport oil, or we allow it to be exported to other countries that will refine it under far less stringent environmental regulations. If CO_2 is a world problem, that is something you ought to really think about.

This project would support 42,000 U.S. jobs, hundreds of those in my home State of Kansas; it would provide over 800,000 barrels of oil per day from our closest trading partner, Canada; and it would have a $3 billion impact on the U.S. economy.

I have long supported this legislation. Now we need to hear from President Obama, yes or no. No waffling around any longer. If this bill passes today will the President sign it into law or will the President simply continue to straddle the pipeline until after the runoff election in Louisiana? It seems to me the President owes the American people an answer as to whether he supports this project.

The question is—it is pretty obvious—if the President opposed this project from ever being built, then why are we waiting? Why wouldn't you just say from the get-go that you hold the views of a few above those of most Americans, which includes everybody from labor unions, to pro-energy trade associations, to manufacturing, et cetera?

I would ask the President: Why didn't you just come out in 2008 and say, no, we are never going to build this as long as I am in the White House. Because I think that is exactly

what is happening. It is time to quit straddling the pipeline. Let's get on with it or get off.

I want to make myself clear. If we pass this bill and President Obama vetoes it, then that is his decision, that is his prerogative, but the responsibility will lie squarely upon his desk. Because when we come back in January under a Republican majority, our task will be to not only pass this legislation but, with a veto-proof majority, to override whatever obstacles the President tries to put in its way.

Again, this project makes sense economically, environmentally, and from a national security perspective. I believe we should get this finally moving.

Madam President, I yield the floor.

The PRESIDING OFFICER. The Senator from Hawaii.

Mr. SCHATZ. Madam President, I rise today to oppose S. 2280, a bill to approve the Keystone XL Pipeline. The Keystone Pipeline would carry 830,000 barrels per day of tar sands oil bound for global markets from Canada to refineries along the gulf coast.

This is one of the most important points about Keystone, which is that it does nothing for American energy security. It takes tar sands oil from Canada, moves it through the United States, and makes it available to global markets. It does nothing for American energy security. But more than that, it represents a massive endorsement of a fossil fuel economy when we ought to be focusing on transitioning to clean energy.

There are many reasons to vote against this bill, but I will focus on four. First, the oil from tar sands is exceptionally dirty. I think for the American public out there, they have a basic instinct that oil is not the cleanest of energy resources. But tar sands oils are really in a special category. We do not need this oil enough to justify its impacts on health and climate change.

Mining tar sands oil is nothing like setting up a rig and drilling a hole in the ground. Tar sands are dirty in terms of the land destroyed, dirty in terms of the water wasted and contaminated, and dirty in terms of the energy needed to mine, transport, and process the oil. Getting and using oil from tar sands puts far more carbon pollution in the atmosphere than conventional oil.

When tar sands are near the surface, they are dug up along with all of the surrounding earth, including the forests that sit on top. Tar sands are a mixture of sand, clay, water, and a gooey form of petroleum that resembles tar. Think of it as a mixture of dirt and molasses, and imagine trying to separate the dirt from the molasses. If you think that sounds difficult, you are correct. After being mined, the thick sludgy mixture that remains is transported to facilities that separate the oil using multiple water and energy-intensive rinse cycles.

The water used in this process becomes contaminated, of course, with toxins, and is no longer suitable for other uses. Oil companies use massive amounts of water to mine the tar sands. In 2011, tar sands mining in Canada used more water than the entire city of Toronto uses annually, representing a significant new strain on freshwater resources.

This is simply not the direction to go in. We need to fight climate change and promote bold, clean energy solutions that do not present a constant danger of harming our health, our drinking water, and our economy. Why are we spending time today trying to approve something that quite literally takes us in the wrong direction?

This brings me to the second reason this pipeline ought to be rejected. It will have a direct, negative impact on the people and the communities that live in its path. The 875-mile route of this proposed pipeline has over 50 river crossings, including the Yellowstone River in Montana, which is still recovering from a major crude oil leak by an ExxonMobil pipeline in 2011. That pipeline leak contaminated 85 miles of the river and its flood plain, placing an enormous burden on families and the businesses that depend on it.

Pipelines transport oil, but they also leak regularly. The existing Keystone Pipeline system for Canadian tar sands leaked 14 times during its first year of operation, with one incident leaking 21,000 gallons. In its environmental review, the State Department estimated that the proposed Keystone Pipeline would fail several times a year. In 2010, a 6-foot break in a pipeline carrying oil tar sands spilled nearly 1 million gallons of crude oil into the Kalamazoo River in Michigan. This was one of the largest inland oil spills in United States history and also one of the costliest, with cleanup costs totaling over $1 billion. Households in the area were evacuated and told not to drink the water. Thirty-five miles of the river were contaminated, and the cleanup continued 4 years after the spill. One of the most troubling things about this spill and any future spills from Keystone XL is that the companies who own the oil take advantage of a loophole in the law that lets them avoid paying their fair share into the national Oil Spill Liability Trust Fund. This trust fund has been in place for 30 years. The money in it helps to respond to and clean up after oilspills. Every barrel of oil produced or imported in the United States is charged 8 cents. The money goes into a trust fund. It is basically an insurance policy for events when companies are unable to pay for spill cleanup or in an emergency response situation. It makes sense.

What does not make sense is that due to this loophole, the oil from the tar sands in Canada is exempt from that 8-cent fee. Why would we vote for a bill that circumvents executive review of an international pipeline carrying the dirtiest oil in the world, produced in Canada, and headed mostly for world markets, and a bill that does nothing to close a loophole exempting oil from tar sands from having to pay a fee for environmental cleanup? In other words, how can this bill ask so little of the oil companies while giving them so much?

A third reason to reject this bill and this pipeline is the impact on climate change. The facts plainly show that we must reduce carbon pollution, not add to it. To take care of our energy future and build a clean energy economy, we have got to go forward, not backward.

If we are serious about leaving our children a healthy world, we will vote no and reject this pipeline. We know a majority of the public supports bold action to solve climate change. In recent years, no single issue related to fossil fuels and climate change has commanded the level of civic engagement as the Keystone XL Pipeline. Countless rallies, public hearings in cities and towns across the proposed route, lawsuits and debates in Congress reveal how much passion there is about this issue.

In fact, the pipeline was booed so loudly when advertised on the Jumbotron at a Nebraska football game that the university cut ties with TransCanada, the owner of the proposed pipeline.

Finally, the bill is flawed in terms of its process not only because of what it seeks to do but also because how it seeks to do it.

The bill would circumvent existing executive branch review. Because the Keystone XL Pipeline would cross international boundaries, the State Department is responsible for reviewing and deciding if a permit is in the national interest. The way it is currently written, this bill potentially limits State and local siting decisions, as well as some legal challenges.

It attempts to approve a pipeline that does not even have a finalized route, but does have lawsuits pending against it in the Nebraska Supreme Court. Congress should be focusing on the things that will have a positive impact on the economy and jobs. We have got to pass immigration legislation, we need to pass a defense authorization. Our CR expires on December 11. We need to move through the regular order in terms of appropriations. We should not be moving forward with Keystone XL.

In my view, this is about whether we are committed to the past or committed to the future. This is about whether we are going to double down on fossil fuels or we are going to take bold action in terms of moving forward with clean energy. I urge my colleagues to oppose this legislation.

I yield the floor

The PRESIDING OFFICER. The Senator from West Virginia.

Mr. MANCHIN. Let me just state to all of my colleagues on all sides of this issue, I appreciate this very much. It is a great debate. It is a great way for us to learn of our differences and try to find the middle, if you will.

I come from the little State of West Virginia where basically the people are pretty commonsense, if you will, oriented. They look at something from the standpoint—our greatest trading partner in our State of West Virginia is Canada. Thirty-five States in the United States look at Canada as our favored nation to trade with. We have been doing more trading than ever before. We will continue to do so.

I am coming at this from security. How do we remain secure as a nation? How do we become less dependent? If you look at what is going on in the world, maybe it will give you a picture of what we are dealing with, the facts of life.

We all want to use the technology and we all can, through research and development, improve our technology to use the resources that are going to be used that the world has produced for us in a cleaner fashion. With that being said, I do not look at Keystone as being an export pipeline. Even the State Department's environmental impact statement states that export is unlikely to be economically justified for any significant time. Cost-to-market conditions dictate that this oil will go to domestic refiners and will be used in our country, the United States of America.

By getting more Canadian oil, we can displace oil that we currently get from less reliable and sometimes hostile countries. Let me read for you how much oil we import right now; How dependent are we on this foreign oil? We should look at basically—of the 7.7 million barrels per day of crude oil imports—mind you, we are getting 7.7 million barrels per day into our country. I understand the pipeline's capacity would be about 870,000 barrels. That is the capacity—if they used the entire capacity. So we are getting 7.7 million barrels per day. Let's see where it is coming from. When you look at that, 3.5 million barrels per day or 45 percent comes from OPEC countries. Of course, Saudi Arabia is our largest OPEC supplier at 1.3 million barrels per day, 17 percent of the crude import total.

But our biggest supplier of crude continues to be Canada. It is already our biggest supplier. We are afraid that this is somehow going to tip the balance? Let's look at some of the countries that we get this oil from on a daily basis, the 7.7. Of course, we talked about the OPEC countries. But Venezuela, Colombia, Nigeria, Angola. These are not the model citizens of how they treat their citizens in their country, the humane treatment that goes on.

With that being said, those countries I just mentioned, the five countries, that is 1.57 million barrels a day we buy from those countries. So, yes, I am looking at it from the standpoint that this has pulled us into conflicts around the world where we should not be.

We have all said we have been pulled into these countries, been pulled into war because of oil. I think we all agree on that. This gives us a chance to be more secure as a nation and more independent from foreign oil. That is what we are talking about. The global supply of energy relies on oil producers in deeply unstable regions. I think we all agree on that too. In West Virginia, it just makes common sense. Would you not rather buy from your friends than from your enemies? Would you not rather buy from people who basically help your economy and are not willing to do harm to your economy or harm to your people? This makes sense to us in West Virginia. We would not be standing here having this debate right now if it had not been for your good Senator and our good friend from Louisiana, Ms. LANDRIEU. It would not have come up. It would have been moot. It might have gone in the next Congress. Who knows? I just appreciate so much Senator LANDRIEU being able to bring this to the forefront today. I really do. Whether we win or lose it does not matter.

Basically the American people will lose if we do not pass this piece of legislation. If for whatever reason it is not passed, we are going to be more vulnerable, more insecure, more dependent than ever before.

It is one thing to live in a perfect world—Utopia. Some of my colleagues have talked about that. I appreciate that. But the bottom line is, it is not the real world. The real world we are living in—I have talked about coal too. There are 8 billion tons of coal being burned in the world. People say: Well, I do not want to use coal in America. That is fine. If you quit using every kind of coal in America, you are not going to change the environment that much. But on the other hand, there will be more coal burned than ever before. We do not want to build any more coal-fired plants in America. We are done. That is fine. Twelve hundred new coal-fired plants will be built around the world in the next 3 to 4 years. Would not it be better to find the technology—would not it be better to have control of that, be able to have a whole other industry around the technology that uses the coal cleaner not just in America but around the world?

Would it not be better to have control of this oil coming to the gulf coast? If we have control of it, it will be used here. The fear tactic is that it is going to go somewhere else in the world. Markets will dictate where everything goes. But the bottom line is, we use most of Canada's oil now. They are the largest exporter to our country.

So all we are saying is to take a good, hard look at this. Think before you vote today, my colleagues, of what we are doing and what we are doing for the security of our Nation, what we are doing for the best trading partner we have ever had. That oil is going to go somewhere. It is being shipped now in a highly unstable type of condition that is more vulnerable. It takes more oil to move that product today than ever before. Pipelines are by far the safest way to do it.

I have said this: If we can move oil in the most demanding and probably the most hostile, if you will, environmental conditions that we have as far as nature produces in the Arctic, and we as the United States benefit by that oil that is being produced in the Arctic by us in America, for all of us in the lower 48, if they are able to, do you not think that it can be done here?

I look at it from the standpoint that they are saying enough is enough.

I thank Senator LANDRIEU for bringing the bill to the floor, for having a very informative debate that we can move forward on. I would hope that my colleagues would see fit that the United States of America will benefit, the security of our Nation will benefit, wars could be prevented and conflicts around the world. Maybe we could use our might, if you will, to help other parts of the world without having to fight, defend, and liberate from that standpoint.

But I do not believe that we should be in parts of the world where we are today because of the oil that we have been chasing. I believe that by having our own ability to work with the best trading partner we have, which is Canada, that would definitely benefit the security of our Nation. I look forward to this vote this afternoon or later this evening, whenever it may come. I enjoy the debate that is going on and the information I am gaining. I look forward to a more spirited debate for the rest of the day.

With that, I yield the floor.

The PRESIDING OFFICER (Mr. SCHATZ). The Senator from California.

Mrs. BOXER. I am about to yield to Senator CARDIN.

A point I want to make is this is an interesting debate. The proponents have said for years: Build the pipeline because we need the oil here. Then confronted with the fact that the oil will not stay here—it is going to go elsewhere—they say: Oh, what is the difference. It is going elsewhere, but what is the difference. The difference was your argument was to make us self-sufficient. You can't have it both ways. The fact is this oil is going to be exported.

With that I yield 12 minutes to my colleague, a great leader on the environment, Mr. CARDIN.

Mr. CARDIN. First, I thank Senator BOXER for her extraordinary effort on this issue.

Let me get this straight. This debate is about giving competitive advantage for the shipping of the dirtiest oil located in Canada through the United States for export. It is through the United States—not through Canada. The environmental risks are in America, and it circumvents our regulatory review process and attempts to deny property owners the right to challenge the route in court.

The Keystone Pipeline is a shortcut to an existing pipeline network to export some of the world's dirtiest crude oil from Canada to other countries.

The current pipeline network could handle this, but the operators want a competitive advantage for the dirtiest oil by shortcutting the pipeline that currently exists.

There is very little benefit to the United States. Certainly, as has been pointed out, the oil is not destined for the United States.

There are few permanent jobs. It poses significant environmental risks. It eliminates appropriate executive review, tries to interfere with judicial review, and should be rejected by this body.

First, let me talk about tar sands—exporting tar sand crude from Alberta, Canada, to other countries, through the United States rather than through Canada. It could go through Canada, 700 miles west to the British Columbia coast. But the Canadians object. Why? Because they don't want the environmental risk in their country. They are asking the United States to do bear their burden. It is not for U.S. energy use. It is for the international market, and it poses significant environmental risk. We are talking about producing the dirtiest type of energy sources that we know.

In 2010 there was a tar sands crude oil spill in the Kalamazoo River in Michigan. The estimated cost of the cleanup associated with that spill is $1.2 billion. Spills happen. We are adding tremendous risk to our country.

This is against a backdrop we see here in the United States and globally where the price of oil is declining dramatically. Look at what we are paying at the pump for gasoline today. In the United States we have had a 70-percent increase in domestic oil production since President Obama took office. So we are getting all the oil that we need. We don't need to add the dirtiest oil in the world.

The United States is more energy independent today than we have been in decades. Why? Because we use less energy.

Let me give one example. Fuel economy standards in automobiles are up 25 percent since 2004. We are using less oil, less energy. We are developing alternative and renewable sources. Our future is in clean energy.

I am pleased we are having this debate on the floor of the Senate. We should be having a debate about developing additional sources of clean energy, which will help us be energy secure, add good-paying jobs, and be friendlier toward our environment.

One example is Tesla Motors—an American company, unlike TransCanada—which recently chose Reno, NV, as the site of a $5 billion ''gigafactory'' that could employ 6,500 workers on a permanent basis. Tesla hopes to complete construction of the facility by 2020. It will produce 50 gigawatt hours per year of lithium ion battery packs, more than the entire global production in 2013 and enough for 500,000 electric cars annually. Once the factory is in full operation, it could help lower the costs of battery packs by 30 percent in 2017 and by 50 percent in 2020.

Tesla expects to create 3,000 construction jobs, and that is important—construction jobs are important—and 6,500 permanent jobs upon completion, generating $100 billion in economic activity over the next 20 years.

So let's compare that to what Keystone is advertised to produce. They tell us that Keystone will provide 42,000 jobs, but what they don't tell us is that the number of direct construction jobs is 3,950 and that's just for one or two years. The rest of the jobs are indirect or ''induced''—that is, induced activities from people getting paychecks, spending them on groceries, et cetera, and that's only during the construction period. Permanent jobs are 50. Look at the ratios: Tesla is over 2-to-1, with regard to permanent jobs-to-construction jobs. Keystone is 50 permanent jobs to 3,950 construction jobs. The number of permanent is so insignificant that this pipeline does not generate economic progress in our country.

Why aren't we talking about the transportation bill? We want to talk about jobs? Yes, we will get construction jobs. Thank you, Senator BOXER, for your extraordinary leadership on that bill. If we had a long-term transportation bill, we would be helping the construction industry by creating a lot of construction jobs. And guess what? At the end of the day, we would have a modern transportation system that would promote economic growth in America. Let me just give you one of those projects as an example: the Purple Line in Montgomery and Prince George's Counties, MD. We want to get that done. It will not only create construction jobs—it will not only create permanent jobs, it will help people live longer because they won't be stuck in traffic. It will really help our economy grow. That is the type of debate we should be having.

Instead, we are talking about putting in a pipeline that poses incredible environmental risk not only to the United States but to our entire global community.

The Natural Resources Defense Council has shown how tar sand extraction methods are very dangerous to our environment and could release 11 million to 47 million metric tons of carbon dioxide equivalent into our atmosphere.

It is done in a way that—I was listening to my colleague from Hawaii talk about it—that is destroying the Earth. They are in the process of destroying the Boreal forest, which acts as a carbon ''sink,'' while producing petroleum coke as well as tar sands crude. They are emitting carbon dioxide just to produce the tar sands crude; they are emitting greenhouse gases. Add transportation, refining, and consumption of the ultimate product, the tar sands, and it is the worst form of a carbon footprint that we could have in our environment.

The risks are real, including the danger to our environment from spills and come at a time when U.S. global leadership is so critical for action on climate change.

According to the 2014 National Climate Assessment, the reality of climate change is clear and apparent. I could give examples of the droughts in California, of the increased wildfires in the West, or extreme weather conditions caused by polar vortexes in all parts of our country. Our sea level is rising from Miami, FL, to my own State of Maryland, where 70 percent of the population lives in coastal areas. They are very concerned about what they are seeing as a result of the rising sea levels. So it is critically important to have U.S. leadership. This is what it is about—U.S. leadership.

President Obama demonstrated that leadership when he met with President Xi of China. The United States and China account for about one-third of the world's greenhouse gas emissions. I have heard on this floor many times: Why are we doing certain things if China doesn't do certain things? Well, guess what. China is responding to our leadership.

Congratulations to President Obama for getting commitments from President Xi that China will reduce its carbon footprint. Specifically, China pledged that non-fossil fuel sources will account for at least 20 percent of the country's energy use by 2030. That is U.S. leadership working with China to help lead the global community. Let us show even more leadership by rejecting the Keystone Pipeline.

Lastly, let me talk about process for a moment or two, if I might. The regulatory protections should not be circumvented by congressional action. State courts in Nebraska should not be circumvented by congressional action. We need to listen to the people from the region as they have expressed their concern about Keystone XL, and I quote from a person named Ben Gotschall from the organization, Bold Nebraska, which is part of the anti-pipeline coalition called the Cowboy-Indian Alliance:

> The Cowboy Indian Alliance shows our cooperation and our working together in mutual respect. That shared bond proves that we pipeline fighters are not just a few angry landowners holding out, or environmentalists pushing a narrow agenda. We are people from all walks of life and include the people who have been here the longest and know the land best.

We are talking about circumventing the regular order in order to have a narrow result that affects real people's lives. We can do better than that. We need to reject this ''pipeline by congressional action.'' Congress needs to act in a responsible way, and passing this bill is not doing that. This pipeline travels through the United States so that Canada can get its dirtiest oil into the international marketplace. Canadians don't want the pipeline in their country for good reason, because they know the environmental risks of the pipeline and tar sands development are unacceptable.

The energy will not have any major impact on the United States. It is for export. It is not for the United States.

Why are we doing this? There are very few permanent jobs involved here—fewer than 100. We already heard that. The risks to our environment—we have seen that. We have seen it happen before. We know what devastation tar sands oil spills can cause. We know what the cleanup cost are all about.

Why are we subjecting communities to this when they don't want it and the environmental risks are so great? Why are we calling into question U.S. leadership globally when we are able to get progress that we have been asking for, and that Chairman BOXER has been asking for, to get China to act? Why are we trampling on the appropriate role of the executive and judicial branches and local government by doing what we are attempting to do today?

I hope my colleagues will reject this bill. And I hope that we will work together for an energy policy that makes sense for America and that invests in clean energy, which will help our economy grow, help us be energy secure, and be friendly to our environment. With that, I yield back the remaining time to Senator BOXER.

The PRESIDING OFFICER (Ms. HEITKAMP). The Senator from Louisiana.

Ms. LANDRIEU. I request 5 minutes.

I see the Senator from Wyoming, who is going to rebut the arguments made by the Senator from Maryland. So I will take 5 minutes, and then the Senator from Wyoming will have all the time he wants within the framework.

First, I will say that I have great respect for the Senator from Maryland. He is an excellent debater, and we just saw the skills of his debating. But I want to put some things on the record that show he is absolutely, completely wrong in his assessment and statements, as respectfully as I can. He is completely wrong.

First of all, this is the environmental statement. It is printed, it is done, it is finished, and it was finished in January of this year. This is the fifth environmental statement.

So anyone who comes to this floor on the Democratic side of the aisle—because no one on the Republican side will say this because they are all in unity with a group of us to build this pipeline—they are wrong. It is factually incorrect that the environmental studies have not been completed because I have it in my hands. This is the fifth.

Let me say what the result of this environmental impact statement by the Obama administration—not by the Bush administration, not by a former Republican administration, but the current, Democratic administration—concluded. People at home who are listening can get out their computers and their pens. This is what this study says. If the Keystone XL is built, it will represent .015 of global greenhouse gas emissions—.015 of greenhouse gas emissions. That is the equivalent, if people want to keep writing, to 300,000 passenger vehicles in America. Seems like a big number, except that we have 253 million cars on the road.

OK. So think about this. The President's own environmental study, which is the fifth one, completed in January, has done its work. It has submitted this for the record. This is not subject to debate. The conclusion of this study is it will, taking everything into consideration, increase greenhouse gases by .015 percent of global greenhouse gas emissions, which is the equivalent of 300,000 passenger vehicles, which is .12 percent of total cars in the U.S.

So this is what we can do. We can build the Keystone Pipeline, creating thousands of temporary and millions of permanent jobs, which are not created by the permanency of the pipeline itself but by the signal that America is serious about energy independence. That will create millions of high-paying jobs. There is no disputing that fact.

It is not the jobs that build the pipeline we are fighting for so much—although the pipefitters and boilermakers and the unions are fighting for that, and I am fighting with them—it is the signal it gives that we are serious about energy independence, and that we honor and understand there are already pipelines in our country. There are pipelines in our country. We have been building pipelines in this country since before most of us were born—all of us were born. That is what is so outrageous about this debate.

Yes, this pipeline comes from Canada, our best trading partner, our most reliable ally, a country that is the most equivalent to us in the United States of America, and because it is a pipeline connecting Canada and the United States, it has all become this bogeyman that is going to wreck the world.

The environmental impact study, Senator CARDIN, has been done. It is in.

The second thing I wanted to talk about is this. We pass a lot of crazy bills around here. This bill is two pages—S. 2280. Here it is. This is the first page, this is the second page. Everybody in America can read it. I would strongly recommend to those who are listening, get it and read the bill. It will literally take 15 seconds. It is so simple, and Senator HOEVEN and I wrote it to be simple. As I have said before, we wrote it to go the distance. We wrote it to go the distance. It is not complicated. It simply says this: After waiting 5 years, and after acknowledging all environmental studies have been done, all economic studies have been done, we direct the President of the United States to give his approval.

We are not circumventing the President. Every report he has requested has been turned in to him, every single solitary one. In addition, and the Presiding Officer knows this, because at her request and Senator TESTER's request, Senator HOEVEN and I added this language:

> Private Property Savings Clause.
>
> Nothing in this Act alters any Federal, State or local process or condition in effect on the date of enactment of this Act that is necessary to secure access from an owner of private property to construct the pipeline and cross-border facilities. . . .

In other words, this language says all private property rights will be honored. That was not in the House bill. Senator HOEVEN and I put it in this bill because we wanted to put that debate to an end. All private property rights are honored.

The environmental studies have been completely completed. Also in our bill is respect for Nebraska because we are not trying to run over Nebraska. We say here—and I will point it out in just a minute—that subject to the final decision by Nebraska about where this is going to go, Nebraska can decide. As we can see, all the other States have said fine to their line. Nebraska has to decide. That is in the court. This bill says they can still decide this. There is nothing telling Nebraska where to build it.

I hope people who come to the floor to talk about this pipeline will bring their facts and not fear—facts, not fear. I am a fierce proponent of the pipeline and they are fierce opponents and I respect them. There are two people I greatly respect: BARBARA BOXER and BEN CARDIN. But we are on the exact opposite side of this issue.

So let's discuss facts, and let me just say one more thing and then I will give this to Senator BARRASSO, because this is more personal. I was very disappointed in the Senator from Kansas when he came out and said something akin to he finds it strange—I think his words were he is kind of amused that we would be debating this because he thinks this is some kind of political opportunity.

I have a lot of respect for the Senator from Kansas. I worked with him. I was his chair and he was my ranking member on emerging threats. We have been through some pretty tough meetings together. When this country was under attack during 9/11, I was the chair of emerging threats and he was the ranking member when the Twin Towers burned. He is a marine. I always joked: He is a marine and I am a Girl Scout, so I think he has one up on me. Nonetheless, we both have a pretty good code of honor. So for him to come to the floor, after being in the foxhole with me on that day, and to say he thinks this is some kind of convenient opportunity for me is beneath the dignity of himself, the Marine Corps, and the State he represents.

This is a serious issue. We should have debated it months ago. The only reason we didn't—and HARRY REID is now on the floor and he has heard me say this to him in private and I will say it in public—is because neither leader could get their caucuses in a position to have this debate. There were

many reasons for it, but all those reasons cleared up after this election. That is why we are having this debate, because I asked for it.

I support and I appreciate the Members, no matter how they vote, in having this debate. If we had more debates like this, the American people might be hopeful we could get something done.

I yield the floor.

The PRESIDING OFFICER. The majority leader.

ATTACK IN JERUSALEM

Mr. REID. Madam President, I am going to use leader time for these remarks, and it will not interfere with any of the time that has been allocated to these gentlemen and ladies.

In far away Israel, during morning prayer, a horrific attack took place. A number of people were having their morning prayer. Four rabbis were savagely beaten, hacked to death, with a meat cleaver. Two Palestinian men entered the synagogue in Jerusalem and savagely murdered these four rabbis in the midst of morning prayer. Three of these victims were American citizens, the other, I am told, was a British citizen. One of them was a leading scholar, Hasidic scholar. More than one dozen others were hacked, hacked with a meat clever, while they were there praying. A number of these people are in critical condition as we speak.

Secretary of State John Kerry today said: ''Innocent people who had come to worship died in the sanctuary of a synagogue.''

Places of worship have always been a refuge in times of peace and in times of conflict. Yet these terrorists hacked and brutally murdered worshippers in the midst of prayer.

This is not an isolated incident. Recently, Palestinian terrorists have carried out shocking attacks all across Israel. Seven Israelis have been killed in these horrible attacks, including a 3-month-old American infant—a baby, 3 months old—an Israeli soldier, a border patrol officer.

These attacks are a direct result of incitement, and I call upon the Palestinian leadership to condemn these attacks unequivocally. This butchery has no place in the modern world and they should stop it.

The PRESIDING OFFICER. The Senator from California.

Mrs. BOXER. Madam President, I thank Majority Leader REID for his remarks. Sometimes it does feel the world is falling apart and we have to speak out, as we are doing every time these terrorists rear their heads.

I know we have some time over here by Senator BARRASSO, but I just wanted to make a point on the environmental impact statements, although it is hard to get back.

As I understand it, in the Hoeven-Landrieu bill, the EIS is approved. So if the Nebraska bureaucracy determines there is a new route—and I think this is what my friend from Maryland was getting at—it doesn't matter what the new route is, the EIS is deemed approved. I have to say I don't think that is right. I think the people who live along that new route have a right to have a new EIS if in fact now the pipeline is being moved in a different direction.

I understand the bill calls for property rights to be respected, and that is called eminent domain. I know a lot of my friends on the other side hate eminent domain, usually, but now they are embracing it because that is what is in this bill. But the fact is, if as a result of a court case brought by property owners the route changes, it is our counsel's understanding the EIS is still automatically approved.

I wanted to get that on the record because my friend was in fact questioned, and I think he was right.

I yield the floor.

The PRESIDING OFFICER. The Senator from Wyoming.

Mr. BARRASSO. Madam President, I come to the floor to express my support for the approval of the Keystone XL Pipeline. This is bipartisan legislation. The House passed this bill with 31 Democrats voting for it.

Last week, Senate Republicans welcomed the news that the outgoing Senate majority leader had finally decided to let the Senate vote on this legislation and that vote is finally going to take place today. For years House and Senate Republicans have been pushing legislation to approve the Keystone XL Pipeline, but until now the outgoing Senate majority leader wouldn't even let the Senate vote on this measure. This was all part of the majority leader's efforts to protect the President and the President's agenda.

The majority leader had hoped the American people would forget about the Senate. He had hoped they would be satisfied with President Obama's job approval. Well, 2 weeks ago, the American people made it clear they have not forgotten about the Senate. The American people made it clear they are not satisfied with President Obama and his policies. Instead, the American people want the President to work with the Senate to enact bipartisan legislation to grow our and economy and to create jobs.

President Obama and Senate Democrats can do that today by supporting the bill we are approaching to approve the Keystone XL Pipeline. This pipeline is going to create thousands of jobs right here at home. It is not just my view, it is the view of the President's own State Department.

According to the State Department, the construction of the Keystone XL Pipeline would support over 42,000 jobs—42,000 jobs. That is the reason many of the Nation's largest labor unions support the construction and approval of the Keystone XL Pipeline. In addition the pipeline would facilitate American crude oil production. Specifically, this pipeline will ship up to 100,000 barrels of oil each and every day from North Dakota and Montana. Currently there is insufficient pipeline capacity to ship oil out of North Dakota. As a consequence, oil producers must rely on railroads to ship oil out of State. Shipping crude oil by rail is more expensive than shipping it by pipeline. The Keystone XL Pipeline would provide oil producers a cheaper shipping method and in turn encourage production of more American energy.

This pipeline will also increase our Nation's energy security. Specifically, the pipeline will provide an additional access to Canadian oil. We should welcome access to Canadian oil. Canadian oil is a far better alternative to oil from Venezuela, the Middle East or West Africa, areas of the world which don't share our values and too often work against our American interests. In contrast, Canada is a strong ally, Canada is America's top trading partner, and Canada already provides the United States with reliable and secure sources of energy.

Now is the time for President Obama to make a decision on the Keystone XL Pipeline.

As the senior Senator from Delaware, a Member of the President's own party, said last week: ''We have waited not just months but years for a decision on Keystone,'' he said. ''This is too long.''

In fact, the permit for the Keystone XL Pipeline has been pending for over 6 years. During this time the State Department has conducted five environmental reviews of the project. Each of the reviews has been positive. I say to President Obama: Time is up and the excuses have run out. It is time for you, Mr. President, to make a decision.

President Obama should once again acknowledge that elections have consequences. Specifically, he should signal to the American people that he has heard the message voters across this country sent just 2 weeks ago: their message of support for bipartisan legislation that grows our economy, creates jobs, puts people back to work, their message of support for legislation such as the approval of the Keystone XL Pipeline.

Thank you. I yield the floor.

The PRESIDING OFFICER. The Senator from South Dakota.

Mr. THUNE. Madam President, let me just say that at long last this week we are going to be voting on the Keystone XL Pipeline. The vote has been a long time coming—years, in fact. Republicans have been trying to get this pipeline and the many jobs it will support approved. It would have been at the top of our agenda in January when we take control of the Senate, but we are happy to get a head start on that work a little early. It is just too bad that it took an election defeat and a runoff election to finally motivate the Democratic leadership to allow a vote on the measure. It should have received a vote years ago.

In fact, the Keystone Pipeline, if there is such a thing, is a win-win. It will create jobs. One can argue about how many jobs. The President's own

State Department said it would support over 42,000 jobs. It will decrease our reliance on oil from dangerous countries. It will increase revenues to State and local governments. It will free space on overcrowded rail lines so the farmers can get their goods to the marketplace, and it will do all of that without spending a dime of taxpayer money.

Our economy has been limping along for years. The unemployment rate is still hovering at near recession levels and 9 million Americans are unemployed. More Americans are working part-time jobs because they cannot find full-time employment. Household income has fallen nearly $3,000 since President Obama took office while the price of everything else, from food to health care, has risen.

Americans need jobs and economic opportunities, and the Keystone Pipeline will help supply them. As I said, the State Department estimates that in my home State of South Dakota alone, construction of the pipeline would bring 3,000 to 4,000 jobs and generate well over $100 million in earnings. It will also bring over $20 million in annual property taxes to South Dakota counties. I know some of the counties in the middle of my State are counties that are struggling to keep up with the cost of keeping the local governments going. School districts are struggling to survive and property tax revenue that will come in as a result of building a pipeline will help sustain many of those local governments and many of those school districts during some pretty difficult times.

My State is just one of the States that benefits. Nationwide, the pipeline will support more than 42,000 jobs—construction jobs from welders to pipefitters, to those who work at local hotels and gas stations. It will invest $5.3 billion in the U.S. economy and bring States a total of $5 billion in property taxes over the life of the project. That is a lot of funding for local priorities such as schools, law enforcement personnel and roads and bridges. Opponents of the pipeline like to cite environmental concerns as a reason for opposing the pipeline and its jobs.

Five separate environmental reviews from the President's own State Department have found that the pipeline possesses no meaningful risk to the environment. In fact, even the State Department admits the Keystone Pipeline is the safest way of transporting the oil. It is safer than rail or truck. It is important to remember Canada will be extracting and transporting its oil regardless. The only question is whether we want it to come to the United States along with the thousands of jobs it will create or whether we want to let Canada ship that oil overseas.

The American people have been very clear about their feelings about this project. Poll after poll has shown strong support. Republicans support the pipeline. Democrats in both Houses of Congress support the pipeline. Unions support the pipeline. The only people who seem to oppose it are Members of the far leftwing of the Democratic Party. The reason we haven't had a vote in the Senate is not because a majority of Senators don't support the project, it is because Senate Democratic leadership refused to hold a vote despite having support from their side of the aisle.

While it is unfortunate it took the Democratic leadership this long to come around, I am glad we are finally here. I hope the Senate will finally approve the pipeline. If this bill passes today it will have one final hurdle to clear and that is the President of the United States. I very much hope he will listen to the voices of American workers and the bipartisan majorities in the Congress. Given his recent comments, I am skeptical.

The President has demonstrated a disturbing commitment to holding the American economy hostage to priorities of the far leftwing of his party. Take his recent energy agreement with China which would force American companies to implement costly new measures while China gets to do nothing. The national energy tax that the President unveiled back in June will put tens of thousands, if not hundreds of thousands, of American workers out of jobs and devastate entire communities. The pipeline's economic benefits to support the American people and five—five—successful environmental reviews have yet to convince the President to approve this project. I am concerned this vote probably isn't going to help, but I hope I am wrong.

By signing this bill, the President could send a powerful message about his willingness to work with Congress, and he can show the American people he heard their demands for change in Washington and that their economic priorities can be addressed.

I am sorry American workers have had to wait years for this project because, let's not forget, they are the ones who have been hurt the most by the administration's refusal to approve the pipeline. I hope today marks the end of their waiting and I hope it marks the beginning of a new era in the Senate.

When Republicans take over in January, bills such as Keystone will be the order of the day. We will take up jobs bills that passed the House with bipartisan support but have been waiting for a vote in the Democratic leader's Senate. We will take up legislation to create economic growth here at home by opening new markets for American agriculture and manufacturing overseas. We will repeal the medical device tax which is opposed by Members of both parties thanks to the fact that it is eliminating thousands of jobs in the medical device industry, and that will be just the start.

I hope that just as they did today, Democrats will work with us even more on bills to create jobs and economic opportunities for the American people because it is the people of this country for whom we ought to be doing everything we can to help and to support. I can state that the people in the Midwest, in the heartland whom I represent, already spend—if they make $50,000 a year—20 percent of their income on energy, either fuel or electricity. All these proposals, the national energy tax, the deal with China, continue to drive up the cost of energy and make it more difficult and more expensive for middle-income families who are increasingly squeezed by these policies.

I wish to close by quoting from a letter the leaders received from the National Council of Farmer Cooperatives in which they urge Congress to support legislation to approve the Keystone XL Pipeline, and this is what they say:

> The Keystone XL Pipeline also is part of a long-term solution to alleviating the transportation pressures many in agriculture have faced. This year, farmers around the country experienced some of the largest harvests they have seen in generations. For some, their successful year has come to an alarming halt when trying to sell and transport their crop. Farmer cooperatives in the upper Midwest are facing major delays in getting their farmers' grain to market due to the sustained shortage of rail equipment resulting from the increased use of rail to transport crude oil. The Keystone XL Pipeline will ultimately free up locomotives and track to move more grain to market and improve our ability to handle year after year record harvests.

Yet another reason to support this project and the jobs that come with it, the energy independence that comes with it, the lessening—relieving, if you will—of rail capacity issues that are plagued in many areas of the Midwest and making it harder for farmers to come to the marketplace.

This is a project that is a win-win, and I hope when the vote comes later today, we will have not just the majority of the Senators but the 60 votes that are necessary to move this to the President's desk.

I yield the floor.

The PRESIDING OFFICER. The Senator from California.

Mrs. BOXER. I will yield to Senator MERKLEY, but before I do, I was so glad to hear a Republican say he wants to work on jobs. I would just say to my friend before he leaves, the CEO who runs the pipeline says there will be 35 permanent jobs. OK. I would like to suggest to my friend that if he truly wants to help the middle class, he ought to join with us first in raising the minimum wage, which is critical, and, secondly, embracing a clean energy future while we still use, where it is safe, domestic oil production, clean coal, things we can do that don't threaten the air our children breathe, pollute the water they drink, and destroy the planet.

To hear a Republican stand and talk about jobs is music to my ears, but I would like to put into the RECORD a report I just got from my California people at home who say:

California's climate policies are reducing carbon emissions, saving consumers at the pump, cutting oil use, and cleaning our air.

California's economic recovery has outpaced the rest of the country since the so-called ''great recession,'' while our state has implemented the nation's strongest climate policies. . . .

California can reduce greenhouse gas pollution while growing the economy; we have been doing it for the last 35 years. Innovative energy policies over the past three decades have saved Californians $56 billion on household energy costs and allowed them to reduce expenditures on imported fossil fuels and redirect spending to create 1.5 million full-time jobs.

And they go on to talk about the fact that they are looking toward 1.5 million full-time jobs. I am just saying to my friend, if this is truly about jobs, let's pass a transportation bill. Let's make sure we do the things that help our people.

I am going to hold up a picture of the air in China. This is what it looks like when you throw the environment under the bus. We know, because in California we had some bad air until a Republican President passed the Clean Air Act, signed it into law.

You want to know public opinion. I will tell you. The public supports the EPA and they support clean air, clean water, safe drinking water. This tar sands isn't about the building of a pipeline, it is what is going into it—the filthiest, dirtiest oil, and we have put in the RECORD all the elements, the pollutants, that are in this oil. You can laugh it away if you want. That is fine. But I have to tell you, when you hear about the health impact that is going on in Canada from this tar sands, when you go down to Port Arthur, TX, or meet with the people here as I did, what you will see there is a community suffering because this is the dirtiest oil.

So, yes, jobs—that is where it is with this Senator. I come from a family which is first-generation American on my mother's side. We worked for everything we got. Education was key to it.

Hey, how about joining with us on that? How about reducing interest rates on student loans? But to stand here and say this is the absolute job producer is phony. It is phony baloney.

With that, I yield to my friend for 12 minutes.

The PRESIDING OFFICER. The Senator from Oregon.

Mr. MERKLEY. Mr. President, I rise to address S. 2280, which would approve construction of the Keystone Pipeline to transport tar sands heavy oil from Canada to the gulf coast.

The key consideration is whether this bill—by authorizing the pipeline—would contribute significantly to global warming, which is already damaging our rural resources and our future economic prospects with profound consequences for families in America and around the world.

Also, are there better ways to create jobs that would enhance rather than damage our world? In the words of President Theodore Roosevelt:

Of all the questions which can come before this nation, short of the actual preservation of its existence in a great war, there is none which compares in importance with the great central task of leaving this land even a better land for our descendants than it is for us.

Let's start by addressing the vision that President Roosevelt put forward and examine the impact of the Keystone Pipeline on atmospheric carbon dioxide pollution and global warming.

In this chart we see, going back 800,000 years, that the carbon dioxide has gone up and down. In recent years it has been quite steady until the start of the Industrial Revolution, and then it has soared—soared above levels it has been at for hundreds of thousands of years.

In this second chart, we see that there is absolutely no question that heat—put here in blue—correlates to the carbon dioxide in red. When the carbon dioxide level goes up and down, the heat of the planet goes up and down.

By many estimates, to contain global warming to 2 degrees Celsius, humans can burn only about an additional 500 gigatons of fossil carbon. That is the fossil budget we have to work with to avoid catastrophic global warming. But currently, the world's top 200 fossil fuel companies have identified 2,800 gigatons trapped in their fossil fuel, and that doesn't include the carbon from tar sands and oil shale.

Here is the problem: To protect the planet from catastrophic global warming, we need to leave four-fifths of the identified conventional fossil fuel reserves in the ground. Building the Keystone Pipeline, which would open the facet to rapid exploitation of a massive, new unconventional reserve—the tar sands—would make it much less likely for human civilization to succeed in meeting that carbon budget that is so important to our future economic and environmental world, and that is why building the Keystone Pipeline is a grave mistake.

Global warming is not some imaginary foe embedded in some computer model with effects 50 years from now. It is here and we can see it at this very moment. The warmest 10 years on record for global average surface temperature has occurred in the last 12 years. Moreover, the effects can be seen in Oregon—and actually across the Nation. The average forest fire season is getting longer. Across the Nation, since the 1980s, the national season has grown by 60 to 80 days, and the average acres consumed annually by wildfires has doubled to more than 7 million acres. This sight has become all too familiar in our home State of Oregon.

One study estimates that global warming, through the greater impact of greater pine beetle infestations and larger forest fires, will decimate the western forest of the United States by the end of this century.

In addition, the snowpack in our Oregon mountains is decreasing, which means smaller and warmer trout streams—that is not a good thing if you love to fish—and less water for irrigation. The Klamath Basin—a major agriculture basin in Oregon—has suffered through many dry years and three horrific droughts since 2001, in substantial part because of lower snowpacks.

The red circles on this chart represent a significant decrease in the snowpack. As we can see throughout the northwestern United States—Oregon, Washington, Idaho, Montana, and stretching into northern California—there is a huge decrease in the snowpack which is resulting in devastating consequences for agriculture.

As the high levels of carbon dioxide in the air are absorbed by the oceans, the carbon dioxide becomes carbonic acid. That acid, as one would expect, makes the oceans more acidic.

This chart, which presents the carbon dioxide and the pH time series from Hawaii, presents the challenge clearly. CO_2 in the atmosphere went up from 320 parts per million to about 380 parts per million over a period of about 50 years—a steady increase in carbon dioxide. We then see, with this blue set of data, that there is a parallel trend of the carbon dioxide that is in our ocean, and then we see from the light blue data that the pH level is dropping, which means that the ocean is more acidic. That is a 30-percent increase in the acidity of the ocean over a very short period of time.

The greater acidity is having an impact on sea life. One impact is on coral reefs, which are the ocean's most diverse ecosystem and the base of the ocean's food chain. Fishing families around the world depend on coral reefs as a foundation for livelihood.

Another impact is on the reproduction of oysters. The Whiskey Creek Shellfish Hatchery in Oregon, which I visited a few weeks ago, started having trouble growing baby oysters—known as oyster seed—in the year 2008. The hatchery almost went out of business, but a scientist from Oregon State University was able to help identify and address the problem. The problem, it turns out, stems from the increase in the acidity of the Pacific Ocean. If the oyster seed, or the canary in the coal mine, is having trouble forming shells, what else is going wrong in the ocean due to rising acidity?

In summary, carbon pollution is having a direct and substantial impact on the vitality of our forests, farming, and fishing. Our rural resources are being damaged now, and the problems will multiply with additional carbon pollution. So as members of the human family on this planet, with the moral responsibility to exercise wide stewardship of our resources for future generations, we must address this challenge of carbon pollution, and we must do so now. Wise stewardship means we must leave four-fifths of the conventional fossil fuels in the ground.

Would this bill before us, which would open the facet to this massive

new reserve of fossil fuels, advance such stewardship? The answer is clear. Stewardship demands that we not build infrastructure to unlock tar sands—the dirtiest source of oil on the planet.

The proponents of the pipeline have come to the floor and made interesting arguments—arguments worth examining to see if they actually hold water. First, they argue that the pipeline would create a tremendous number of construction jobs. Here is a comparison of direct construction jobs created by the pipeline—the little tiny wedge down here represents the pipeline jobs versus the jobs that would be created by the Rebuild America Act, which would create hundreds of thousands of jobs. So just 4,000 or so jobs in construction of the pipeline versus hundreds of thousands jobs from the Rebuild America Act. If anyone on this floor is actually serious about jobs, we would pass the Rebuild America Act today.

The proponents have a second argument. They say that bringing this additional oil into America would increase America's oil independence. We heard that argument just a few moments ago by my colleague from South Dakota. The argument goes that this strengthens America's national security by decreasing America's dependence on the Middle East, but that argument overlooks a fact. This is not American oil, this is Canadian oil. This is not oil destined for the United States, it is destined to be refined in the gulf coast so that it can be exported around the world. These tar sands will do no more for America than if they were exported through Canada to the world market.

In fact, if you want the oil to be used in America, the best thing to do is to not build the pipeline, because that means the area around the tar sands will be the area getting that oil. Shipping Canadian oil to the world market via America adds nothing to America's security.

The next argument from proponents is that the pipeline has no environmental effect—indeed, we just heard this argument as well—because the oil from the tar sands, it is argued, will reach the market by rail if not by pipeline. This argument is demonstrably false. There is not enough rail capacity to substitute for the pipeline, and the cost of shipping oil by rail is much higher than pipeline, greatly reducing the economic incentive for rapid development of the sands. All the while proponents say if the Keystone Pipeline is not built, alternative pipelines will be built through Canada, but that is certainly not at all clear.

If it were easier and cheaper to build through Canada, TransCanada would not be trying to build through the United States of America. Moreover, there is tremendous opposition within Canada to building such pipelines, and that is part of the reason TransCanada wanted to build it through the United States. The opposition within Canada to additional pipelines is just as fierce as it is in America for the same set of reasons—fundamentally important moral reasons—about the stewardship of our environment and our future economy. It turns out the Keystone Pipeline represents a real risk to our rural resources, our farming, and our fishing. It represents a real risk to the future health of our economy needed to sustain middle-class jobs. The pipeline itself creates very few jobs compared to a serious investment in infrastructure, and it adds nothing to our national security.

There are several other serious problems with this pipeline that have often been glossed over. For one, TransCanada is exempted from contributing to the Oil Spill Liability Fund. That is outrageous. You could call this bill the TransCanada protection act. Why are we doing a special deal for a Canadian company? Oilspills like this happen with these pipelines all the time, and they will not contribute one slim dime to the Oil Spill Liability Fund that American companies have to contribute to. Why would anyone vote for that sort of special deal for a foreign company—that irresponsible failure to contribute a single dime to the Oil Spill Liability Fund?

In addition, we are giving a foreign corporation the ability to exercise eminent domain to seize the lands of American citizens. Since when do we give power to a foreign corporation to take land away from American citizens without their desire? It is fundamentally unfair to American landowners. The legal basis for eminent domain is that there has to be a compelling public good. What is the compelling public good in this situation? Is it the generation of private profits for a Canadian corporation? That doesn't meet the test. Is it the damage from the oilspills that will occur in communities across America? That doesn't meet the test. Is it the contributory damage——

The PRESIDING OFFICER. The Senator is advised that his time has expired.

Mr. MERKLEY. Madam President, I ask unanimous consent for a minute and a half more.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. MERKLEY. Is it from the damage from carbon pollution to our farming, fishing, and forests? That doesn't meet the test.

Frankly, tackling carbon pollution is going to take an enormous amount of international cooperation. Just a few days ago the United States and China entered into an agreement to address the global climate change crisis. The Chinese President announced that China would invest heavily in renewable energy to generate 20 percent of China's energy from nonfossil fuel sources by 2030, seeking to decrease China's CO_2 emissions thereafter. That is the type of leadership the world has been asking for.

We can't simply wish for nations to work together. We have to negotiate and do our part. That is why today we should not be talking about how to turn on the tap to the dirtiest oil on the planet, but how to meet the 2025 goals and how to create jobs by investing in energy conservation and renewable energy.

Let's remember the test that President Theodore Roosevelt gave us. There is no more important mission than ''leaving this land even a better land for descendants than it is for us.'' This bill fails the test.

Mrs. BOXER. Madam President, I think we are going to take a recess shortly. I just wanted to thank everybody on both sides for their statements.

To sum it up from my perspective, you have a situation here that, frankly, I am very glad we are confronting because there are lots of people who say: Oh, this is no big deal, it is just a little pipeline, and we have so many pipelines.

Senator THUNE said: Oh, it is so much safer to transport this oil by pipeline than other ways. Just try telling that to the people of Marshall, MI. There was a spill in 2010 in the Kalamazoo River. They are still trying to clean it up. It is not the pipeline that is the issue, folks, it is the dirty tar sands oil that is so much more dangerous, has more heavy metals, and more carcinogens. It is a problem. By virtue of its weight, it sinks to the bottom, and they cannot clean it up. I can't believe the statement was made about how safe this is. We have seen stories that there are problems with the welding in the existing pipeline. We might want to speak to the people in Mayflower, AR. Do my colleagues know that Exxon had to buy back the homes because they couldn't be lived in anymore because this stuff spilled and contaminated an entire neighborhood?

So I call this the extra lethal pipeline. The pipeline itself is benign. It is what is going through it and what it will unleash in terms of 45 percent more carbon over time and 45 percent more tar sands than we would otherwise have, so we figure that everything gets increased by that amount. There is going to be more carbon, there is going to be more sulfur, more mercury, more lead.

This is important today. I am so glad we are having this debate. My colleagues say we never allowed a vote. There was a lot of boxing around in the boxing ring on that one. We tried. I don't mind having a vote on this. I have never minded having a vote on this. I think it is an important debate. People disagree. It is OK. We should air it out. But the bill before us would stop a process that is in place that is very important, not because it is a ''process'' but because 2 million people wrote comments about the Keystone Pipeline. We should not say to them: Your voices don't matter; we are going to truncate the process; I don't care what you said.

We already know there is a court case. This bill would approve the EIS.

Even if Nebraska moves the route to another route, guess what: This bill that is pending here—the Hoeven-Landrieu bill—would already say the new EIS is approved. That is wrong. So only 35 permanent jobs. Most of this oil is exported. Economists say the price of gas in the domestic market will go up. And we compare it to embracing a clean energy agenda while we still develop oil where it is safe and sound, and we still develop all of the above when it is safe and sound. But if we embrace clean energy, I have to tell my colleagues, the jobs will dwarf the 35 permanent jobs for sure that this pipeline brings us.

In California we are so excited with what is happening. And we don't want to look like the people in China where they walk around in masks, and we don't want to have little girls and boys with those inhalers because they can't breathe the air. This is real. This is about health. Yes, it is about jobs. Yes, it is about prices. And I find it really fascinating that a few years ago when this all came up, what did we say? We said, Oh, this pipeline will make us energy independent. Now we know that we are going to allow this oil to go right through the middle of our country. Misery follows the tar sands: spills. We have already had spills. We know what happens when there is a spill. And what do we get at the end? The oil goes to the rest of the world.

Our friends say, oh, it is still good. It is good for prices. No, it isn't good for prices. Economists have told us it is not good for gas prices, and it doesn't help us become energy independent. It imperils our planet with large amounts of carbon going into the air. It imperils our families with pollutants that are very carcinogenic and very dangerous.

So I hope we will let the process continue. I don't know what happens today. I know the handwriting is on the wall. I know it is on this one. But when we see the country we love going down a route that makes sense, following a procedure that makes sense, letting court cases resolve themselves, letting the people's comments be looked at, making sure we know exactly what we are doing, and we see that process shortcut by legislation and people who, by the way—and I am talking about my Republican friends: Oh, we are not scientists. We don't know if there is climate change. That is right, they are not scientists and they don't know, so they should listen to 98 percent of the scientists who are telling us that the Keystone is a dangerous move for this planet, because it is going to allow this oil that is far more carbon intensive.

I am a humble person. I am not a scientist; I do listen to them. I have to say to go blindly down this path is a huge mistake. Yet, that is what we are facing, and it is fine with me that we are facing it. We will stand and we will debate until there is nothing more to be said. We are probably getting to that place right now, so I will stop and reserve the remainder of my time.

RECESS

The PRESIDING OFFICER. Under the previous order, the Senate stands in recess until 2:15 p.m.

Thereupon, the Senate, at 1:06 p.m., recessed until 2:15 p.m., and reassembled when called to order by the Presiding Officer (Ms. BALDWIN).

TO APPROVE THE KEYSTONE XL PIPELINE—Continued

The PRESIDING OFFICER. Who yields time?

If neither side yields time, both sides will be equally charged.

The PRESIDING OFFICER. The Senator from Iowa.

Mr. HARKIN. I ask unanimous consent I be allowed to speak for up to 5 minutes in opposition of the bill presently on the floor.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. HARKIN. I oppose this legislation to approve the construction of the Keystone XL Pipeline. Again, I believe it is one more step in the wrong direction, one more capitulation to our fossil fuel habit, one more accelerant to global warming that threatens our children's future. I know I have limited time. I just want to point out that we have had a number of studies done by the Department of Energy recently.

One study found that retrofitting residential and commercial buildings had the potential to reduce consumer demand by 30 percent by 2030 and reduce greenhouse emissions by 1.1 gigatons each year, saving over $680 billion.

The second study found the retrofits—I am talking about building retrofits in America—could save $1 trillion in energy spending over 10 years and reduce CO_2 emissions by 10 percent.

What would retrofitting do for jobs?

According to the Rockefeller Foundation, this type of retrofitting nationally would create 3.3 million new jobs.

So why are we talking about building a pipeline that is going to cause the development of more tar sands oil, which is the dirtiest oil in the world—the dirtiest—when it is going to create a few jobs for a very short period of time, a couple of years and that is it.

Why aren't we focusing on what we know works and creates a lot of jobs and saves energy and saves money; that is, retrofitting all of the buildings in America to make them energy efficient—3.3 million jobs in that 10-year period of time, saving us untold billions of dollars in savings for consumers in America, of course reducing greenhouse gases.

I find this whole issue of this Keystone Pipeline to just—at this point in time when the planet is warming up, when we may be at that tipping point where we can't do anything about it, I find this debate about the Keystone Pipeline to be out of bounds, considering the impact it is going to have.

I would say this: After all my years here, serving 10 years on the science and tech committee in the House, serving here on agriculture, the Health, Education, Labor and Pensions Committee as chair, study after study I have read, I have come to this conclusion on why I cannot vote for the Keystone XL Pipeline. I have come to this one conclusion: Every dollar that we spend today on developing and using more fossil fuels is another dollar spent in digging the graves of our grandchildren.

I don't want to dig that grave anymore. It is time to get off our fossil fuel habits. I am not so naive as to think we can do this overnight. I understand that. What we ought to be on is a very steep glide slope down, understanding that by focusing on renewable energies, the wind and solar, ocean thermal energy conversion, all of those things, geothermal, and, yes, retrofitting buildings to be more energy efficient would create hundreds of thousands more jobs, millions more jobs than the pipeline. It will make us more secure as a nation. It could have the effect of getting us on that steep glide slope down of fossil fuel. The fossil fuel era comes to an end. That is what we have to do. Bring the fossil fuel era to an end. The sooner we do it, the better it is going to be for our grandkids and our planet.

I know the Keystone Pipeline is a small part of it. It is a small part, but they all add up and one step leads to another. There are those that say they are going to develop the tar sands regardless. I don't believe that.

I have seen a lot of studies that show Canada can't ship that west, and it is too expensive to ship it east on the railroads. The only way they have to go is the pipeline through America. I don't know whether cutting off the Keystone Pipeline will slow down or stop the tar sands development, but I believe we have to do everything in our power to slow it down and to get our neighbors to the north——

The PRESIDING OFFICER. The Senator has consumed 5 minutes.

Mr. HARKIN. Just 1 more minute to finish.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. HARKIN. To get our good neighbors, the Canadians, to the north to start moving away from the development of the tar sands, both for their good and for the good of our planet.

I don't want to keep digging the grave for our grandkids. I cannot vote any longer for anything that would develop or use more fossil fuels anywhere in our country or globally.

I yield the floor.

The PRESIDING OFFICER. The Senator from California.

Mrs. BOXER. Before the Senator from Iowa leaves the floor, I thank him not only for his heartfelt remarks, because what we are doing here—we are here a short period of time in essence, whether we are here 6 years or 26 or 36 or even longer.

How long has the Senator been here?