

Good morning ladies and gentlemen.

It is truly an honor to have the opportunity to address the American Energy Summit and Defense Forum, and welcome to Washington, which is today living up to its reputation as Disneyland on the Potomac. Maybe today more than ever.

What an interesting time to be in the energy business! Our industry faces a variety of opportunity and challenges. Not the least is navigating political waters here in Washington, and in every state capital domestically and every nation's capital globally.

Energy is increasingly an international business. The United States Energy Association is the U.S. representative to the World Energy Council, which is an international organization headquartered in London. Hence, we very much have an international perspective.

The single most important energy issue in the world is happening right here in the form of our increasing domestic production of oil and

natural gas. America's energy producers are reshaping global trends from Venezuela, to Moscow, to Riyadh, to Nigeria. For the first time, we are seriously discussing the prospect of an energy independent North America – maybe make that North America and Brazil.

If I told you just five years ago that the combination of increased U.S. production and energy efficiency could create a situation where we would not need to be dependent on decisions in dangerous countries from people who really do not like us, you would not have believed me.

But this fantastic possibility is truly in front of us, if we are smart enough to make the right decision right now. One only needs to look at how chaotic the middle-east is today. How can we allow our economy and our future to be hostage to the Organization of Petroleum Exporting Countries?

Do we need proof, other than recent events, to ask ourselves why we remain dependent on Mideast oil?

And one last word on the Mideast. Keep in mind – not only do they not like us, they don't like each other!

- Iran tries to assassinate the Saudi Ambassador in Washington
- Qatar finances the rebels in Libya to over-throw Kaddafi
- And over three decades of peace between Egypt and Israel seems in jeopardy. The U.S.-Israel relationship is rockier than any time in my memory.
- Add in Iraq, Syria, Yemen, Tunisia, yikes! This is not going to be a happy next few years in the Mideast.

Our domestic production is causing turmoil in Russia. Not only will we not be importing sizable volumes of natural gas in the form of LNG, our potential to export gas can shake up the global gas markets. And exports of U.S. technology and management now can be game changers in places like Ukraine, Poland and China in the same way shale gas is a game changer here.

Some who oppose natural gas exports think that exporting natural gas will drive domestic prices up and maybe so. But, we don't prohibit exports of fertilizer. If we did, maybe our farmers would pay less for the fertilizer they need. And we have hungry people here in the United States, but we would never consider banning exports of food. Instead, we feed the world. And guess what happens when you export food? Farmers grow more food! No doubt exists that we have higher agricultural production because we export food.

Japan is practically begging to be able to buy natural gas from the United States. Is it not in our nation's interest to have a stronger economy in Japan? And how about Europe? Cheap energy from the United States could go a long way toward solving some economic, diplomatic, security and environment problems in numerous countries.

And when I speak of exports, I mean all of the above – natural gas, crude oil, petroleum products, nuclear technology, coal, other technology and energy services. And energy efficiency.

In many countries, particularly Europe, climate change is a major issue. Calls continue for a global agreement to reduce greenhouse gas emissions. The United Nations' Framework Convention on Climate Change – Conference of the Parties met last year in Peru for the 20th year. Thousands descended for two weeks of talking, and are no closer to a global climate agreement. This year in Paris where they hope to finalize the replacement of the Kyoto Protocol. Meanwhile, our industry in dealing with a variety of EPA regulations on cross-state pollution, mercury, ozone, CO2 emissions, methane emissions. I was in New York City yesterday and moderated a session that included a Standard and Powers presentation, including a chart that showed the potential for electric power prices to double by 2030 due to the existing, proposed and anticipated EPA regulations.

Back to climate change activities... Certainly, our U.S. Senate is unlikely to take up cap-and-trade again, at least not soon. It was not even a topic of debate in the 2012 Presidential election and barely mentioned in the 2014 mid-term election. Congress did take up cap and trade

once and an outcome was the 2010 mid-term elections when the Republicans retook the House. Senator Joe Manchin, then Governor, running for the Senate “shot” the 2,000 page climate change bill for a campaign commercial. I think this helped him with both the coal miners and the hunters in West Virginia. The experience that many senators had from the so-called “dry-run” was terrifying when they came to understand the impacts in their state. And this came at the beginning of the financial meltdown, causing nervousness about the “trade” part of cap-and-trade.

There is a story comparing the carbon emitters with the carbon traders. The story is this:

At a Catholic school, the students were lined up for the lunch line. At the front of the lunch line was a big bowl of apples. One of the nuns wrote a note saying “God is watching – take just one.” These are the carbon emitters. We are going to regulate carbon emissions, we are going to monitor them, we are going to watch them! Heavens! God is going to watch them!!

Then the students get to the end of the lunch line and there is a big plate of these huge chocolate chip cookies. These are the carbon traders. So, one of the students puts a note by the cookies: "Take all the cookies you want. God is busy watching the apples." This is illustrative of how the Senate was unwilling to put another huge piece of the U.S. economy in the hands of Wall Street on the heels of the financial and housing meltdown and global financial crisis.

So don't expect a cap-and-trade bill anytime soon. Not until political leaders regain faith in financial markets.

But I can tell you one thing to watch out for, and that is China.

China intends to beat us to commercializing carbon capture and storage and then they will sell it to us and the Europeans. China has participated for 10 years in a variety of international forums dealing with CCS. They took notes and offered nothing. They listened to us

and the Europeans whine about how hard CCS will be, about public acceptance, siting, permitting and liability. A few years ago, they realized that they don't have those problems. So they intend to be the first to deploy commercial-size demonstration plants and market their technology here.

Now, they are trying to figure out how they can get carbon credits for the technology they sell to us. When they figure that out, they will rush to the negotiating table to strike a deal. We will be the only outsider, and the pressure on the United States to sign on to a Chinese-led global treaty will be intense. It could happen this year in Paris. And so many countries are so anxious for a deal that who knows what agreement may be reached. And the U.S. negotiating position will be that the "instrument" be non-binding, hence not a treaty and not a protocol, hence not needing Senate ratification

Meanwhile, we are trying to deal with the slew of EPA regulations that will further force reductions in greenhouse gas emissions. Most likely, reduced U.S. coal consumption will mean higher coal exports,

particularly to Asia with no difference in global greenhouse gas emissions. China and Japan and Korea will buy and burn our coal, in many cases, with fewer environmental controls.

Globally, 1 ½ billion people lack access to energy, that is, no electricity, no motor fuel, no refrigeration for vaccines, no lights for kids to read after dark.

And another 1 ½ billion have inadequate access – unreliable electric power – maybe electricity for a few hours a day probably from small diesel generators that are very expensive and very unhealthy, in terms of local air pollution. The world in this internet age has a moral responsibility to bring these people out of poverty.

The World Energy Council conducts an annual assessment of energy policies. This policy assessment strives to identify what WEC calls the Energy Trilemma, that is:

- Energy Security
- Social Equity
- Environmental Protection

Balancing these three often competing objectives is a challenge for policy-makers in a world where energy demand will likely grow 40% over the next 20 years.

WEC ranked countries energy policies based on 24 criteria. Examples include indicators such as:

- Import dependency
- Energy Use per GDP
- Affordability of gasoline and electricity
- Emissions
- Political Stability
- Rule of Law

- Macro-Economic Stability

In the 2014 index ranking, the U.S. rated 16, ok, 16 out of 92 member nations. Considering what some of us believe about national energy policy, 16 out of 92 sound ok. At least we are in the top 20%, maybe a “B” grade.

- Canada is #5
- Colombia is #8
- Spain is #10
- Latvia is #15. Yes, 15

So U.S. energy policy is not as highly ranked as Latvia. Ok, so we did not top Switzerland, which is #1, but Latvia?.....

A couple of other interesting details:

Nuclear will grow globally in a post-Fukushima world. Countries recommitting to new nuclear include: China, United Kingdom, Korea, France, Poland, United Arab Emirates, India and those continuing to consider future nuclear commitments include: Canada, Mexico, Brazil and South Africa. Domestically, we have five plants under construction, low natural gas prices will challenge future new nuclear plant construction. Probably by 2025 we will only be able to replace the plants that are being shut down. It is tough for nuclear plants to compete with natural gas at current prices in competitively power markets.

Urbanization is swiftly moving people from rural areas to mega cities, presenting policy-makers with further complications, particularly regarding transportation infrastructure. But this also pressures power grids and these folks move from rural to urban areas they want lights for air conditioning and cell phones. Energy efficiency is one strategy that addresses multiple objectives:

- Energy security

- Social equity
- Environmental improvement

Policymakers highly influence the availability of capital for energy infrastructure investments. Countries with friendly investment structures have little trouble attracting foreign investments where countries that discourage foreign investments have difficulty attracting domestic capital. The balance of relying on market forces versus government regulation is key.

The summation of the policy assessment can point to the circumstances here in the United States. Ever since the first Arab oil embargo in 1973, we have bemoaned the lack of U.S. National Energy Policy. Our failure as a nation is actually very understandable.

As Americans, we cannot decide what a national energy policy should be. In reference to the WEC trilemma – we have not agreed how to balance:

- Energy security
- Social equity
- Environmental protection

What is refreshing is that policymakers are more engaged in a conversation about energy policy than ever before. No national election in the past 40 years has focused as much on energy as the election in 2012 and the mid-terms in 2014. No doubt exists that domestic and international energy policies and perhaps environmental policy will be key in 2016. If the spat between Governor Brown and Senator Cruz on climate change this past weekend the debates will be intense and maybe entertaining.

Here are a few of the issues that I think you will hear about over the next six months.

- The Keystone XL Pipeline. Federal approval is needed because the pipeline must cross the U.S.-Canada border. Nearly every

segment of the U.S. business community supports construction of Keystone due to the positive economic and employment impacts. The environmental community has made approval of Keystone a line in the sand to the White House. They object to the CO₂ content of the Canadian Oil Sands. Never mind that the crude is moving today by rail car – much more dangerous and trains have higher emission profiles than pipelines. Never mind numerous deadly wrecks of trains carrying crude oil. And never mind that for the first time our Canadian friends are looking for new customers.

- Environment Protection Agency regulations – A whole garden basket has been developed the last couple of years. Of particular importance are pending final regulations on greenhouse gas emission from new coal-fired power plants and EPA action on limits to existing power plants and – very important, limits on both new and existing natural gas plants, gas processing facilities, refineries and cement.

- Crude oil exports – currently crude oil exports are prohibited even though exporting re-fined petroleum products is allowed. We exported something like 33 million barrels a day of petroleum products last year. As domestic production continues to increase pressure will increase to approve crude exports.
- Electric power grid security – reports that should have been classified that outlined scenarios for attacks on the power grid have provoked an intense conversation on how to protect the grid from both physical and cyber-attacks.

The conversation is critical and healthy for the country. We need dialogue before we can reach a consensus. I hope the political discussion in this campaign leads to an agreement as to what our goals for a national energy policy should be. Maybe then we can pass Latvia on the WEC index of energy policy.