

*Wayne Leonard Speech  
Clinton School of Public Service  
Dec. 9, 2009*

Thank you Chairman Suskie. And thank you Dean Rutherford. I appreciate the opportunity to be here today. And I want to commend you for having this Sustainability docket, and for inviting speakers who, I am sure, represent a diverse set of views. For me, the most important sustainability issue we face globally and in Arkansas is climate change. Not surprisingly, that is what I will speak about today.

Many of you probably know that I am an advocate (some would say an outspoken one) for comprehensive climate action now – and I do hope that Congress will enact legislation soon.

As is the case with much of our public discourse today, there seems to be two diametrically opposing worldviews on climate change – each with its own “sound bites” – and in my opinion each suffer severe flaws and do not form the basis for sound public policy.

The first, which we hear a lot about from industry, is “just say no”. To me that is a horror story. It will not end well. The most understandable version of that view is the argument that now, in the middle of the Great Recession, is the wrong time to address climate change, that we cannot afford it.

The other opinion is what I call the “fairy tale” view – that addressing climate change will be economically painless. As an aside, there is another less responsible point of view -- the claim that purports carbon dioxide is not a pollutant but a nutrient. Regulating a nutrient is like taking the food from our own mouths. Everyone knows that, so the science must be purposely distorted or twisted by folks with a hidden agenda.

I hadn't planned to talk much about that, but, given the events of the last few weeks and the controversy over the emails among climate scientists at one university in the UK, some of you may wonder how that has affected our point of view.

The short answer is “it hasn't” – the scientific evidence that we are altering the climate

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goes far beyond the datasets and models implicated in the recent controversy. The basis for public policy action is incontrovertible in my mind. I will address that point later. And I would be happy to talk about this more if you have questions.

But in my view, there is no longer any credible argument to be made against the science, and it is tragic that climate change science seems to have gotten caught up in the cynicism and culture wars in this country.

Recent email disclosures notwithstanding, the science shows that we face a real risk of catastrophic outcomes within our children's and grandchildren's lives. That's a risk of a catastrophe(s), not a certainty. Any credible source would agree that the science does not "prove", with 99.44 percent certainty, that a catastrophe will occur. But, that is not the point.

The science does demonstrate that we face a non-trivial probability of catastrophe – and that is certainly good enough to establish the need for a public policy. Like most things climate change is not about certainty but probabilities, risks and expected outcomes.

As a businessman and CEO, I know that any company that ignores material risks of a catastrophic outcome does not stay in business long. Eventually the odds will get you. That is risk management 101. It applies to business leaders and political leaders. The risks are simply too large to ignore, and the most recent evidence is that we have underestimated the risks.

But that was very predictable when you're developing a consensus view of those steeped in the scientific method.

They are looking for absolutes and that is a slow process of weeding out all other variables. But let's get back to the economic arguments – the first of which is that dealing with climate change right now is a luxury we can't afford. With unemployment as high as

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it is, with the economy struggling, we need to make hard choices, and climate change is just not a priority.

In this view, “now” is the wrong time to add costs to our economy. I wish I shared the view that we had the luxury of taking a wait and see approach. In business, they call that the tyranny of the urgent; sacrificing your future for what is most immediate.

But, as I mentioned, that option is somewhat moot as we are already seeing that the early effects of climate change.

And in fact, while public opinion appears to be shifting one way – against the need for immediate action– the scientific view is going the other direction. If you read the most recent science such as the UN update report issued in October 2009, you will find that CO2 emissions, global warming and sea-level rise are all exceeding the projections made just a few years ago. Just a few weeks ago I was in a meeting with two of the leading American scientists on sea-level rise issues, and heard that the edges of the ice sheet in Greenland are falling into the ocean at an increasing rate.

And this is based on direct observation and measurement, not models. Keep in mind Greenland is no Las Vegas. What happens in Vegas stays in Vegas. What happens in Greenland does not stay there. It is estimated the sea-level rise from Greenland alone could ultimately affect around 1 billion people.

The risk of species extinction is increasing as well. Every month brings new evidence. Last month a new study reported that whole forests of aspens are being wiped out in the American West.

What this means, of course, is that doing nothing – waiting to act –is not costless. We have to stop thinking action on climate change is a luxury we can do without – like going to a movie – and realize this is an investment to avoid massive disruptions to our climate and potentially catastrophic and irreversible outcomes.

If you think sea-level rise is interesting, but will have no effect for Arkansas – think about America’s energy infrastructure. It is on the gulf coast, and it is at significant risk. Almost half of America’s oil and gas production occurs in or passes through Southern Louisiana. The refinery and petrochemical industries are concentrated on the Louisiana and Texas Gulf Coast.

The Big Four hurricanes of 2005 and 2008 are estimated to have cost consumers nationwide some \$80 billion in increased costs due to supply disruption. We don’t claim those storms were caused by climate change – but they are harbingers of what we could be in store for as the environment heats up. So, at a minimum, sea-level rise combined with greater storm intensity will have a direct impact on energy costs in Arkansas.

What about Arkansas’ largest industry, agriculture? In a recent survey by the Institute for Public Integrity of economists who have studied and been published and peer reviewed on the climate issue (experts if you will), 86 percent agreed that agriculture would be the most affected domestic sector by the damages of climate change.

When you hear people say “now is not the right time”, you should ask “when is the right time”. And what their alternative is. Candidly, now is not the best time. That was probably 10 years ago. But we are where we are. And “doing nothing” at this late date is just not a responsible strategy.

We are playing Russian roulette with our planet and our economy. The difference is there is a bullet in every chamber, except one. And that’s being generous on the odds. Focusing on sea level for a moment. A major international insurance company, Allianz, released a study last month that said sea-level rise of a half a meter by 2050 could put hundreds of millions of people at risk, and trillions of dollars of assets. But that’s somebody else’s problem, right? Like our grandchildren.

Proverbs says, “A good man leaves something for his children’s children.” I don’t think this is what we want history or our grandchildren to remember us for leaving them. That brings us to the other side of the argument that dealing with climate change now will not be difficult economically – that the solutions are not expensive.

Yes, some reductions will be relatively simple, but getting deep cuts in emissions will not be painless, and energy costs will go up. If we do it right, we can minimize the impact on families. But anyone who says this will be cheap is either uninformed or simply engaging in wishful thinking. In this country, over 80 percent of electric sector emissions come from coal plants: we own some here in Arkansas, as does SWEPCO, and as well as the Co-ops.

Anyone who owns a coal plant knows a few fundamental facts:

- 1) once the plant is built, once the capital cost is sunk, the operating (or “to go”) costs are very low compared to the costs of new capacity; and
- 2) properly maintained, coal plants can have very long economic lives – 50 to 60 years or longer.

This means that it is very expensive to reduce CO<sub>2</sub> emissions by shutting down existing coal plants – and you get the same answer whether we are talking about replacing them with renewables like wind or solar, or with new nuclear plants. The economics are presently about the same – as the chart shows, there is over a \$100/MWH gap between the cost of continuing to run an existing coal plant (that emits CO<sub>2</sub>) and the cost of replacing it with either new nuclear or wind (that doesn’t emit CO<sub>2</sub>).

I should point out a recent cover story by Scientific American about how we can get all the energy we need from wind water and solar. It priced out wind at \$55 MWH. That is fantasy. What the real numbers mean is that the cost to society, if we force our existing coal plants to shut down, will be well over \$100/ton of CO<sub>2</sub> avoided – far above any of the prices being predicted in a number of studies.

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The economic reality is that any strategy that relies on replacing existing coal plants is economically and politically doomed to fail. At the same time, the societal cost and risk to the climate of not reducing CO<sub>2</sub> is also one we will live to regret. So where does that leave us? As we tried to answer that we asked another question. Why we couldn't just fix what we have instead of scrap it?

We turned to MIT to evaluate the feasibility of retrofitting the existing plants –with a CO<sub>2</sub> scrubber on the back end.

This is different than the various technologies you hear about that takes out the carbon on the front end of the combustion process. Like coal gasification. That would be rebuild or replacement. Virtually, no help with this problem.

The MIT report was released last spring and it says the technology exists but we are not investing enough to drive down the cost. We've been answering the wrong question in Washington. Even if we do improve the technology, I don't want to represent that it will be cheap – but in the long run it will be far cheaper than shutting down all our coal plants.

Importantly, this technology is applicable to the coal fleet in the developing world, which is larger and on average far newer than ours and growing. With this technology, the rest of the world can keep their existing coal plants and economically reduce the emissions. Simply put, we can't solve the climate change problem without carbon capture and sequestration. The MIT report makes this point and supports the belief that the cost of retrofitting is within the range of do-ability around the globe.

We believe the only alternative is to get started now.

We support

- economy-wide, market-based approach such as cap and trade
- with a price collar – high enough to encourage new technology

- with protection for families – so revenues are recycled to low and moderate income households that will be the most affected
- with an emphasis on the technologies that will work here and in the developing world.

We would add

- a “pledge and review” structure – so that we in the United States take the lead, as we must, but that we do not continue forever down a path if the rest of the world doesn’t follow.

We would encourage the states to focus on –

- Protecting low- and moderate-income households. If utilities receive allowances to protect customers, let’s make sure they can use them to protect their most vulnerable customers;
- Encourage and incent energy efficiency and progressive regulatory frameworks that align the economic interests of customers and investors. And
- Avoid “local” mandates – if the federal government adopts a market based system, let the market work –encourage utilities to find the solution that works best for your customers

Recently, the phrase cap and trade has become a "lightning rod" and, worse, an excuse for not passing climate change legislation now.

First, and you know this well here at the Clinton School, there are generally three policy options for mitigating this type of environmental externality: tax, cap and trade, command and control (or site specific emission standards). The first two options put a price on the emissions, either through the market or by a legislatively set price or tax.

Either way it’s far superior to the third approach, mandatory reductions on a plant by plant basis, also known as command and control. That would be a very expensive way to deal with CO2 emissions.

For example, the Congressional Budget Office study determined the clearing price for allowances in 2012 would be 69 percent lower by allowing CO2 offsets in the trading mechanism.

And by the way, if Congress does not act, EPA will proceed down the “command and control” path. In fact, they already have fired the first shot. With an endangerment finding for CO2 this week. In some respects, they had no choice. The Clean Air Act of 1970 classifies CO2 as a pollutant, and in *Massachusetts vs. EPA* the U.S. Supreme Court ordered the EPA to get started.

Many expect that may come as early as next week. But for some reason there are some who view cap and trade as not a market-based solution, that it is some violation of free market principles. I suppose that view comes from the fact “free allowances” are proposed to be given out to various parties.

Those who oppose it on free market principles are ignoring the larger fact that CO2 emissions have a cost that is presently “internalized” and only government regulation (like cap and trade) can force the market to stop ignoring the cost. Without a price on carbon, we over consume some resources and “free riders” push the cost of any damage to the environment to someone else. In this case, probably another generation.

Our real choices, if we are concerned about doing this in a cost-effective manner, are between the two ways that price carbon – a CO2 emission tax or cap and trade. Any mandates, such as for renewables, fall under command and control.

They distort the market and the incentives for research development and demonstration and that will lead to overall higher cost of compliance. When you hear criticism of cap and trade, your first question should be: what are they proposing instead? If they are proposing plant specific emissions limits, I suspect they are selling something to help these plants comply or to replace them. If they are sincerely proposing a tax, we could

*Wayne Leonard Speech  
Clinton School of Public Service  
Dec. 9, 2009*

have an honest debate about cap and trade versus tax. Particularly about the efficiency of each. And the effectiveness of each. But keep in mind if they say they support a tax, one of the sharpest criticisms of cap and trade is it's a disguised tax and most people say any "tax" is dead on arrival. But more often, the critics of cap and trade are not proposing an alternative, which means they are proposing that we do nothing.

But that is politically incorrect for most industries to say that. Companies are getting enormous pressure from their shareholders to disclose their CO2 emissions and reduce them. They are finding it increasingly difficult to just say no. So instead they attack the mechanics. In many circles (and in TV ads) you hear this called the Cap and Trade Bill. It's not about cap and trade. It's about energy security independence and creating a more sustainable environment.

However, there are some legitimate concerns about cap and trade, and how it has been proposed in the pending legislation. First of all, in the absence of strong price protection, there is the possibility that allowance prices could get so high as to wreak economic mayhem. At least temporarily.

We agree that the cost control provisions need to be strengthened and we think that a price collar is the best way to do that. A second concern is that continuing down the path of emission reductions if the rest of the world doesn't join in, at some point just doesn't make sense. We agree – we would be economically disadvantaging America and would simply move greenhouse gas emissions offshore, along with our industries and our jobs and the risk of climate change would barely change.

The U.S. absolutely has to lead but at some point, five or more years down the road, if the developing world is not engaged, then leadership turns into unilateralism. We would use the price cap to better address this issue. At some point in the future – say 2020 – we would only continue to escalate the allowance price cap if sufficient levels of binding international participation had been reached.

For example, we could print more allowances for a fixed price until others participate. This protects our economy, and also includes a carrot for other countries to act. But neither of these concerns, while significant, are disqualifying. The right answer is to improve the cap and trade proposals, not to reject them. Some say we are not the problem – the growth in emissions is coming from the developing world, so we shouldn't have to do anything.

First, greenhouse gases linger for decades in the atmosphere. The stuff that is already up there and is contributing to climate change right now – the lion's share of it came from the developed world, not the developing world.

Second, our emissions per capita are still far above others. Under the bill, U.S. emissions are projected to drop from 25 tons per person to 15 tons by 2020. Under China's current plan (not a commitment) their per capita emissions drop to 8 tons per person by 2020. I find it (for lack of a better word) "Un-American" to say "we got ours but you can't have your opportunity to improve the lives of your citizens."

On the other hand, as I mentioned before, we can't solve the problem unless the developing world comes along at some point. We need to design our national policy with that in mind. Pledge and review for instance. But we can't just say no. Some say cap and trade is a ploy by Wall Street and is prone to Enron-type abuse, but cap and trade has been used before, to control sulfur dioxide emissions, without abuse. And in any event a price collar provision would drastically reduce any incentive to try and play games with the market.

If you're concerned about Wall Street getting their hands on the allowances, think about a tax and the federal government flowing the allowance revenues into the general fund. Without recycling the revenue into the economy, this becomes one of the most regressive and costly programs ever to come out of Washington.

*Wayne Leonard Speech  
Clinton School of Public Service  
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Some say electricity is getting a free ride because of free allocations. We didn't support free allocations to the electric sector – we favored cap and auction and recycling of revenues, with auction proceeds rebated to households.

But allocating allowances to regulated utilities to mitigate the impact on the customer's bills is another way to protect households, and regulators such as the Arkansas Commission will make sure that happens.

Neither the bill that passed the House nor the bill reported out in the Senate are perfect from our perspective. But again there is no such thing as a perfect bill and time is not our ally in trying to design one. But this is definitely a huge step in the right direction. We do strongly believe we need to add a hard price cap – something that both Secretary Chu and Senators Kerry and Graham appear to recognize. And with that comes an opportunity to put in the “pledge and review” provision I mentioned earlier. And, if we can recycle more of the allowance revenues back to households sooner, that would be good also.

You should be skeptical of the claims or insinuations that these bills will be an economic disaster. Point in fact, you have an ad running right now on television in Little Rock that says the U.S. Treasury says cap and trade will cost \$200 billion a year (implying nearly \$7,000 per household in the U.S.).

First of all, that is a global number. Secondly, it's based upon legislation or policy that doesn't actually exist. In particular, it assumes no recycling of revenues. Of course, Waxman Markey is nothing like that “hypothetical” bill. The truth is, the Congressional Budget Office priced the real Waxman Markey Bill after it was drafted at \$175 per average household per year. (The EPA has the real bill at \$120.) (Not \$6,000 ad advertised.)

On the other hand, defense spending costs average households around \$6,000 per household. We all agree a strong defense is important. But the same basic reasons (there are differences) why we need a strong military apply to why we need to protect the planet

*Wayne Leonard Speech  
Clinton School of Public Service  
Dec. 9, 2009*

from catastrophic outcomes from climate change. Here, in Arkansas, we expect the effects on our electric customers to be relatively modest. Less than the U.S. average.

Because the CO2 emission rate for Entergy Arkansas is 46 percent below the median of other generators, and, interestingly enough, most of the price impact is associated with the renewables mandate not cap and trade. Our current projection is about 1 percent per year in price increases from 2012 to 2021 with 70 percent of that due to to renewables mandate. This is why in my opinion the best way to do this is without a technology mandate on top of it.

A renewables mandate is not the most cost effective route to greenhouse gas reductions, nor will it get us the technology that is needed to clean up coal plants around the world. If we put a price on carbon through cap and trade, the renewables that are economic solutions for climate change will get built, and we will have spent our money wisely.

The world is looking to the U.S. to lead in the climate change effort. We need to start by passing domestic legislation now. I am not naïve that this will be easy or occur overnight. (It hasn't.) Someone once said, "We can't deny the cynicism or the callousness of which humans are capable.

And I suspect we haven't seen anything yet. It will be a tough, ugly fight as evidenced by the TV ad I referenced. The Society of Professional Journalist believes that public enlightenment is the forerunner of justice and the foundation of democracy.

Any efforts to deliberately distort the public's knowledge to confuse the public are not just an attack on the climate bill but on democracy itself. Without public enlightenment, the electorate armed with the truth, we have no more than the illusion of democracy. But some people refuse to be ashamed of themselves.

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Unlike the citizens of most other nations, Americans have always been united less by a shared past than by shared dreams of a better future. We cannot deny this nation's history of courage and compassion that offers us hope for the future.

Cynicism or Hope. Courage or Cowardice. Talk or Action. That's our choices.

We are the first generation in history that has to answer the question if we are more important than future generations. I believe with all my heart, in all our hearts we all know the answer to that, but it requires supporting Congressional actions by articulating what we are for, instead of railing about what we are against.

Horace Mann said, "Be afraid to die until you have won some victory for humanity." This is the best chance you'll ever get. And eternity is a long time to have regrets.

Thank you. I look forward to your questions.