



Pacific Northwest Climate Science Conference Keynote Address
UW Climate Impacts Group
September 10, 2014
Remarks as prepared

Thank you, Dean Graumlich, for the introduction.

Good afternoon! It's great to be back at the UW, a true engine of innovation for our state.

And the reason it's such an engine for innovation is because it is powered by some of the world's best scientists, researchers, and academics.

The UW's own Mary-Claire King just won a Lasker Award for her work in cancer research.

The Center for Commercialization here has had a record year -- 18 NEW start-up companies based on UW research technologies, and a bright future under the leadership of Vikram Jandhyala.

And you have Amy Snover directing the Climate Impacts Group, making sure the latest climate science is presented in a way that is accessible to policy makers and helps them take the right actions.

Amy spent many hours making sure the National Climate Assessment was done right and presented well to the press and public. She also did a tremendous job in helping the President's White House Climate Resilience Task Force dig through draft recommendations, providing valuable feedback, and shaping forthcoming recommendations.

I want to thank Amy for her tireless and outstanding work on this important challenge.

So it's an honor to be in a room full of scientists from across the Northwest focused on climate change -- what I think is the single most important issue of our time.





And it's exciting that this is the biggest turnout yet for your annual conference. That speaks to the growing interest across different disciplines in tackling issues around climate change.

I know I don't have to convince anyone here about the challenges we face both as a state and as a planet when it comes to climate change.

After all, it was science that convinced *me* nearly two decades ago of the need to act on climate change.

And with each new study that is released, I am only more convinced of the urgency of the situation.

A study just published in the journal *Science* reveals that some of the heat that is warming our planet is being absorbed by our oceans -- and not just at the surface, but 700 to 2000 meters down. The study also points to accelerated warming of the atmosphere, once that heat sink is no longer available.

I read yesterday about the latest Audubon report on the devastating impact climate change will have on birds in North America. About half of the birds that regularly occur in Washington -- about 189- of 329 species -- are endangered or threatened by climate change.

Yesterday I also saw the latest figures from the World Meteorological Organization showing that last year carbon dioxide levels rose to historic highs.

And earlier this year, this university released a report concluding that climate change had increased atmospheric levels of gases unprecedented in the last 800,000 years.

These reports underscore two critical points.

First, these changes in our natural systems will bring significant consequences for the economy, infrastructure, natural systems, and human health of this region. And we need to be planning for that.





Second, the decisions we make going forward about greenhouse gas emissions will have a significant effect on our children's and grandchildren's futures.

We should make decisions that give them the very best chance at avoiding the very worst impacts that climate change can bring.

But while I find this science compelling, concerning and motivating, not everyone is convinced.

And I'm not just talking about climate deniers but also climate agnostics, the ones who shrug their shoulders and say they don't know if it's manmade, and aren't sure we can do anything about it even if it is real.

I tell everyone that I speak to about climate change that this is an all-hands-on-deck effort. The more people who are out there, speaking loudly, the more attention this will get.

And I need you to help.

The data you produce is, of course, the most important thing you can do, because those facts help refute the accusations that climate change isn't real or that we're overreacting to natural and historic cycles.

But with so much at stake and a lack of political will in some corners to act, I'm convinced that a scientist's work cannot end when findings are published.

I need you to speak outside of the labs and the halls of academia about what you know, what science tells us and what's at stake if your work is minimized or ignored.

Russell Wilson can't help the Seahawks win if he's sitting on the sidelines or in the locker room. He needs to be out there on the field. And so do you. A University of New Hampshire study found recently that nearly two-thirds of respondents say they trust scientists to provide accurate information about environmental issues.





And the more they hear from you directly, rather than in brief newspaper quotes or sound bites, the more likely they are to trust you. Do you know how much politicians wish that were true about them?

You have standing in this debate. And the debate is not about whether climate change is real. That's settled science. The debate, unfortunately, is about whether we act.

So I'm asking you to do three things.

One, get on social media and share your knowledge there. A lot of information gets shared on social media – look at how the ALS Ice Bucket Challenge went viral recently.

Two, talk to your fellow colleagues in the scientific world who are not in this room today and ask them to engage, too. Let's grow exponentially the numbers of scientists who are speaking out in public about this issue.

And three, talk to elected officials, business leaders and other opinion leaders.

I may not know about quantum mechanics entanglement theory. But I do know what works to change the minds of elected officials, and it is having experts like you come into their offices to share your indisputable data.

There's a quote attributed to the British Chemist Baron C.P. Snow, and it goes, "A scientist has to be neutral in his search for the truth, but he cannot be neutral as to the use of that truth when found. If you know more than other people, you have more responsibility, rather than less."

If you do these three things, it will make a difference. I guarantee it.

I do want to acknowledge that I'm asking you to step out of your comfort zone. And I want to be clear that I'm not trying to place the burden for getting policy makers to take action on you. I know that's my job.





And I'm not asking you to be political, partisan or ideological. Leave that to the politicians. Seriously, if you are the truth-tellers, the explainers, the men and women with the answers, me and other elected officials committed to this cause will take the next steps.

We will argue that our values compel us to act, that this is a moral choice and the single most important thing we can do to protect the future for our children and grandchildren.

I also want to thank those who are already speaking out. Amy Snover is one of them. She has been willing to stand up and talk about this problem in almost any forum, whether it's in the press, in the legislature, or with business leaders. I know there are others within the scientific community that are out there, too, and it's my hopes those ranks will only grow.

Now, let me tell you what I will do with your help, and the help of people all around Washington who are ready to act to reduce carbon pollution.

I have issued an executive order that will determine how we reduce carbon pollution in our state.

First, I have established a Carbon Emissions Reduction Taskforce to provide recommendations on the design and implementation of a market-based program to reduce carbon pollution. I will ask the Legislature in 2015 to enact the program.

Second, I have directed state agencies to work with key utilities to reduce, and eventually eliminate, the use of electrical power produced by coal. We use coal for about 14 percent of our electricity – but it produces 80% of the carbon pollution from our electrical sector. We have cleaner and affordable sources of power.

Third, we are studying the best way to implement a low carbon fuel standard and to support a lower-emission, multi-modal transportation system, including expanding the use of electric vehicles.





Fourth, I am working to extend and grow my Clean Energy Fund, to help universities, utilities and others develop and deploy new renewable energy and energy efficiency technologies, including those with an emphasis on solar power.

Fifth, I have requested a program proposal to significantly improve the energy performance of public and private buildings.

And sixth, I have asked the state Department of Ecology to review the state's greenhouse gas emission limits and recommend updates.

On that last piece, by law, our review of state's emission limits must be based on the latest climate science, as reported by the Climate Impacts Group.

All of that will be met with resistance, organized opposition, doubters, skeptics and cynics.

But I'm an optimist, even though I've been fighting this fight for a long time.

And there's something else I tell Washingtonians when I talk about climate change besides the bad news, and it's this: Climate change is as much an opportunity for our state as it is a challenge.

We know the first movers in technology usually have the advantage. We see it all the time -- the companies that seize the markets are those who act first.

And our state is no stranger to acting first. We brought the world the first successful commercial jet plane. We pioneered software that revolutionized desktop computing. We gave the world the ability to buy anything with just one click.

I see the potential rewards for those who pioneer innovations in clean energy. Those rewards are job creation, greater energy independence, and greater security for future generations.

Washington has the necessary innovative spirit, entrepreneurial zeal and scientific literacy. There's no better place to lead this revolution. I am convinced of that.





As governor, I want to make sure the state makes the right investments to support continued research and development of clean energy innovations.

Last December, we inaugurated a new Clean Energy Institute right here at this university, with a \$6 million investment from the state.

Some of the best and brightest minds are working on the development of technologies that advance storage of electricity and solar power.

Like Wes Williamson, a UW student working on developing a photovoltaic paint that could someday revolutionize solar cells. That's the kind of innovation we have to encourage and support.

During my first year as governor, I pushed for the establishment of a Clean Energy Fund, which the legislature funded with \$40 million for the current biennium.

That's money we're now investing in technologies that save energy, cut energy costs, reduce harmful emissions, increase our energy independence, and create and sustain good-paying jobs in communities across our state.

For example, in June I announced three Smart Grid matching grants totaling \$14.3 million from this Clean Energy Fund, awarded to three of our state's utilities for smart grid demonstration projects.

Our state will benefit from these projects going forward in two specific ways:

One, they will advance cutting-edge made-in-Washington technologies, moving us faster up the learning curve so utilities across the state can take advantage of these technologies and Washington companies can prosper.

And two, they will help integrate increasing amounts of renewable energy into the grid, from rooftop solar panels to wind farms, while ensuring a safe, reliable, and cost-effective supply of electricity.

I will continue to push for investments that keep our research universities at the forefront of clean energy innovations.





Just as I am convinced that this state can lead the way in clean energy innovations that benefit both the economy and the environment, I am also convinced that Washington and the Pacific Northwest region can lead the way in responding to the impacts of climate change.

This is important because we know that we cannot fully avoid these impacts. We're already experiencing them.

I've met shellfish growers who are having a harder time growing shellfish because of ocean acidification.

I've met farmers facing irrigation challenges in places like the Yakima River Basin due to reduced snowpack in our mountains.

I've met community leaders watching the rising sea level threaten their water treatment plants.

And this summer, I met families who lost their homes, and business owners who lost their livelihoods, in devastating wildfires like the Carlton Complex fire.

In some parts of our state, the area burned by wildfires is expected to nearly quadruple by the 2040s if current climate trends continue.

So we need to focus on mitigation, too, as we work to reduce emissions.

The Climate Impacts Group here at UW has played a pioneering role in producing the scientific information needed to support identification and reduction of climate risks.

This information has been invaluable to the state, to local governments, and to tribes in preparing for climate impacts, allowing a greater level of understanding of current and projected impacts.

Policymakers and stakeholders from both the governmental and nongovernmental realms have embarked on efforts to alleviate costs and better prepare for impacts.





Examples of this include the Yakima Basin Integrated Plan, the state Department of Ecology's comprehensive state-wide climate adaptation plan, and the Washington State Department of Transportation's evaluation of climate risk to state transportation assets.

Other states and regions should be as fortunate as we are to have the unique tool that is the Climate Impacts Group.

Going forward, the Climate Impacts Group must continue to play a key role as we tackle major issues, like how to deal with increased drought, wildfires, flooding, and sea level rise.

President Obama, through his Climate Task Force and the federal Interagency Council on Climate Preparedness, has endeavored to give states and locals more access to and ability to interpret climate data.

These efforts must build on, but not replace, the ongoing work of regional efforts like the Climate Impacts Group, and I have stressed that in my conversations with the President.

I've talked to you today about what I'm doing, and what I'm prepared to do, here in the state of Washington to support climate action.

From promoting policies that reduce harmful greenhouse gas emissions, to supporting investments that help build a clean energy economy, to standing up for regional efforts like the Climate Impacts Group, I have made this an important part of my vision for our state.

When I look around the state, I see many reasons to be optimistic – breakthroughs in technology that already are producing clean energy and jobs.

In Moses Lake, REC is the largest manufacturer in the world of silicon substrate for solar cells.

In Marysville, Silicon Energy makes the most durable solar panels in the world today.





In Mukilteo, UniEnergy makes systems that integrate renewables, support smart grids and micro-grids, and meet utility needs.

And when I look ahead, I see technology coming down the road that will change our world for the better.

For example, scientists in our state pioneered research on crystal batteries. Micro-organisms are being used to produce biofuels and other products that currently come from petrochemicals. And catalyst technology can control key reactions for the next generation of hydrogen vehicles.

These are just some of the discoveries rocking the clean energy world, and they're possible because bright people are working hard and using science to solve some of our greatest challenges.

I want to thank you for the invitation to come speak to you today. There are few groups I'd rather spend time with than scientists studying what I absolutely believe is the biggest challenge facing the world today.

I hope you'll consider what I've asked today and step outside your comfort zone and speak out about what you think should be done.

Together we will stand up to those who have a vested interest in inaction, fight back against the deniers and inspire the disinterested.

Churchill said – and he was talking about America – that our destiny won't be dictated by methodical calculations of profit and loss, but by moral sentiment, and by that gleaming flash of resolve that lifts hearts and nations.

I believe that together, we can make that happen.

Thank you.

