

**Testimony of KC Golden
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before the
Committee on Environment and Public Works
United States Senate
“Climate Change: It’s Happening Now”**

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Madame Chair, Ranking Minority Vitter, members of the committee, thank you for the opportunity to testify today. My name is K.C. Golden, and I serve as Senior Policy Advisor to Climate Solutions, a Northwest regional organization promoting practical and profitable solutions to climate disruption.

My testimony will affirm that climate solutions are feasible, practical, and economically sound. Americans are stepping forward to develop and deploy these solutions now. Our commitment to deliver clean energy, energy efficiency, and better transportation choices is helping us build stronger local economies and healthier communities. But we cannot implement these solutions at scale without the active engagement and partnership of our federal government, including the United States Congress. And so it is with tremendous hope and determination that I welcome this opportunity to speak with you and invite that partnership.

My knowledge of these issues and the examples I will use are based primarily on my experience implementing solutions in the Pacific Northwest, but there are similar examples of Americans delivering promising solutions throughout the nation. My testimony will focus on three points:

- **We have the tools – the technologies, the resources, the economic models – to deliver cost-effective climate solutions at scale.**
- **Key Federal actions needed to accelerate deployment of climate solutions are straightforward: responsible limits on climate pollution; a fair price for dumping carbon into the atmosphere; and an end to federal support for major new capital investments that make the problem intractably worse.**
- **The absence of these federal actions is taking a high toll on Americans now, including the rising cost of climate damages, costly misallocation of our energy dollars, and undermining Americans' efforts to develop and deploy solutions.**

After reviewing some of the testimony you will hear today about the dimensions of the climate crisis and the human costs it imposes, one can't help but wonder why the United States of America has been so slow and timid in rising to this challenge. If there were viable solutions that spared us these astronomical costs, wouldn't the world's most powerful nation, with the world's greatest technical and economic resources, already be implementing those solutions?

To make sense of this apparent contradiction between the dimensions of the crisis and the weakness of our national response, we might be tempted to conclude that we *have* no viable solutions. We might infer that the technology doesn't exist; that the economics of switching from fossil fuels to clean energy are prohibitive; that we lack the knowledge, the policy tools, the technical capacity, the economic models or some other critical resource for implementing solutions at scale.

The purpose of my testimony here today is to affirm that none of these insurmountable obstacles exist. We can do this. In the Northwest, we *are* doing it. But no city, no state, no region can do it at the scale and pace that the climate crisis demands without the power and will of the United States Congress. We are prepared to play our part and then some, but nothing short of a firm national commitment and international leadership for solutions will do the job.

1. We have the tools – the technologies, the resources, the economic models – to deliver cost-effective climate solutions at scale.

Climate disruption is a *big* challenge, but at its core, it is not overwhelmingly complicated. The primary solution is the transition from inefficient use of fossil fuels to efficient use of clean energy forms that do not add to the concentration of heat-trapping gases in the atmosphere. (Terrestrial carbon storage – in healthy forests, soils, and wetlands – will also play an important role in stabilizing greenhouse gas concentrations¹.)

Non-fossil energy forms are abundant and reliable. The sun delivers thousands of times more energy to the Earth than humans use, and has been doing so, without an outage, for over 4 billion years. The amount of solar energy that hits in the Earth in an hour is more than humans use in a year². The fossil fuels we use today are, of course, one form of this energy – solar energy harvested by plants and stored in the Earth’s crust. But this is hardly the only way to harvest, store, and use solar energy. Wind, waves, biomass, and hydropower are all solar-derived energy sources. Technology for converting these resources to usable heat and electricity is widely available now, at costs that are already competitive with fossil fuels in many applications. The climate challenge in a nutshell is the challenge of meeting our energy needs with fresh energy instead of “canned” fossil fuels, while squeezing far more work out of

¹ See Northwest Biocarbon Initiative: http://climatesolutions.org/programs/NBI/nbi_onepager

² “Spotlight on Solar Energy,” *Nature Education* <http://www.nature.com/scitable/spotlight/solar-energy-8731061>

the energy we use by using it more efficiently. (I include brief observations about the prospective roles of two non-fossil, non-solar-derived resources – geothermal and nuclear – in footnotes 3 and 4 below³⁴.)

The availability and feasibility of climate solutions at scale is thoroughly documented. Some of the more comprehensive treatments include:

- McKinsey and Company's "Pathways to a Low-Carbon Economy"⁵, which develops a global greenhouse gas abatement cost curve, combining a range of technologies, many of which carry a negative price tag. They find that known climate solutions can be deployed at a pace and scale sufficient to avert catastrophic climate changes, at a cost of less than 1% of global GDP.
- In its "Renewable Electricity Futures Study,"⁶ The National Renewable Energy Laboratory finds, "Renewable electricity generation from technologies that are commercially available today, in combination with a more flexible electric system, is more than adequate to supply 80% of total U.S. electricity generation in 2050 while meeting electricity demand on an hourly basis in every region of the country."
- The Princeton Carbon Mitigation Initiative has developed a widely used tool for comparing and analyzing climate solutions called "Stabilization Wedges"⁷ Their analysis confirms: "We already have the technology we need to take the world off the path toward dramatic climate change."

³ Geothermal energy – in both direct application and for power production – holds tremendous potential. See, e.g., <http://thinkprogress.org/climate/2011/11/06/359699/google-geothermal-supply-chu/> and <http://www.nrel.gov/gis/geothermal.html>.

⁴ Nuclear power remains plagued by cost, safety, waste, and weapons proliferation problems. (<http://pbadupws.nrc.gov/docs/ML1129/ML112940552.pdf>) For those who see promise in new nuclear designs, the climate policy recommendations below should be attractive as a fair way to level the playing field with fossil fuels and offer new nuclear "A Fair Shot, not a Free Ride": <http://grist.org/article/2009-11-09-new-nukes-a-fair-shot-not-a-free-ride/>

⁵ "Pathways to a Low-Carbon Economy: Version 2 of the Global Greenhouse Gas Abatement Cost Curve," McKinsey and Company, http://www.epa.gov/statelocalclimate/documents/pdf/mckinsey_summary_11-19-09.pdf

⁶ National Renewable Energy Laboratory http://www.nrel.gov/analysis/re_futures/

⁷ Princeton Carbon Mitigation Initiative: <http://cmi.princeton.edu/wedges/intro.php> An accelerated application of the basic wedges approach is necessary to develop solutions at the required pace and scale, as former Acting

In the Pacific Northwest, we are ground-truthing these estimates of clean energy potential. Renewable energy isn't "alternative" energy in Washington and Oregon. It's the backbone of our existing power system. We have honed our "renewable edge" with decades of investment in energy efficiency, maximizing the value and productivity of our hydroelectric supplies while improving the comfort of our buildings and the competitiveness of our industries. Our air is cleaner, our economy is stronger, and we enjoy some of the lowest cost power in the nation because of our long-term commitment to clean energy.

In recent years, we have begun to add substantial amounts of new renewable resources to our energy portfolios. And we have adopted climate plans⁸ that commit our jurisdictions to responsible limits on climate pollution and accelerated deployment of clean energy systems. Climate disruption and ocean acidification represent clear and present dangers⁹ to Northwest communities and economies – threatening our water, power, and food production systems, undermining the health and productivity of our forests, eroding our shorelines, and increasing the loss of lives and property from extreme weather and fires. We cannot solve this problem alone, but we are committed to do our part, and we believe that doing so helps us build a healthier future and a stronger, more durable economy.

These historic and new clean energy commitments are vital to the region's economy. They support our existing manufacturing and industrial base, including global leaders in aviation, wood products, and materials. They are accelerating the development of dynamic new, job-creating industries including renewable energy, energy efficiency, advanced transportation, software, and smart grid technology.

Assistant Secretary of Energy Joe Romm describes at: <http://thinkprogress.org/climate/2011/01/10/207320/the-full-global-warming-solution-how-the-world-can-stabilize-at-350-to-450-ppm/>

⁸ Washington State Executive Order 09-05, "Washington's Leadership on Climate Change," at <http://www.ecy.wa.gov/climatechange/2009EO.htm> ; Oregon Global Warming Commission Interim Roadmap to 2020 at http://www.keeporegoncool.org/sites/default/files/Integrated_OGWC_Interim_Roadmap_to_2020_Oct29_11-19Additions.pdf

⁹ See, e.g., Washington State impact assessment at: <http://www.ecy.wa.gov/climatechange/>

And our clean energy edge is an important part of the overall quality of life that attracts investment, innovation, and an excellent workforce to our region. Clean energy leadership is part and parcel of our regional identity and our economic profile.

As a result of this leadership, we are phasing coal out of our regional energy supplies. Seattle City Light sold off its share in a coal plant in 2000, and completely eliminated net carbon emissions from the City's power supply in 2005, while providing some of the cheapest power in urban America. In 2011, we reached a consensus agreement¹⁰ to phase out that same coal plant – the only coal-burning commercial power plant in Washington, and the source of roughly 10% of the state's total emissions of climate pollution. That agreement enjoyed unanimous support from the plant's owner, the local community, conservation groups, and the workers at the plant. Our successful experience with clean energy created a widely-shared sense of confidence in our ability to power our future with cleaner energy sources.

The Northwest Power and Conservation Council, created by an act of Congress in 1980, develops long-range electric power plans for the 4-state region served by the Bonneville Power Administration. In its sixth and most recent plan, the Council concludes that the most cost-effective plan for the region would meet 85% of the region's projected growth with energy efficiency, and most or all of the remaining 15% with new renewable resources. At the Council's meeting earlier this month, Washington Governor Jay Inslee charged the Council with developing a plan to meet all of the region's electricity needs (including load growth and existing demand) with clean, carbon-free resources.

We take pride in our clean energy achievements and our commitment to climate solutions. Our communities are healthier, our economy is stronger, and our future is more secure as a result of these investments. But we know full well that no city or state can successfully address the climate challenge unilaterally. And so our climate strategies are designed to pioneer and prove out the technologies,

¹⁰ "Transalta Agreement Shows the Power of Compromise," *Olympian*, March 11, 2011 at <http://www.theolympian.com/2011/03/11/1574719/transalta-agreement-shows-the.html>

energy systems, and transportation strategies that can power a healthy future, in our region or anywhere else. Rising to the climate challenge means not just reducing our own carbon footprint, but opening up energy pathways to economic security – pathways that work for the long haul, not just for us, but for the billions of people worldwide who yearn for economic opportunity. We call this “sustainable prosperity,” and we believe it’s our best future.

“Global warming” accurately describes the trajectory of the global average temperature, but no one lives in the global average temperature. No one works or plays or gets anything done in the global average temperature. When we think concretely about the impacts, the causes, and the solutions, the action is primarily local. Communities can do most of the practical work of implementing solutions. But we know we can’t build this future on an island. We need federal action to create the larger policy context in which local actions can succeed and drive national and global solutions at scale. Next, I’ll address some of the most important features of that policy context.

2. Key Federal actions needed to accelerate deployment of climate solutions are straightforward: responsible limits on climate pollution; a fair price for dumping carbon into the atmosphere; and an end to major new capital investments that make the problem intractably worse.

The federal government has many vital roles to play in rising to the climate challenge, some of which it is already playing. My testimony will not comprehensively address these roles and actions, but rather focus on three that are foundational for driving solutions at scale.

In focusing on these three, I do not mean to understate the importance of other critical federal actions, including but not limited to expanding America’s commitment to energy innovation¹¹, clean

¹¹ See, e.g., the recommendations of the American Energy Innovation Council <http://americanenergyinnovation.org/the-business-plan-summary/>

energy deployment in federal operations (particularly the military and the federal Power Marketing Administrations), low-income weatherization, energy codes and standards, clean transportation infrastructure, tax credits for clean energy production and manufacturing, and international leadership in climate solutions. But all of the federal government's existing and prospective clean energy and climate initiatives would be made more effective, efficient, and productive if the United States had the basic infrastructure of a responsible climate policy, as described below.

Responsible limits on climate pollution:

There is of course no single policy that will effectuate all the necessary solutions. But there is a policy choice that calls the essential question — a single decision that will signify a genuine commitment to reduce fossil fuel dependence and deliver climate solutions at scale, with real accountability for results: *firm, science-based limits on climate pollution.*

The United Nations Framework Convention on Climate Change¹² (which the first President Bush signed in 1992) commits the world to implement actions that avoid dangerous climate disruption. The Copenhagen Accord¹³ further refined that commitment, calling for emission reductions designed to prevent global average temperatures from increasing by more than 2 degrees Celsius, the scientific standard for dangerous climate change.

Limits on climate pollution that meet these scientific requirements are the simplest, strongest climate policy. Some states and cities, and the rest of the world's advanced economies, have adopted such limits in various forms. The absence of such a policy in the United States remains the most conspicuous missing piece of a viable global strategy for solutions.

¹² <http://unfccc.int/2860.php>

¹³ http://unfccc.int/meetings/copenhagen_dec_2009/items/5262.php

A limit on climate pollution is not a complete policy blueprint, by any means. But it is a foundation — a serious public policy commitment to do the whole job. It is the clearest possible signal — to energy markets, to the international community, to ourselves — that we are stepping up to the climate crisis and the unprecedented opportunity for economic renewal in solving it. It will unleash investment and innovation to implement existing solutions and develop new ones. It leaves many questions unanswered, but it answers the first and most important threshold climate policy question: “Do we have the will to do what is right and necessary?”

A fair price for dumping carbon pollution in the atmosphere:

"The problem of climate change involves a fundamental failure of markets: those who damage others by emitting greenhouse gases generally do not pay,"¹⁴ according to Sir Nicholas Stern, Chair of the British Academy and author of Stern Review¹⁵, a comprehensive assessment of the economic costs of climate disruption and climate solutions. Economists refer to this market failure as an “externality” — a circumstance in which real costs are not properly accounted for in economic transactions because they remain external to the prices paid by buyers in the marketplace.

As other testimony today will show, these costs are real and present. Americans are paying them now, in the form of more extreme weather events, more destructive fires, drought, and a variety of other climate impacts. Were these costs more accurately reflected in the economic choices we make in energy markets, we could *avoid* many of them. We could choose non-fossil energy sources that would be *cheaper* if these climate-related costs were properly accounted for and included in prices.

¹⁴ “Stern: Climate change a market failure,” *Guardian*, <http://www.guardian.co.uk/environment/2007/nov/29/climatechange.carbonemissions>

¹⁵ *Stern Review on the Economics of Climate Change* http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/sternreview_index.htm

This market failure amounts to a massive subsidy. Americans are forced to pay the costs of climate disruption -- a huge, involuntary transfer of private costs onto the public. Internalizing this cost by pricing carbon would spare of us many of these impacts and damages, as energy markets began to more efficiently allocate capital toward solutions. When prices tell the truth about costs, markets function will more effectively, and climate solutions will accelerate. Experience in British Columbia, which relies on a revenue-neutral carbon tax, confirms that the policy has been effective in reducing emissions while BC's economic growth outpaces the rest of Canada's¹⁶.

Prices for carbon pollution are the natural corollary to limits. In a market economy, scarcity generally drives value, so when the right to pollute becomes more limited, it also becomes more valuable (insofar as it can, like other goods and services in a market economy, be bought and sold). Carbon prices can either be set directly by governments, through a carbon tax, or set by markets, by issuing a limited quantity of pollution allowances and allowing them to be traded. The difference between a system of tradable allowances and a carbon tax is largely a matter of whether government sets the allowable *quantity* of carbon pollution (and allows private markets to arrive at the corresponding price) or government sets the *price* (and allows markets to arrive at the corresponding quantity.) Both limits and prices are necessary in order to drive innovation, investment, and deployment of climate solutions at scale. The Climate Protection and Sustainable Energy Acts introduced by Senators Boxer and Sanders would set a predictable, price, escalating over time, while returning most of the revenues directly to citizens as dividends. Clean energy investments funded by this policy would help to ensure that consumers have a growing array of cost-effective alternatives to fossil fuel dependence.

¹⁶ "British Columbia's Carbon Tax Shift: The First Four Years" *Sustainable Prosperity*, <http://www.sustainableprosperity.ca/dl872&display>

Fair carbon pricing is simply sound economic policy. It would allow energy markets to function more efficiently, reduce total energy costs, and more equitably assign accountability for the true costs of climate pollution. The absence of these prices imposes real and growing economic burdens on Americans and makes all other emission reductions efforts less efficient and productive than they should be, as I will describe in the final section.

Opponents of carbon pricing sometimes characterize it as a penalty for fossil fuel consumption. As the growing number of victims of climate-related disasters can attest, the cost “penalty” associated with fossil fuels *already exists*; pricing carbon simply asks those who cause the costs to incur them, rather than foisting them on to everyone else. And it is important to note that the purpose of such a policy in this context is not to pay the cost at all. By correctly and fairly aligning prices with costs, carbon pricing empowers consumers, producers, investors, and other economic actors to make more rational decisions to *avoid* the cost of carbon by reducing emissions. When we square up to the true costs of climate disruption, we will find that we have better, less costly ways to meet our energy needs.

An end to major new capital investments that make the problem intractably worse:

In its 2011 World Energy Outlook¹⁷, the International Energy Agency warned that the global pattern of energy infrastructure investment must shift, decisively and immediately, away from fossil fuels or we will “lose forever” the chance to avert catastrophic climate disruption. This does not mean that we need to cease fossil fuel consumption immediately. It does, however, mean that we must *stop making the situation worse* with large and irreversible *new* investments that “lock-in” emission trajectories which guarantee dangerous climate disruption. Once these long-term investments are

¹⁷ “The world is locking itself into an unsustainable energy future which would have far-reaching consequences, IEA warns in its latest World Energy Outlook”, *International Energy Agency*, <http://www.iea.org/newsroomandevents/pressreleases/2011/november/name,20318,en.html>

made, their emissions are locked in not for months or years, but for decades. And the impacts of those emissions will persist for centuries.

In his recent speech announcing his climate plan¹⁸, President Obama indicated that the State Department would not approve the Keystone Pipeline if it significantly increased emissions of climate pollution. Leaving aside the subtleties of the factual determination, the principle is vital for federal climate policy: *Specifically and categorically, we must cease making large, long-term capital investments in new fossil fuel infrastructure that “locks in” dangerous emission levels for many decades and makes avoiding catastrophic climate disruption impossible.*

This core principle emerges from multiple lines of scientific and economic research, most notably the International Energy Agency’s 2011 World Energy Outlook. As a guide to policy development, it makes simple common sense. A comprehensive strategy for global climate solutions called “Design to Win”¹⁹ put the point succinctly: “First, don’t lose.”

It will take decades to decarbonize our transportation and energy systems. We can do it over time, patiently and incrementally, building stronger economies and healthier communities as we go, and without precipitous economic disruption. But we cannot make big new capital investments now that irrevocably commit us to catastrophic climate failure. Federal actions that facilitate such investment are inconsistent with a genuine commitment to climate solutions.

Now that the era of climate consequences is upon us, the application of this principle is vital in order to ensure the integrity of the federal government’s commitment to climate solutions. Federal climate policy must be a way to answer to the victims of climate-related disasters – and to our kids, the

¹⁸ “Remarks by President on Climate Change” <http://www.whitehouse.gov/the-press-office/2013/06/25/remarks-president-climate-change>

¹⁹ “Design to Win,” California Environmental Associates
http://www.climateactionproject.com/docs/Design_to_Win_8_01_07.pdf

prospective victims of still-preventable climate disasters. Our policy must affirm that we will do what it takes to protect them, to make it better. But they won't believe us until we stop making it worse.

3. The absence of these federal actions is taking a high toll on Americans now, including the rising cost of climate damages and economically costly misallocation of our energy dollars.

It would be impossible to comprehensively catalogue all of the economic, physical, and human damage that is occurring now as a result of our national failure to adopt a responsible climate policy. The most troubling impacts are, of course, the unprecedented loss of life and property due to increasingly extreme weather-related disasters and other climate impacts. But the lack of a national policy is also having other near-term, practical impacts on consumers, policy makers, businesses, and energy investments – impacts that weaken our economy, raise our energy bills, and make the climate crisis more intractable. Below, I offer a few examples from recent experience.

Critical policy, permitting, and programming decisions are more difficult and less effective without rational climate policy.

Last month, I testified to the Committee on Energy and Commerce Subcommittee on Energy and Power on the issue of exporting Powder River Basin coal from proposed terminals in the Pacific Northwest. A witness representing the National Association of Manufacturers objected to the notion that federal environmental analysis of proposed coal export facilities might include consideration of the climate impacts of burning the coal. He worried that such an evaluation would create a slippery slope, necessitating evaluation of the climate consequences of other products, including corn and toys.

Common sense should prevail here. The export of corn and toys is not one of the leading preventable causes of catastrophic global climate disruption. The introduction of large amounts of

cheap, subsidized, American coal into the world's fastest growing economies is, because it would trigger economic "lock-in" to dangerous climate disruption, described above.

However, the concern raised by the witness is, in at least one respect, legitimate. Because we have no meaningful national climate policy, we are left to ask and answer these kinds of questions on an ad hoc basis, leading to outcomes that are surely less efficient and effective than we could achieve with a thoughtful, comprehensive policy. The issue of where and how to ensure accountability for the costs of climate pollution is indeed a very important climate policy design consideration²⁰. But in June of 2013, 25 years after our foremost climate scientist first confirmed to Congress²¹ that climate change was a real threat requiring decisive and immediate action, we were not having a hearing on climate policy design in the House of Representatives. We were grappling with one of the many adverse consequences of failing to design and adopt a climate policy.

In the absence of federal policy on climate, we are left to consider the climate implications of coal export outside the context of any structured, systematic approach to solving the problem. State and county officials reviewing permits for coal docks are faced with questions about the dynamics of Asian energy markets and how they influence the climate impact of exporting Powder River Basin coal. The alternative to considering these impacts – simply ignoring them as the climate crisis escalates, and permitting facilities that will significantly exacerbate the problem – is not a responsible course of action. But almost anyone could devise a better way to fairly and fully evaluate this issue than the way we will have to do it now, in the absence of a responsible federal climate policy.

²⁰ The Climate Protection Act introduced by Senators Boxer and Sanders would assign accountability "upstream" (at the coal mine, oil refinery, natural gas processing point, or at the point of importation), thereby minimizing complexity and administrative costs.

²¹ "Global Warming Has Begun, Expert Tells Senate," *New York Times*, June 24, 1988
<http://www.nytimes.com/1988/06/24/us/global-warming-has-begun-expert-tells-senate.html>

Ironically, on the same day last month when the Army Corp of Engineers announced that it would not consider the climate impacts of coal export in its environmental review of proposed coal export terminals, the commander of the Corps called for new, stronger standards for levee design and flood protection to cope with climate disruption²². Taxpayers can count on the Corps to request larger budgets for responding to climate impacts but not, apparently, to analyze those impacts in the context of decisions which might *prevent* them. We are gearing up for pounds of cure at public expense, because we lack the responsible federal climate policies that would provide an ounce of prevention.

The failure to adopt a responsible national energy policy results in misallocation of energy investment and waste of consumers' energy dollars.

Consumers' energy dollars generally flow to their utilities, which make energy investments on their behalf, in order to serve current and foreseeable energy needs. For investor-owned utilities, state public utility commissions set rates, allowing utilities to recover the costs of these investments, plus a reasonable return. In evaluating which costs utilities will be allowed to recover, utility commissions aim to minimize the costs of reliable energy service to consumers, encouraging utilities to choose the least-cost mix of resources to serve their customers.

With no national climate policy, the large and growing costs of carbon pollution are generally not included in the price that utilities pay for energy to serve their customers. And yet those costs are being paid by customers, and all Americans, every day. We pay for the cost of controlling the fires and floods that are becoming more frequent and intense as climate disruption accelerates. We pay to raise seawalls and levees. We pay higher food prices when crops and ranches fail due to drought. Growing numbers of Americans are paying with their lives. But none of these costs are paid by utilities when they buy the energy that creates this climate pollution on our behalf.

²² "Army Corps Chief Suggests US Needs Stronger Levees as Climate Changes" from *Climate Wire* <http://www.nwra.org/content/articles/army-corps-chief-suggests-us-needs-stronger-levees/>

Public utility commissions are thus faced with a difficult challenge: either ignore these costs, which essentially guarantees that total energy costs to consumers (including climate damages) will be unnecessarily high; or try to assess these costs in utility ratemaking and regulatory decisions, in the absence of a meaningful national plan or policy to reduce climate pollution to safe levels. Understandably, public utility commissions often consider such evaluations to be outside of their realm of expertise or responsibility.

This is, of course, an almost universal problem for climate action; relevant decision-makers often consider it to be outside the scope of their jurisdiction or effectiveness. And so as a practical matter, they too often ignore the costs of climate pollution. That doesn't make the costs go away; on the contrary, failure to consider these costs generally increases them. But one can understand the plight and frustration of decision-makers with smaller jurisdictions than yours, when they are asked to consider climate consequences that could have been evaluated and managed so much better and more comprehensively by the United States Congress.

Public and private clean energy initiatives would work better, accomplish more, and cost less if we had a rational climate policy.

Many clean energy policies and programs exist now at the federal, state, and local levels. But all of these policies and programs are swimming against the tide of a vast economic distortion – the disincentive created by failure to internalize the real costs of climate pollution. Notwithstanding this economically perverse incentive structure, many of these programs are quite successful. Energy codes have saved an enormous amount of energy and emissions, and put billions of energy dollars back in consumers' pockets²³. Renewable energy standards have accelerated investment, reduced emissions,

²³ Building Codes Fact Sheet, USEPA
<http://www.epa.gov/cleanenergy/documents/suca/buildingcodesfactsheet.pdf>

and delivered a new driver for good jobs and prosperity in many states²⁴. Production tax incentives have helped to reduce the competitive handicap that American clean energy businesses face in the absence of a national climate policy. Energy efficiency codes and programs have been a boon to the economy. In the Northwest, energy efficiency gains have been the biggest, cheapest, and most successful part of our energy strategy for the last 30 years²⁵.

However, virtually all of these programs and policies could work better, accomplish more, and cost less if we had a sound national climate policy. For example, suppose a tax incentive were designed to bridge the gap between a fossil energy resource costing \$60 per megawatt-hour and a renewable resource costing \$70 per megawatt-hour. Much of the gap is due to the fact that the fossil resource externalizes the cost of carbon pollution; the public in effect subsidizes that resource by picking up the tab for the climate impacts. If the cost of that pollution were internalized with a fair carbon price, the gap would be smaller. Under those circumstances, a given amount of public expenditure (or foregone revenue) would go further, delivering more clean energy for the same cost.

In a market economy, public policy should be aligned with private incentives wherever possible. Our prevailing national climate policy is free and unlimited carbon dumping, a policy that is directly at odds with other policies like energy codes and clean energy incentives. A climate policy with responsible limits and fair prices for climate pollution would align private incentives with public policy goals, and get America working much more efficiently and effectively for solutions.

The lack of a federal climate policy undermines individuals, communities, states, and businesses in their efforts to be part of the solution.

²⁴ “Renewable Energy Standards, State Success Stories” Governors’ Wind Energy Coalition <http://www.governorswindenergycoalition.org/wp-content/uploads/2013/03/RES-White-Paper-March-2013.pdf>

²⁵ Northwest Power and Conservation Council http://www.nwcouncil.org/media/30092/2012_06.pdf

A less quantifiable but critically important impact of the failure to adopt a national climate policy is the confusing and counterproductive effect of that failure on the many Americans who want to be part of effective solutions.

A participant in a focus group on climate once said, “I don’t think it’s a big issue, because nobody’s doing anything about it.” This is a remarkable insight. Surely, she deduced, if it were as bad as all that, the responsible authorities would be addressing the problem with urgency and resolve. That would be a much more reliable barometer of the risk than all the claims and counterclaims on cable news.

We *should* be able to expect that public institutions and elected officials respond to grave threats, guided by objective facts, in order to prevent mass-scale human tragedies. Americans *should* have confidence that when America faces a big problem, when we need to mobilize our national resources and will for big solutions, the United States Congress will act.

Millions of Americans are implementing climate solutions – driving cleaner cars, installing more efficient lights, improving the efficiency of their offices and factories, etc.. But they understandably wonder whether their efforts make much difference in the absence of a serious national policy commitment. Mayors and governors who have adopted climate plans face cynicism, since their jurisdictions represent such a small fraction of the total global emissions that drive climate disruption. The rest of the world desperately waits for the America they know – the proud, powerful, solution-oriented America – to step forward and step up to the climate challenge. Individuals and mayors and governors and businesses and other nations CAN make a difference; they CAN do their part. But they know it’s only part of something hopeful and realistic if and when the United States of America steps up to the kind of leadership and commitment of which it is uniquely capable.

Only a serious national climate policy can unleash America's greatness for climate solutions. Given the dimensions of the challenge and the lateness of the hour, we'll need every bit of that greatness.

Thank you. I look forward to any questions you may have.