NORTHWEST POWER AND CONSERVATION COUNCIL

PUBLIC HEARING
SEPTEMBER 30, 2009
BEST WESTERN EXECUTIVE INN
SEATTLE, WASHINGTON

COUNCIL MEMBERS PRESENT

TOM KARIER - WASHINGTON

DICK WALLACE - WASHINGTON (VIA TELEPHONE)

BRUCE A. MEASURE - VICE CHAIR, MONTANA

JOAN M. DUKES - OREGON

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EXHIBITS

Exhibit Page

(NONE MARKED)

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BE IT REMEMBERED THAT, pursuant to the Washington Rules of Civil Procedure, the Draft Sixth Power Plan Public Meeting was taken before TIM BELLISARIO, Certified Shorthand Reporter, #2774, and a Notary Public for the State of Washington, on September 30, 2009 commencing at the hour of 5:32 p.m., the proceedings being reported at 200 Taylor Avenue North, Seattle, Washington 98109.

PUBLIC HEARING

SEPTEMBER 30, 2009

5:32 p.m.

MELINDA S. EDEN - OREGON

MR. KARIER: Welcome everyone. And I ask you to find a seat, and we're ready to start here. I'm Tom Karier. I'm a Washington member of the Northwest Power and Conservation Council, and we're having a public hearing tonight, as you all know, on our sixth power plan. I'm very pleased to see such a good turnout here.

To start things off, I've asked Member Bruce Measure, who is a council member from Montana, to read the statement and then you'll do introductions. Thanks.

MR MEASURE: As Tom said, I'm Bruce Measure. I'm a member from Montana. Welcome to the public hearing held by the Northwest Power and Conservation Council on the Council's proposed Sixth Northwest Power Plan.

The Northwest Power Act directs the Council to develop a regional conservation and electric power plan and to review that plan every five years. The Council is now engaged in its latest five-year power plan review. As part of this effort, the Council released a Draft Revised Power Plan on September 3rd for public review and comment. The Council will be taking written comment on the draft power

plan until November 6th. The Council will also hold public hearings like this one in all four Northwest states between now and that date.

If you would like to comment at this hearing, please sign in on a sheet provided for that purpose in the back of the room. You may also leave written comments with us this evening if you desire. Your comments will be recorded, placed in the Council's administrative record for the power plan review and, most importantly, considered carefully by the Council as it makes its decisions on the final power plan later this year.

For more information on the proposed Sixth Power Plan, including the text of the draft plan itself, please visit the Council's web site at www.nwcouncil.org. You may submit comments by using the "How to Comment" link on the web page devoted to the draft power plan, and you will find the notice of meetings, times and places at the same site. Thank you.

MR. KARIER: Thank you, Member Measure. And I'm also pleased we have a number of Council members here tonight. I'd like to introduce Joan Dukes, a member from Oregon, and member Melinda Eden, who is also from Oregon and chair of the power committee. And on the phone listening but not present at the moment, Dick Wallace, who is the other Council member from Washington. And welcome Dick,

you're there, right?

MR. WALLACE: Yes, I am. Thank you.

MS. DUKES: So, we have a good turnout of Council members. This is five of us. There are only eight Council members, so this is a very good turnout. And I'd like to turn it over next to Terry Morlan, our director of the power division of the Council, who is just going to be walking through an outline of what is in the Sixth Power Plan. Terry?

MR. MORLAN: Thanks. Welcome. We normally have a PowerPoint presentation, but it didn't look like it was going to work too well in this room. There's a handout on the back table of this. But in any case, I want to just very briefly go through some of the highlights of the draft power plan. And we're mostly here to listen to you. So what we're looking for in this power plan is a low cost, low risk energy future for the Pacific Northwest. And we want the plan to also support the implementation of the Council's fish and wildlife program, which is a part of the power plan by law.

Key findings. The big one is energy efficiency. We found a lot of energy efficiency that's very cost effective in the region. And in fact, if we accomplish it, it actually can meet about 85 percent of the load growth in the region over the next 20 years. It's low cost.

There's a graph that follows this one. I'll hold it up, that's what I'll do. If you look at that, there's a bar there that shows that conservation costs less than half of the next most cost-effective resource. So it's extremely inexpensive. It contributes to meeting peak loads as well as energy needs. And it obviously has very little carbon or fuel price risk. So it's very attractive to the system. And it's also good for creating local jobs and economic activity.

The next resource that shows up as most important is renewable resources. It's mostly wind in this plan. Wind is also attractive. It's cost competitive to a lot of other resources that are available. Obviously, it doesn't have the same kinds of carbon or fuel price risks similar to conservation. So that's an important resource in the plant does have challenges to integrate it into the power system because of its variable output. But we've included some thinking in the plan, and some analysis to deal with that issue.

Remaining needs for capacity or energy in the near term at least look like it would be natural gas is the most cost effective thing. You can get a feel for the size of these things in this sort of a rainbow diagram. You can see that conservation and renewables are by far the majority of the resources in this draft power plan.

We looked a lot at carbon, the carbon issues, and the risk imposed by unknown carbon policies at this point. What we find is that coal plants provide -- existing coal plants provide about 20 percent of the energy in the region at this point. But it produces over 85 percent of the carbon risk. And so that's an important finding. And obviously, what it means is that if we're going to reduce carbon emissions significantly, that has to involve something about the coal plants that already exist in the region, and how they're used.

We show in the analysis here, this graph, which I think you'll find interesting, we looked at a lot of different potential carbon costs or policies or phasing out coal plants, and issues like that. There are a lot of ways that we can reduce carbon emissions in the power system in the Northwest, either through pricing of carbon, through retirement of coal plants, and other policies. And so it lays out some potential here. We don't try to settle that policy, but we do lay out and show the potential for reducing carbon in the plant.

And so I think I'll stop there. We looked at a lot of other potential resources. We looked at the long-term as well, try to advance research and experience in the region with different kinds of technologies, like smart grids, and the potential those might have. But in terms of

the essence, it's basically conservation renewables and low-bid gas.

MS. DUKES: Okay. Thank you, Terry. I just wanted to quickly introduce the other staff people that are here before we start the testimony. In the audience today we have our cut executive director, Steve Crow, if you want to just raise your hand. Bill Hanaford is here, John Schirtz, Sandra Hirotsu, John Harrison, Howard Schwartz, from our Washington office. And I think that covers it. I just wanted you to be aware of who works here for the Council, and if you have an opportunity to talk to them afterwards, that would be great.

Because of the great number of people that signed up to speak today, we're going to have to try to hold the comments to about two minutes on average, otherwise we will be here all night. And I don't think we want to keep these people here at the end until midnight or so. So if you can hold your comments to about two minutes -- and I'll signal you once you've gone over that -- that would be very much appreciated. If you don't have enough time for your comments, we're obviously taking written comments. You can submit those through the Internet as the original statements, or you can provide it through other ways, if you need to.

Let's start out, the first name on the list is

Sara Patton. And if you want to come up and just state your name and who you're with for the record. Thanks. Welcome.

MS. PATTON: Thank you. And this may be a little gratuitous, but I'll try to go as quickly as possible and still be understandable.

It's my pleasure once again to address this Council. I'm Sara Patton, the Executive Director of the Northwest Energy Coalition. And from the beginning I realize this Council and the Coalition has been bound together. The Northwest Power and Planning Council, now the Northwest Power and Conservation Council, was created to carry out the aims of the 1981 Regional Power Act, notably to balance power and wildlife needs, and to meet growing regional electrical demand with cost-effective resources with the first and second priorities going to energy efficiency and renewable energy.

The Northwest Conservation Act --

MR. MEASURE: Louder, please.

MR. PATTON: The Northwest Conservation Act Coalition, now the Northwest Energy Coalition, formed in 1981 to represent the public interest and implementation of the federal act. And we've worked closely with the Council on every power and conservation plan since then, always pushing for clean energy solutions and stressing that environmental costs need to be fully factored into resource

decisions, just like the Act requires. And every power and conservation plan has been better than the one before.

Five years ago we cheered the fifth plan that called for meeting half the new load of energy efficiency and most of the rest with new renewables. And I've got to applaud the regional utilities. The utilities in the region blew past the five-year efficiency and renewable goals of that fifth plan. So congratulations to them for doing that for us.

Now, we see a Draft Sixth Plan that foresees meeting all the new conventional plan with clean energy, 90 percent of it new energy efficiency, according to a presentation that Tom Ekman gave just yesterday morning. And I applaud council members for taking this historic step.

As a region we are really starting to understand just how much bill-reducing conservation and clean renewable opportunities we truly have. The plan would capture much of it, and it is an entirely reachable and affordable goal. But I must tell you that although this draft plan has more comprehensive analysis than the Council has ever done, the plan does not go near far enough. In 1981 I don't think any of us here appreciated the working nightmare that is global warming. Now we know there is no doubt, to protect our society, all sectors must do their part to cut the climate issues that are already putting lives and habitats at risk.

States including this one and two others in our region have accepted their moral and fiscal responsibilities and set meaningful carbon reduction goals.

As we know, Congress is arguing the details of actually cutting carbon emissions by putting a price on them. Regional processes like the WCI (Western Climate Initiative) continue to move forward. Yet the Draft Sixth Plan does not show the way for the electric sector to meet greenhouse gas emissions goals. Council staff did excellent work to model futures that will reduce emissions, yet the Council has chosen to offer no direction to the region and no acknowledgement that the region should be proactive rather than reactive in addressing emissions reductions. The Council also fails to acknowledge the economic benefits occurring to the region from early action and the costs of taking no action. To be proactive and help the region plot the course toward greenhouse gas reduction -- emissions reductions, the Council would have to squarely face the issue of coal. We northwesterners like to think all our electricity comes from clean hydro power, when nearly a quarter comes from very dirty coal. Coal plants produce 87 percent of the regional power systems climate pollution, just as Terry just said.

The Council has already determined that to meet it's share of the state's 2050 reduction target, the power

system would have to shed almost all of the coal that now serves the region. The Final Sixth Plan must lay a course toward an energy future that reduces greenhouse gas emissions, not just stabilizes them. Ducking this challenge would be a disservice to the Northwest families and businesses.

This is a moral imperative, but it's also an economic necessity. The longer northwesterners' coal dependence continues, the more our businesses and families are at risk from coming carbon restriction. It is important to note that a number of utilities in the region with significant carbon footprints, notably Idaho Power, have made emissions reduction commitments for both near and long terms. And we obviously know we're here in the Seattle City Light territory, one of the only carbon neutral utilities in the country. These features are being incorporated into their resource plans. We would expect the Council to do the same.

True, the Council cannot order coal plant closures, we know that. Nor can it set the price of carbon emissions. But it can straightforwardly embrace the power system's climate change responsibilities, as well as its responsiveness to wildlife already endangered by the power system whose plight is worsened by climate change.

As you know, this Council is charged with the

spectrum's full environmental costs into its resource recommendations.

MR. KARIER: Sara, if you could --

I'm almost there.

It is 2009. We can't pretend we don't know what will happen if we keep emitting carbon. The Council must accept its leadership responsibilities and help utilities transition to a clean and carbon free energy future.

I want to congratulate the Council on the energy efficiency analysis, the carbon efficiency analysis done by staffers that's consistent with findings of the study that we commissioned. And we understand that the exact mixture is going to be different. But the Council must not waiver from its statutory responsibility to ensure that we realize the full potential of energy efficiency, our lowest cost and best resource.

Again, I'm going to thank you for the opportunity to speak tonight. We've moved very far forward, and we'll be submitting written comments at the end of the period. But I also want to deliver to you a stack of postcards that we collected at the Bonnie Rait and Taj Mahal concert, of northwesterners who want to see a clean coal for the future for the region.

MR. KARIER: Thanks, Sara. Jim Rosenthal. And Fred Felleman is on deck. So Fred, if you want to come up,

or sit up towards the front, that would speed things up a little bit.

Can't hear you, Tom.

MR. KARIER: Jim Rosenthal. And if there's a Fred Felleman, if you can come up next, you can sit up front.

MR. ROSENTHAL: Hi. My name is Jim Rosenthal. And although I belong to organizations represented here tonight, I'm here representing only myself as a citizen. I reside at Beckett Point Fishing Club in Port Townsend, Washington, although I'm not really a salmon fisherman, and I might add as an aside that the name is pretty much a misnomer, since salmon are not very often caught in Discovery Bay.

The scenario, as I see it, is as follows: Global climate change is upon us. And many informed scientists believe that it shall be more severe, and more rapid than is currently accepted. One significant point that is rarely mentioned concerns the risks, if in the unlikely event we respond too vigorously to the challenge of global warning, our only risk is that we will lose some potential economic growth. If, on the other hand, we respond too weakly or too slowly, a more probable result, we are under great risk for massive climate disaster, and unimaginable global suffering. How does that relate to this hearing? Clearly, the NPCC Draft No. 6 Power Plan needs to do its utmost to reduce the effects of global climate change.

In that light, I'd like to speak in support of the following points: The draft plan must call for much more energy conservation than is currently targeted. I believe that is necessary for our economic competitiveness, as fossil fuel prices continue their inevitable rise.

Two, clean coal is a mirage, somewhat less substantial than the tooth ferry. We need to plan now to close all coal-fired power plants as soon as possible. The facts on global climate change make this obvious.

Three, salmon are a critical link in the food chain, and I include people as one of their consumers in that food chain. They're important as nutrients for forest health, a source of jobs and employment, and as well as being valuable in their own right. To encourage their recovery, the power plan should reflect the Council's own staff's findings regarding the cost of replacing the forest Snake River Dams. These dams need to go before the salmon do, before they become extinct, and not afterwards.

The current plan certainly is an improvement. But it needs to go further. We need a clean environment, clean energy, wild salmon and a healthy economy. And we can have them all because in the long run, the only future is a sustainable future. Thank you for giving me the opportunity to express my opinions.

MR. KARIER: Thank you.

MS. DUKES: Did Fred Felleman want to speak? He signed up, but I couldn't tell if it he wanted to speak or not.

MR. GARRITY: I'm Michael Garrity Fred asked me to fill in for him.

MS. DUKES: And that leaves Toni Potter on deck. So if you could be ready.

MR. GARRITY: Again, I'm Michael Garrity; I'm Washington Conservation Director for American Rivers.

I just rolled up on my bike. My comments are going to be brief. Basically, I wanted to thank the Council for including a good deal of the efficiency in the draft plan. And encourage the plan to go a little bit further to make sure that we don't just stabilize emissions, but actually reduce them by the amount that the IPCC and other experts are recommending over the next several decades, starting soon.

I think -- so -- and then on the fish side, which is what American rivers not surprisingly can speak to a little bit better, I think, the assumptions suffer from some of the same problems in terms of selling the region a little bit short on what it can do, not just to mitigate for climate change, but to simultaneously give our salmon their best shot at recovery.

I think when it comes to recovering Snake River

salmon, which are kind of ironically the salmon with the most recovery potential in a seriously warming world, in a warming Northwest climate because of their high elevation habitat, and considerable genetic diversity that they still have, you really need to look at the -- at some big changes to the hydro system up to and including removing the lower Snake River Dams and figure that in as part of the long-term plan. And I think that's -- and I don't think we should look at sort of climate mitigation versus adaptation as in conflict. We have the ability to do both, as the Northwest Energy Coalition's bright future report shows, we can both take the actions we need to to meet the climate change, our region's share of the responsibility for mitigating climate change, and at the same time for an affordable price. Thanks.

MS. DUKES: Thank you, Toni. And you're going to have to bear with me here. But Bob, A-E-G-E-R -- okay. Good. You're next.

MS. POTTER: I'm Toni Potter. I'm one of the portfolio chairs, for climate change and energy with the League of Women Voters of Washington. And we are pleased the draft plan does not increase carbon dioxide. However, given that the League of Women Voters believes that global climate change is a world crisis, we ask you to do more.

We recommend more energy efficiency to replace

dirty coal in the plan, and we ask you to include a forecast of the carbon dioxide price increase; so utilities will plan better for that.

Dirty coal contributes to climate change, melts the glaciers, increases the forest fires, warms the streams and endangers the fish. Those are all great costs in the future that are coming to the Northwest. We need to do everything we can now to reduce it, that cost in the future. And energy efficiency will provide jobs, which is something that we very much need. So I ask you to chart a course for the utilities to actually reduce climate change. Thank you.

MS. DUKES: Thank you. After Bob is Jessie Dye and Robert Stagman. And then Dan Drais.

MR. AEGERTER: Good evening. I'm Bob Aegerter from Bellingham, Washington. I'm here representing my three grandsons, 21, 11, and 2, and my soon to be born granddaughter.

For the first time in this agency's history the draft plan calls for meeting all growth and demand with no net increase in carbon emissions and no new fossil building power plants. It sets very aggressive, but very attainable goals. But what we urgently need is actual reductions in C02 gas production.

The scientific evidence is clear: Climate change is happening now. And human-caused greenhouse gas emissions

play a central role. Its documented effects are intensifying and will continue to intensify, particularly here in Washington, where our glaciers are disappearing, which is a major source of our water power, and where our salmon are impacted by eight different ways due to global warming. What is the purpose of all the money that all you folks have authorized to preserve salmon if we're going to let global warming destroy them.

Dirty coal plants serve only about 20 percent of this region's electricity needs, but directly cause more than 90 percent of the Northwest power system's global warming emissions. This draft plan, if it becomes final, would not lessen our dependence on those dirty coal plants. In fact, the plan would not reduce current regional carbon emissions at all. The draft plan fails to capitalize on the economic benefits of developing even more energy efficiency, which I believe is the lowest cost and the most immediate thing that needs to be done, and to develop more renewable energy.

I urge the Council to develop a revised plan that reduces our C02 pollution in accordance with the targets established by Northwest states and the scientific community. The Final Sixth Plan must tell the region to seize the ample clean energy opportunities now. Thank you for the opportunity to speak.

MS. DUKES: Thank you. Jessie Dye. And after that, Robert Stagman and Dan Drais, and Doug Howell.

MS. DYE: Thank you. My name is Jessie Dye with Earth Ministry. As you know, Mr. Karier, there is a rally going on next store starting right now. So there's an invitation to people in the room to join the rally next door.

MS. DUKES: We'd be happy if you stayed here for the hearing, though.

MS. DYE: They'll be back in 20 minutes. I'm going to testify because I can't turn down a microphone. I work for Earth Ministry, and we represent the faith community in our state, and in our region. I'm here to make two comments to you: One is thank you. Thank you for your good work with renewables, with energy efficiency. I know this wasn't easy. You had to wrestle this issue to the ground, and you did a good job. So thank you very much. And I want you to know that the faith community is watching this, and it matters to us.

Secondly, I want to say to you, please take more leadership with reducing carbon pollution. That also is a very important issue to us. When I say to you I'm here for the faith community, who am I talking about? There are a million Roman Catholics in this state, and the Pope, as you may know, is incredibly green, I'm channeling him today. He

wouldn't come to this hearing. But seriously, he speaks over and over again about the need to protect the forest from global warming pollution. And the Bishops of this state and the U.S. Conference of Catholic Bishops are onboard. The Episcopal Church of the Diocese of Spokane and the Diocese of Olympia, which is western Washington, have taken leadership in their own parishes and buildings to reduce their own carbon footprint. They're calling it the Genesis Covenant. The Methodists in this state have taken leadership in an energy efficiency project, asking Secretary Chu to increase energy efficiency in appliances. The Lutherans, the Baptists, both southern and American, the Evangelicals -- check out the evangelicalclimateinitiative.org, are very much onboard that we need to take leadership in climate protection.

In particular, I want to mention the Presbyterians. No, this is important, because the Presbyterian Church USA has established what they call generational justice. It it's one of their profound teachings. All faiths -- Jewish, Muslim, Christian, Buddhist, otherwise -- believe we have to care for the poorest among us. But the Presbyterians have pushed that to the next level saying, not only for the poorest people living now, not only for the ecosystems that are currently in play in the world, but for the future, for our children

and grandchildren, as the gentleman before spoke to me -- spoke to you about.

So I am speaking on behalf of generational justice in care for all of our children and grandchildren on behalf of the moral issues that we face with climate change. This would be your turn, your time to do this. So please reduce carbon usage in our state. Thank you.

MR. KARIER: Thank you.

MS. DUKES: Thank you.

MR. STAGMAN: My name is Robert Stagman. I'm a retired surgeon, speaking as private citizen. I want to thank you for the opportunity to speak here. My comments will be very brief.

I have absolutely no doubts about the urgency of the climate crisis and the human role in its genesis. At the age of 69 I'm unlikely to personally experience the worst sequelae of this crisis, but I find it unconscionable and unacceptable to pass this on to future generations in order to minimize inconvenience to this generation, including short-term retardation of economic growth. I therefore applaud the Council's emphasis on energy efficiency and new renewables. I urge the Council to exert maximum pressure for total elimination of coal as an energy source at the earliest possible time. Thank you.

MS. DUKES: Thank you.

MR. KARIER: Thank you.

MS. DUKES: Next, we have Doug Howell, then Kristy -- Kristy. And David Kerlick.

MR. DRAIS: My name is Dan Drais. I'm here speaking on my own behalf. To keep my comments brief, I'll skip the part where I said all the good things about the plan. Yeah.

I also want to endorse the comments of the first speaker for NWAC 100 percent. The prospect of climate change is not an excuse for keeping obsolete dams on the Lower Snake River intact. In fact, the amount of climate change actually argues in favor of breaching these dams. If salmon are to survive climate change, these dams have to go. Once they are out, salmon will be able to reach the best habitat in the lower 48 for preserving their genes and their species. Scientists give such a plan a 50 to 90 percent probability of restoring productive populations. If the dams stay, the salmon will lose their best chance to survive global warming. The lower elevation water will be warmer sooner. That water will be scarcer in the summer. It will be more likely to -- the rivers will be more subject to scouring from high volume storms in the fall and winter. And independent of climate change, the lower elevation rivers will suffer the most pressure from development and runoff.

Again, the higher elevation habitat in Idaho above

the Snake River Dams is the cleanest, coldest, least developed, best protected chunk of salmon spawning opportunity that remains to us. It is an arc. It is less expensive to remove these four dams than to keep them. The modest electricity benefits they offer to the region can and should be replaced by clean energy sources, such as the conservation you are proposing. Filling this high-elevation arc with salmon is our best insurance policy against what global warming will do to these valuable fish, and far more effective than continuing to truck the fish downstream.

We need to stop global warming and, while doing that, not abandon the things that matter to us. Thanks for the opportunity.

MS. DUKES: Doug Howell? Doug Howell? All right. Kristy. The only name that we've given. David Kerlick. All right. Come on up.

MR. KERLICK: I'm Dave Kerlick. I am a retired physicist. I worked many years in the Boeing Map Group, but I'm representing myself only as I'm retired.

First of all, I think the staff has done an excellent job, and provided a lot of know-how about where we can get to where we want to go. I think the problem is more deciding where we want to go. And I think the way we want to go is reducing C02 pollution. And I think one of the maybe technical problems is what people call

externalization, and things, because they're catastrophic, they're sometimes valued at zero, and that's not a very good way of running a model, if the result is that the BC forests go up in flames or that the salmon fisheries collapse, these are enormous consequences and need to be weighed against what may be relatively small changes in other things.

In the report, there is a scenario that gives a zero cost for carbon. This is really not very fair. Even if there are no policies that say we have to pay for carbon, we're already paying social costs of at least $20 at a time.

And Dr. Hansen from NASA Goddard has already last March or so said the price of carbon to really work should be about $115 a ton. So I'm thinking that the ranges are a little bit low, and that could change the actions.

I think one of the -- the really positive things, and that ought to be emphasized is the management of the power system to provide minute-by-minute changes in response of the system, and particularly with a variable resource like wind, to add sufficient storage in the system near the wind, so that that can be stored, some of it, and used, possibly using batteries like in electric vehicles or an electric vehicle recharging stations if we go the way we probably should, and replace petroleum fuels via the electricity in batteries, for vehicles.

And the other maybe small point is that if we have

loads that are essentially thermal, we need to get them out of electricity. There's a three-fold cost in thermodynamic efficiency for using electricity to heat space. While you may not be able to do a lot in enforcing that, whatever levers you can pull are probably levers that ought to be pulled.

Okay. I think that's it. I would close that Benjamin Franklin said that an ounce of prevention is worth a pound of cure. And the best way to sequester carbon is not to mine it in the first place.

MS. DUKES: Tad Anderson. And next is Natalie Brandon. And then Darrell Johnson. And I hope I'm coming close on some of these.

MR. ANDERSON: Thank you for the opportunity to speak. My name is Tad Anderson. As a climate change scientist, I feel compelled to comment on the recently released draft plan. A thumbnail of my qualifications: I'm a recent Associate Professor at the University of Washington since 1994; I've co-authored over 60 publications in the climate peer reviewed climate change arena. I've taught undergraduate courses on global warming since 1997; and I've participated in writing climate change reports by both U.S. National Academy of Sciences and the Intergovernmental Panel on Climate Change, or IPCC, as we all know it.

Global warming in excess of 2 degrees Celsius

would constitute an extremely dangerous disruption of the climate system upon which the world economy and global ecosystems depend. Specific effects of crossing this 2-degree threshold are amply documented in the IPCC Working Group II Report from 2007. A pertinent question then, is what level of atmospheric C02 is consistent with preventing a warming of two degrees or more? This depends upon climate system feedbacks which unfortunately are not so well known.

However, the IPCC has performed careful evaluations of this question, and the 2007 report of Working Group III indicates that a C02 must be stabilized at or below 400 parts per million, if we're to have at least a 50 percent chance of preventing this 2-degree Celsius warming.

Now, we are currently at 386 parts per million, and rising at 2 PPM per year. You're looking at something like a seven-year timeframe, therefore.

Clearly, we do not have multiple decades to figure out how to bring emissions down. They must be brought down very rapidly. It's especially incumbent upon those of us in the developing world to figure out how to do that. To stabilize C02 concentration anywhere near 400 parts per million will require that global emissions be reduced by 50 percent over the next 40 years; that's global emissions. And to do this will require in turn that developed nations like the United States reduce emissions on the order of 80

percent. These are the requirements for protecting the planet from the risk of massive climate disruption.

Clearly, these requirements dictate that the process of reducing carbon emissions must begin right away, and the reductions must be very substantial within the next two decades. A 20-year power plant in the Northwest which fails to call for substantial reductions in C02 emissions is not in my judgment a plan that responds to current scientific understanding of the threat of climate change. And I would be happy to clarify these comments by e-mail or any other means. And here they are in writing. Thank you very much.

MS. DUKES: Thank you. Natalie Brader?

AUDIENCE MEMBER: Brandon. She's not here. I'll go grab her.

MS. DUKES: Darrell Johnson. And then Steven Anderson. And then Matt Huran.

MR. JOHNSON: Thank you. I'm Darrell Johnson. I'm just representing myself and my son here today. But I would like to just make two points with you. I am not a scientist. But as a young lad in Montana, I grew up just a stone's throw from the Clark fork of the Columbia River. We, at that time, just dumped raw sewage into the river, as we did during -- throughout much of the country. And it took awhile, but we figured out that, though cheap, it was not --

or though inexpensive, it was not cheap. That we paid a high price for doing that.

And I submit to you that that's exactly what we're doing today with coal. Whether we -- the way we mine it, or when we burn it and we live in its waste, that unlike what the coal industry is saying, that there's clean coal, which we all know to be a myth, number one. But number two, saying we have vast resources and that it is cheap, I suggest to you it is inexpensive, but it is not cheap. And that whenever you're looking at any kind of analyses on coal, full costing needs to be the approach used. And I think it would argue pretty readily for moving to other sources of electricity.

And then one final comment, very brief, about salmon. I hear them just referred to as fish often, particularly by the right wing. And I think of them as an essential part of the culture of the Northwest. They are an essential ecological element in both fresh and saltwater, and they're a very important part of the economy, whether looked at from recreational fishing or commercial fishing, it doesn't matter. But they're really an essential part of what the Northwest is about. And to diminish that is really morally indefensible. We can do much better.

And finally, I just want to applaud you about the opening comments about the focus on energy conservation, and

also renewables. I think that's exactly the way to go. And I applaud you for that effort. Thank you.

MS. DUKES: Steven Johnson. And then Matt Huron, and Peter Brehm. Joseph Bogaard.

MR. HURON: Hi. May name is Matt Huron. I'm 26 years old, and I've been living in Washington for about almost eight-plus years. It's been awhile. The Northwest is now my home. It's the place I work and pursue the things I love to do. And it just so happens that my job is in renewable energy, and my passion is fishing for salmon steelhead.

The Northwest has been a lighthouse for successful renewable energy policy. As a senior project coordinator for a consultant to the wind industry, I've seen my company double in the last year, and this includes growth during our economic downturn and tightening of financial markets. I've witnessed firsthand the decisions and targets set forth by the NPCC and how they increased clean, renewable energy in the Northwest and have spurred job creation, such as my own.

When I'm not working, I frequently drive to Oregon to fish. During these times when I'm driving out there, I get to see all of my hard work come to fruition. I get to see all the wind farms going up that I've basically worked on since their conception. However, what I don't see is the return of our salmon steelhead to some of our region's

rivers.

I'm here to urge the NPCC to do more and go farther to formulate a plan to take into account our region's fishing opportunity and our salmon steelhead economy. With 13 endangered stocks of salmon and steelhead, there is definitely a need for improvement. And the committee can take the reins of leadership on both energy and cost effective salmon leadership.

I believe in a final plan moving forward. I really think we should take a strong look at the Lower Snake River Dams and possibly breaching them as dams. So far the Columbia Basin River salmon restoration, sealife restoration, has been really, really expensive and not really effective. By looking at removing these dams as our best recovery option, I think we can balance our region's energy needs, and also the needs of fish and wildlife. Basically, I'm selfish when it comes to fishing; I like to catch a lot of fish. And I believe in the Northwest we can definitely have it all. We can have clean energy, wild salmon, and a healthy economy and environment. But it will only happen with great leadership such as yourselves. I guess that's all I got. So please, thank you.

MS. DUKES: Thank you. Are you Peter? Oh, great. Come on over. And Joseph Bogaard and Heather Rhoads-Weaver and Barbara Rhoads-Weaver.

MR. BREHM: Good evening. My name is Peter Brehm. I'm the Vice President of Business Development and -- relations of Infinia Corporation. Infinia Corporation is the Northwest's only complete solar power system manufacturer, and one of the largest solar power companies in the Northwest. Thank you for the opportunity to make the comments here today.

First and foremost, I want to compliment the Northwest Power Conservation Council for proposing a plan that foresees expected load growth in the Northwest to be almost entirely met by efficiency and renewable energy. Ten years ago, that would have been a revolutionary plan. However, much has changed in the last ten years. Our current situation requires much more aggressive action.

First and foremost, the plan must assume -- any new plan must assume -- the complete phasing out of dirty coal plants in the Northwest as soon as possible. This will require much more aggressive energy efficiency and renewable energy generating goals. It is entirely unrealistic, however, to assume that all the new renewable energy generation in the Northwest will be wind power. Intermittency, seasonal and grid issues argue for much more aggressive utilization of other renewable energy resources, particularly solar.

The Northwest's solar resource is generous, much

larger than most realize, and easily captured. It is also counter-cyclical and very complimentary to the Northwest wind resources. The Northwest solar resource is obviously greatest in the summer, at the same time the Northwest wind resource is the weakest. The Northwest Power and Conservation Council's Sixth Power Plan is a unique opportunity to promote the development of renewable energy and energy efficiency technologies and products in the Northwest.

The energy industry is changing dramatically. Energy is changing from an extraction-based industry, the mining of coal, pumping of oil and gas, to a manufacturing-based industry, with economic value generated when the renewable energy generates product or an energy efficiency product is manufactured. Recognizing this dramatic change in the energy industry, the Northwest Power and Conservation Council's Sixth Power Plan must promote the obsolescence and elimination of carbon-emitting energy sources and replace them with renewable energy and energy efficient technology and systems, particularly those developed and manufactured in the Northwest. A power plan that merely promotes the implementation of wind turbines and solar panels from China and Japan is of little economic benefit to the Northwest.

In summary, we urge the Northwest Power and Conservation Council to adopt the plan that obviates the

need for carbon-emitting power and related technologies, and replaces and provides for the expected load growth by deploying a balanced portfolio of renewable energy and energy-efficient technologies, particularly those developed and manufactured locally in the Northwest. A power plan that promotes wind as the only renewable energy resource is not realistic; such a plan primarily benefits European and Indian wind turbine manufacturers, and does nothing to promote the manufacture of energy technologies in the Northwest. Thank you.

MS. DUKES: Thank you. Joseph Bogaart. Great. And then Heather Rhoads-Weaver and Barbara Rhoads-Weaver, and Robert Cromwell? Okay.

MR. BOGAART: Good evening, and thank you for the opportunity to come and speak here this evening to you around the Draft Sixth Power Conservation Plan. My name is Joseph Bogaart, I'm here representing the State of Idaho Salmon Coalition, which is a broad coalition of organizations and businesses working to restore salmon and steelhead to healthy harvest and abundant numbers in the Pacific Northwest.

Thank you again for hosting the hearings here. This is a critical plan coming at a critical time. And as you can see, there is a lot of people in this room and outside of this room with me, who are concerned about the

development of the region -- our region's energy policies, our fish and wildlife policies, and the profound implications they have for our way of life here in the Northwest, and with the intensifying effects of global warming with our way of life beyond the Northwest.

And as others have this evening, I want to thank the Council for what is the best and most progressive and forward-looking plan to be produced. It's quite an accomplishment. This is absolutely the right direction to move in, and it's the kind of plan that many in this room have been working towards and asking for for years. Unfortunately, times have changed, and are continuing to change. And we now clearly understand how burning fossil fuels like coal affects our climate. These changes are costly and disruptive excuse me -- these changes have costly, disruptive and dangerous implications to our food and water, our jobs, the economy, our families and communities, as well as the salmon and steelhead of the Northwest and other creatures that we depend on and share this planet with.

You probably all saw the article last week in the "Washington Post," spotlighting a new broad analysis that reflects how climate-driven changes in our environment are occurring even faster than previously thought. We need a sixth power plan that reflects today's best scientific

information. And I don't think the current plan does that. Given what we know, we need a final power plan that moves us farther and faster than the draft. And this is what -- a couple of points -- this is what the final plan should do. And I'll start just by saying, start with the sort of the bottom line, which is, in the Northwest, the State of Idaho Wild Salmon Coalition is committed to a future and working with others in the region to create a future where we can still have it all -- clean, affordable energy, wild, abundant salmon, a healthy economy and environment -- while at the same time living up to our region's obligations to reduce our carbon footprint, and reduce our fair share to stop and eventually reverse global warming. Our region can do this.

And the final version of the Sixth Power Plan must chart a course that moves us forcefully in this direction. In order to achieve this, the Sixth Power Plan must increase the draft plan's energy conservation targets. Others have mentioned this, I think, today, and I'll just sort of leave it at that.

Second, the final plan needs to chart a course for real and effective salmon recovery. Salmon are a Northwest icon. They're an irreplaceable national treasure. They're a valuable natural resource that support tens of thousands of jobs in this region and across the coast. They have also

received extremely poor treatment as a result of the impacts from the federal dams in the Columbia Basin. Scientists have consistently found that the removal of the four Snake River Dams is the best and perhaps the only way to protect and restore abundant runs in the basin. Reconnecting this imperiled fish to the largest, wildest and best protected upland habitat, upstream from these dams, represents probably our nation 's best salmon restoration opportunity. And I think the Council has responsibility in protecting and restoring -- well, the Council does have a responsibility for protecting and restoring fish and wildlife populations harmed by the power system. And this is your great opportunity to live up to that responsibility.

Toward this end, the final --

MR. KARIER: Do you want to start wrapping it up?

MR. BOGAART: I've only got a little bit here.

The power plan should reflect the findings of the Council and staff, that replacing the energy produced by the four dams with clean, renewable energy would cost far less than has been suggested by salmon recovery opponents. And that the Snake River Dam remains the most effective option for the region to finally protect and restore healthy runs of salmon and rebuild the jobs that rely on them.

Finally, as there is this analysis that was done by staff on the cost of replacement of energy at the Lower

Snake River Dams, I know the staff has also completed some analysis on the costs and process for closing down coal plants. And I would encourage likewise the Council include that analysis and help move the region forward in terms of having -- setting some explicit goals about the fact that we need to not only stabilize our carbon footprint here in the Northwest, but we need to start reducing it.

To close, wild salmon and clean energy are birthrights of the Pacific Northwest. Strong action by this Council as you finalize this Sixth Power Plan can assure that we have an abundance of both for ourselves and for the generations that follow. Thank you for this opportunity.

MS. DUKES: You must be Heather.

MS. HEATHER RHOADS-WEAVER: Thank you. My name is Heather Rhoads-Weaver. I'm with eFormative Options, which we specialize in forming and advancing sustainable ventures, in particular distributed energy resources. So I'm going to be addressing that in particular today.

But first I'm going to sound a little bit like a broken record. Because I do want to thank the Council for moving in the right direction. However, I agree that it doesn't go quite far enough. So, you know, the impressive savings that are outlined in the three scenarios are great. However, I would really like to see a little more aggressive option embraced, that would really promote economic

development in this region and take advantage of this important window of opportunity for creating jobs that we really need here.

Especially in light of today's announcement with the EPA on emissions controls, the importance of net excess generation, especially -- is especially critical in phasing out the dirty coal plants, and taking out the four Lower Snake River Dams. This will begin to reduce the really devastating effects of these high-energy impact technologies and help us move to the next phase.

One point I wanted to make about the mid-term review. I think, keeping the option open of actually increasing the targets at that point, depending on how things are going, would be really helpful. But I'm worried about letting the utilities off the hook, if they're falling short. So that just was a red flag for me, that there could be things that happen, such as with the federal stimulus funding. Right now here in Washington State we have a really exciting community energy efficiency pilot program that could really grow into a region-wide market approach, with whole neighborhoods doing retrofits and using a community organizing model. And I think that could really take off. So we don't really want to sell ourselves too short.

There was very little discussion, I found, on

distributed generation energy plans. I would like to see a little bit more talking about on-site generation, such as small-scale wind, community wind, community-scale wind, and solar. And just as the voluntary green car market has been able to leverage private dollars, and has resulted in almost as much, if not more, renewable generation as the portfolio standards have to date, this is a very important way of leveraging private dollars and building our grid to benefit all rate payers. So I think that really warrants a little more review.

Wind and solar power that's produced at the point of use avoids a lot of impacts, and the need for firming, integration, and balancing resources. So these can also help delay or avoid new transmission line upgrades.

Also, I didn't see --

MR. KARIER: Are you close to wrapping it up?

MS. HEATHER RHOADS-WEAVER: Yes. I didn't see much of an in depth review of the coming electrification of vehicles in the transportation sector. So as more households and fleets move into that, linking electric vehicles with on-site generation will help make a really dynamic network of the smart grid, and lead to the region really positioning itself to take advantage of this, rather than getting left behind or being taken off by the load growth.

Just very quickly, two specific references, and I can submit these in writing. On page 6-14, the discussion of distributed generation really didn't recognize the economies of scale with broad uptake. And the table on page 6-42, the pricing for solar at $9 a watt is very outdated. I'd like to see that updated, because prices of solar have come down in the past year dramatically. Distributed wind was left out of the scenario; its missing. It is somewhat higher cost than utility scale wind, but also has higher value.

So in conclusion, I'd just like to see a little more action steps spelled out from the Council, and not leaving it to legislators or Congress; just setting more ambitious targets and showing leadership to drive our clean economy forward. Thank you for your time.

MS. DUKES: Barb. And next is Robert Cromwell. Then David Banks and Ed Henderson.

MS. BARBARA RHOADS-WEAVER: Hi. My name is Barbara Rhoads-Weaver. Thank you for the opportunity to speak this evening. I'm an attorney at Sustainable Law. But I'm here speaking as a private citizen. And I recognize that this draft plan does take a progressive step forward in not creating new carbon emissions, but I echo the calls to go further. We know that without taking steps, that we're likely to suffer climate impacts, such as more serious

floods, harsher droughts, more intense forest fires, and negative impacts on our water supply, especially here in the Northwest, where much of it is dependent upon snow pack and runoff patterns that change with climate change.

And not to mention, I think others know more about, and have spoken about the impacts on our salmon and other natural beauty and creatures that we want to protect.

So I encourage and ask the Council to do more to chart a course to get rid of sort of, it seems like in the Key Findings, that they got, in order to make significant reductions in C02 emissions, you need to address and reduce the energy from coal. So having made that key finding, I think its important for the Council to then act on it. I mean, I appreciate that you've made the finding, but I'd like to see something in the final plan that does something about it.

And it seems as though there are some things that could be done by, you know, it seemed like there was a minimal cost impact on rates to shutter those plants earlier. But we see a much bigger reward from doing so by the impact we can have on the climate.

And it seems as though by making that change, we'd also be investing in, and helping to revitalize our regional economy by transitioning to an energy portfolio that generations to come will benefit from.

So I appreciate you for listening to our comments and urge you to act on that key finding. Thank you.

MR. KARIER: Thank you.

MS. DUKES: Robert?

MR. CROMWELL: Good evening, Council members. My name is Robert Cromwell, and I'm the Acting Director of power contracts and resource acquisitions at Seattle City Light. I'd like to thank the Council for this opportunity to address you this evening, and I'll refrain from saying all the good things that have been said already by others.

I do want to let you know that we do support the direction that the Council has taken in the draft plan. And one thing I would like to say, is to express our thanks to the Council's director and your staff, for their willingness to engage directly with the Northwest utility industry, the openness and the transparency with which they've been willing to discuss the methodological assumptions that they've been using, and to really deeply engage on some of the, I guess generally speaking, eligible framework that's represented by the analysis reflected in the plan, and the conclusions that they've reached, has been very helpful, and I think is something that we look forward to continuing, both through the finalization of the plan and through its implementation thereafter.

With that, I will say that we will be filing

written comments where we do have specific issues with either suggested edits, or perhaps questions about some of those methodological assumptions that we've discussed with Mr. Moran in the past, that we'd like to have the Council consider before adopting that final plan.

With that, I'll say thank you.

MS. DUKES: David Bangs. And then Ed Henderson, Sameer Ranade, and Chris -- no, Chris didn't want to testify. Okay.

MR. BANGS: Well, I want to thank you for coming to Seattle. And my name is David Bangs, and I'm Founder and President of Home Performance Washington, which is an association of energy auditors and home performance contractors. And I serve on the board of Efficiency First, a nationwide organization of 500 companies and organizations dedicated to retrofitting America's homes.

And so Efficiency First would be very pleased to see 85 percent of the demand growth being met by conservation. But my purpose in presenting is to give you reason for hope that you can go with an even more aggressive conservation stance, through innovation-empowering business, and the power of investment.

Efficiency First has been working with Congress on a provision called the Retrofit For Energy and Environmental Performance, which, as part of the House climate bill that

passed, provides benefits of up to $4,500 per home if 30 percent of energy is modeled to be saved, and $3,000, if 20 percent is saved. We need to be working on retrofits that achieve the absolute lowest possible gains from each home.

In Washington State, we've had a long tradition of utility retrofits that focus on the low-hanging fruit of doing things like applying insulation with air sealing, or applying Energy Star furnaces without duct sealing. And it doesn't require much imagination that if you're only acquiring a little bit of saving per home, that you'll eventually run out of homes, and there will be a lot of conservation, and somebody will say, oh, we just can't conserve more.

But if you focus on a whole house approach -- air seal, duct seal, ventilate and do everything as a system -- you can achieve reductions of 20 percent to much higher in cooling load per house. And we think that that would be incredibly cost effective, especially as shown by the climate bill, if you consider the cost of the avoided carbon, and not just the cost of the avoided energy in the analysis. We need to reduce our carbon emissions by 80 percent by 2050, and we're not going to get there without thinking in new ways and finding more ways to innovate and spur business.

So through my association with the national

network of contractors, I know that if given the right incentives, some of the largest insulators and companies that do energy in the country would change their business practices and respond to those incentives by dramatically improving the way that they deal with each home. And so -- and Puget Sound Energy locally has stepped on the bandwagon. They're about ready to launch their own Energy Star program, increase their expenditure on conservation by 30 percent, and introduce a whole house package of incentives. I think if other utilities did that, then you could look around at your numbers and come up with a little bit more for conservation. So thank you.

MR. KARIER: Thank you.

MS. DUKES: Ed Henderson.

MR. HENDERSON: Good afternoon. I'm Ed Henderson. I'm speaking this afternoon on my personal behalf. Is that picking up on the mic?

I'm a retired professional civil engineer. I've spent a great portion of my career building electric power plants. My wife and I have lived here in Seattle for over 20 years. We settled in the Pacific Northwest largely because of the natural beauty of this area. For the past 15 years I've been actively involved as a volunteer studying the regional power system. I have evaluated the planning by the Northwest Power Council and by BPA, always trying to

balance the need for clean and affordable energy with the protection of the environment.

Sadly, planning in the past has fallen far short of protecting the environment in favor of cheap power. The Draft Sixth Power Plan is by far the Council's best to date. I applaud the emphasis on conservation and renewable resources to meet future demand. But I believe the plan and the actions that follow can and must do even more. Capping carbon emissions at the current level will continue to add to the atmospheric load of C02 which is largely responsible for global warming. The Sixth Power Plan should set more aggressive goals for energy conservation in the near term. That's the next five years.

Increased energy efficiency, recovery of conservation resources, will allow the early closure of polluting coal-fired power plants. Replacing the dirty power from coal plants with clean conservation and all renewables, will virtually eliminate the power system's emission of greenhouse gas. The Final Sixth Power Plan must address the protection and recovery of salmon in the Columbia River Basin. This responsibility is mandated by the Northwest Power and Conservation Act of 1980.

For far too long, the protection of fish and wildlife has received short shrift in favor of cheap power. The Sixth Power Plan is obligated to include an honest

evaluation of the cost of removal of the four Lower Snake River Dams, along with an estimate of conservation and renewables needed to replace their power production.

And I would like to thank the Power Council for making this opportunity available for comment. Thank you very much.

MS. DUKES: Sameer? Bill Dickens. Come on up. And then Eric Michelman. And Stan Price. Welcome.

MR. DICKENS: Thank you, Madam Chair, fellow Council members. My name is Bill Dickens. I'm a senior economist at Tacoma Power, and I've worked in the area of power management. Tacoma Power appreciates the opportunity to comment on the Council's Draft Sixth Regional Power Plan tonight.

Tacoma Power considered two key criteria when reviewing the draft plan. First, does the plan recently reflect the lack of challenges facing utilities in the analysis balanced. Second, will the projected long-term increase in energy costs result in undue hardship for our utility rate payers. Based on these criteria, Tacoma Power is generally pleased with the draft plan. It is comprehensive and addresses many of the issues we've been concerned about. We are particularly pleased to see that the draft plan address the role of -- obligations and the Washington public utilities, the Council's conservation

methodology, the methodology that Washington utilities must comply when working with our recent obligations. And finally, for long-term effects of conservation targets.

Now, we have already been in the process of developing more written and precise comments that we will be sharing at a later date. Given the scarcity of time, this is my abbreviated comments for this evening. Thank you very much.

MS. DUKES: Thank you. Eric Michelman. And then, Stan Price and Jim Adcock.

MR. MICHELMAN: Hi. I'm Eric Michelman, President of the Cascade Base Research Corp. You know, I worked in Silicon Valley in its early days. I worked at Intel when it was a small fraction of its current size. I worked at Apple before it was a public company. I raised major capital, started software companies. It was a wonderful time. It was an amazingly prosperous time.

The renewable energy industry today is very similar to that place in time. It's got the same opportunity and the same potential; the same vast opportunity and the same vast potential. There's no question that just as computers were the largest growth industry of the second half of the 20th Century, clean energy, renewable energy, energy efficiency will be the biggest growth industry in the first half of this century.

The Northwest can be a leader in this; it can be a huge economic opportunity for us. But our policy majors have to play a part and lead. Carbon regulation is coming, everyone agrees. If we get out ahead of this, we'll be in a much better position to lead the industries that will be built on it. I urge you to aggressively incorporate carbon reductions into your plan for these and many other reasons. Thank you.

MS. DUKES: Thank you. Stan Price.

MR. PRICE: Thank you. Good evening. I'm Stan Price. I'm the Executive Director of the Northwest Energy Efficiency Council. We're an industry association representing efficiency companies in the Northwest. Thanks for the opportunity to comment.

I have some written comments here, and I will spare you the recitation of those. If I may just be able to just focus in on a couple of three points briefly with you.

First, the Efficiency Council supports the conservation goal of 1,200 average megawatts that's in the draft plan. We think it's an aggressive goal, but we think its an achievable one. So we applaud the Council, and its staff for the analysis that went into it. And clearly the efficiency industry stands ready to partner with utilities across the region in order to accomplish, not only that goal, but perhaps exceed it.

We're implementers. And so we're interested in the action plan. And so if I could actually focus on a couple of three points within the action plan for the balance of my comments, I would appreciate it.

First, we certainly agree with virtually all of the points that are made in the action plan. It's a good document. We certainly agree that energy savings, going forward, despite the fact that there are more of them, will be harder to get. The era of the compact fluorescent light bulb is over, as it's acknowledged there. Although, I do want to point out that seven years ago CFLs didn't seem like easy conservation savings. They were expensive; they didn't fit fixtures; and you couldn't find them anywhere. So a combination of the region's efforts to work with market intervention-based programs, to work in supply chain management, to work with manufacturers, in combination with aggressive utility programs, actually accomplished turning what was a difficult thing to do into something that we're now deeming to be really easy. So we need to take that lesson and apply it to a host of other technologies and practices, where we're working in combination with both market-related activities and aggressive utility programs, and creative program designs to work with customers in order to make a host of other kinds of technologies and practices that today seem very hard to do, and five years from now,

consider them to be easy.

We want to also focus in on the fact that the action plan rightfully calls for an investment in the region in making sure that new technologies are in the pipeline. So focusing in on some research and demonstration projects, vetting those technologies, and coming up with energy savings that could be measured and verified and then applied into utility programs so we can employ those technologies that are really important.

There was not enough of an element in the plan, however, to talk about operations and behavior-based savings an as a significant growth opportunity per energy savings beyond just hardware and technology. We encourage the Council and the region and the region's utilities to think about that as a significant resource.

MR. KARIER: Are you getting close to wrapping it up?

MR. PRICE: I am. So this is my one -- and this is actually the thing that we're most -- we feel is most important. And that's the focus in the calculation and the methodology, which is described in the action plan, that derives the 1,200 average megawatt figure. And this is this notion of achievability in -- there's no more significant variable in the analysis in our view that leads to the calculation of how much efficiency is really available. And

the discussion in the action plan on achievability rightly focuses on a number of infrastructure-related issues, how well can we create and design and implement programs, and how effectively, particularly in the efficiency industry, bolt those measures into the ground. But it misses one very important calculation. And that's the notion of the role of the customer, the role of the market here. The achievability fractions that are used in the methodology assume over the next ten years, that customers will 50 percent of the time make the wrong decision when placed with the notion of making it a otherwise self-interested financial decision in energy efficiency. That is something that should actually be unsettling to us all. And it means that there are a number of market dislocations that are out there that are causing people to make decisions that aren't in their financial self-interest.

We know a lot of those market dislocations. But we collectively need to work harder to figure out what those are, and to work to dismantle some of those dislocations, so take 1,200 average megawatts is not only achieved, but exceeded. And we look forward to working with the Council and the region's utilities in order to accomplish that. Thanks so much.

MR. KARIER: Thank you.

THE RAGING GRANNIES: We are the Raging Grannies,

and we are next. It takes us one minute.

You need a little --

MR. KARIER: We'll make an exception here.

THE RAGING GRANNIES: You have no choice.

(The Raging Grannies sing "No More Coal," sung to the tune of "Side by Side.")

MR. KARIER: Thank you. Could you please say your name. Could you come back up. For the record, could you please state your name.

MS. LORIMER: We're The Raging Grannies of Seattle. I'm Jean Lorimer.

MS. KAYE: Sue Kaye.

MS. KIPNESS: Glenda Kipness (phonetic).

MS. MORRISON: Shirley Morrison. And there are Raging Grannie groups all over the world.

MR. KARIER: Thank you.

MS. DUKES: And to follow that, Mr. Adcock, would you like to come forward. And then Richard Smith, and Scott Elliot.

MR. ADCOCK: I could despair at following that, but I will use it as a segueway instead.

My name is James Adcock. I'm an electrical engineer, MIT. I'm speaking today on behalf of the Seattle Mountaineers, an organization of 10,000 outdoors lovers. We are also known for playing a leading role in the formation

of many of the Pacific Northwest national parks, one of which is dead already due to global warming. I will use the previous presentation as a segueway to a little show-and-tell I have here. The LED light bulb pays for itself in a year. One penny a month would make this the electricity that feeds this thing clean, okay? The windmills that the power companies have to install to make the clean electricity for this light bulb costs one-half as much as the light bulb itself, okay? So why can't we do it?

Twenty years ago we would have been very happy with this report. Today we know we have 20 years to get off coal in the United States. Okay?

In your analysis, you assume that cap and trade prices will be low enough that you can keep coal power plants. The way cap and trade works is by setting carbon prices high enough that you are forced to get rid of coal power plants. So there's an inconsistency in your analysis.

We would also like the staff to take a close look at something called the Pacific Decadal Oscillation, which is a feature of our oceans, which has been helping keep Pacific Northwest cool. But over the next few years, a shifting phase, to where it will be raising the temperatures of the Pacific Northwest about two degrees. That's enough to kill the salmon fry in our rivers. It will fry our salmon fry. Because of this, we are recommending that you

get rid of the Lower Snake Dams.

To the two great nations, the United States and China, each by itself emit enough C02 that scientists say that C02 is enough to destroy the planet.

We are surprised when we read the Council report, that the report assumes that either one of two possibilities is going to happen; either that carbon legislation is going to happen, or the Lower Snake Dams are going to be removed. The report does not consider the possibility that both will happen. You are telling us effectively that either you will support the Endangered Species Act or you will support the Clean Air Act, but not both. We don't believe Bonneville has that choice. We believe both have to be supported. We love the focus placed on this plan on conservation, but we're concerned that conservation, as a term, may just become environmental happy talk. What conservation really means in the context of this plan is utilities and Bonneville spending enough money to buy conservation from businesses and consumers.

Further, when we read this report, we find that you count factory fish, not wild, spawning salmon. We believe the health of our salmon and our rivers is best represented by the count of naturally-spawning fish, not factory fish.

Here's a few things that we think are more important

than a penny a kilowatt: Free-flowing rivers; our children and grandchildren being able to walk on the beach, rather than standing behind a concrete, or a riff-raff dam, holding back the rising oceans. We think our national parks are worth more than a penny. We think skiing, kayaking, hiking, climbing on snow and glaciers, even just looking at glaciers, is worth more than a penny. Not watching people die in storm surges, rising sea levels, flash flood river snow melts, not watching people die in summer heat waves. My Aunt Patty died in a summer heat wave in Seattle a few years ago. It's already happening. Reducing the threat of war between the United States and China as each points its fingers at the other.

Finally, we believe it's the very lives of our children and grandchildren that we're talking about, or one penny a kilowatt. Thank you very much.

MS. DUKES: Richard Smith. Is there a Richard Smith here? All right. Scott Elliott. And then Brian Grunkenmeyer, and Bill Robinson.

MR. ELLIOTT: Good evening. I'm Scott Elliott. I'm Vice President of Engineering for Mountain Logic. We're a startup manufacturer of residential HVAC controls.

The Council has done an admiral job of identifying opportunities for meeting our anticipated energy needs through efficiency. And the staff deserves a big thanks for

a job well done. But we'd do much better to improve the economic and environmental climate in the Northwest to substantially increasing efficiency.

The just announced EPA, DOE, Energy Star and Super Star programs, which are rapidly -- the advances are occurring in efficiency, and also the associated risk reduction from advancing technology.

To speak specifically to the plan, on page 4-6, the plan mentions residential HVAC savings of $60 per megawatt hour. There are alternative residential forced air technologies on the horizon for a fraction of the cost, $45, down to $15 per megawatt hour, to pick just one area. These technologies will come online if there is the support to drive the market and signals to the venture community to invest in those markets. Without significant support to guarantee these markets, these technologies will not make it off the engineer's bench.

With the Council's support, we see these technologies being developed and launched in the Northwest, creating a new family wage industrial base for the Northwest. In a broad sense, the plan greatly underestimates the opportunity for efficiency gains in the residential sector, and overestimates cost.

So the plan should be revised to reflect a much greater possibility for energy savings in the residential

area.

On a separate point, the plan must also not allow for mid-term downward revision in efficiency. Such an opportunity would be self-defeating and self-fulfilling, and the plan should be altered to only allow for increases in deficiency targets in the mid-term.

I urge the Council to support employment in the economy and the environment in the Northwest by substantially increasing efficiency targets. Getting this job done helps us you all. Thank you for your time.

MS. DUKES: Brian. Come on up. Then, Bill Robinson and Scott Veirs.

MR. GRUNKEMEYER: Hello. My name is Brian Grunkemeyer. I live in Redmond, Washington. And I'm very happy to be here. Thank you for coming to listen to us all chat.

Also, thank you to the Council staff. Their copious analytical abilities are very well regarded. And rightfully so.

However, you guys have made an amazing amount of forward progress with this plan; the conservation goals are great. However, this plan is inadequate to the challenges of our time. We need to step up and reduce our carbon dioxide emissions. This is a society-wide problem, of course. We will be working on moving towards electrifying

our transportation grid. That is half of our C02 emissions here in Washington State.

The challenge for you, as this Council is, coal is the biggest target. Its the easiest thing for us to change as a society. And its probably going to be the most cost effective thing for us to go after. So I don't see any reason to not make forward progress on removing all of the coal plants in the Northwest.

So the interesting challenge then becomes, what's stopping us? What's in the way? And I realize that there are some states that may view this as maybe a little bit counter to their goals. I know that, you know, Montana does have the Powder River Basin, and there is a lot of coal there. However, I've read Jared Diamond's, "Collapse," which details the environmental and economic problems going on in Montana's Bitter Root Valley. I really feel for that state. I understand there are problems there. However, relying on coal as income for that state is, in my opinion, not the best thing to do.

Instead, we should view this as an opportunity. Renewable energy, I believe, is going to end up being divorced from the price for normal fossil fuel-based power. The fact that we have passed renewable portfolio standards in 24 of our states, suggests that the price of renewable energy is going to go up significantly more than the price

of fossil fuel-based energy within the next ten years or so. This is an excellent opportunity for Montana do harness its copious wind power, and transmit it both to, you know, states like Washington and Oregon with high renewable portfolio standards, and also to the great State of California, where the Governor of that state has just upped his requirements for renewable -- this is an opportunity for the entire region. This is not going to be a real painful detriment to us. And if there's some cost mechanism that is necessary to help the low income users in certain states, let's go after that. There's no reason to not do that. Let's be creative there and let's do some thinking.

So in short, I don't see any reason to not make any forward progress on removing coal from our regional power supply. Thank you very much.

MR. KARIER: Thank you.

MS. DUKES: Bill?

MR. ROBINSON: Well, thank you very much. My name is Bill Robinson. I'm a former Trout Unlimited staffer, former Executive Director of the Washington Council of Trout Unlimited. I've been asked to read this statement to you on behalf of those organizations.

First of all, TU is the nation's leading cold water fishery conservation with over 140,000 members, and many of whom live in the Pacific Northwest -- Washington,

Idaho, Oregon, Montana -- areas you're pretty familiar with.

First, a hearty thank you. Thank you for proposing to meet the region's future energy needs for the next two decades through investments in energy conservation and clean renewable resources.

This proposal marks the first time the Council has recommended meeting all the region's future energy needs without reliance on greenhouse' gas emitting energy sources. And you deserve to be commended for it.

However, given the urgent need to reduce greenhouse gas emissions to prevent catastrophic global warming, we urge the Council to take this policy further in the plan's final version. The sixth power and conservation plan must provide our region with explicit recognition of the need to immediately begin reducing greenhouse gas emissions below existing levels.

The important progress the Council has demonstrated in its support of energy conservation and renewables is unfortunately not evident in the plan when it comes to protecting salmon and steelhead resources of the Columbia Basin. With global warming upon us, creating greater challenges for the basin's salmon and steelhead, we need visionary leadership to move these magnificent and economically valuable fish from their present beleaguered state to healthy, fishable levels. That leadership has

largely been absent in the region, and the Council should step into that leadership void by showing how the region can take bold action to recover salmon and steelhead in the Snake River Basin, while meeting the region's energy needs.

There is only one action that has the potential to dramatically increase wild salmon and steelhead populations in the basin, and that is the removal of the Lower Snake River Dams and restoring unimpeded access to and from thousands of miles of habitat into central Idaho and northeast Oregon, with reliable, climate change models showing that a dammed Lower Snake River will have water temperatures during the summer that will kill salmon and steelhead, now is the time to provide credible information about the cost of replacing the energy provided by the Lower Snake Dams and clean energy sources. We respectfully request that Council leadership -- the Council leadership on this critical issue.

We are not asking that the Council take a position on dam removal. Rather, we are asking it to use its staff expertise to provide decision makers with high quality information that will enable an informed, timely decision about the Lower Snake River Dam removal.

The draft plan should be revised to include this essential information so that the major progress toward restoring wild salmon and steelhead can be made.

Thank you for your time and consideration.

MR. KARIER: Thank you.

MS. DUKES: Scott Veirs. Not here? Okay.

Aaron Robins. And then after Aaron, Dan Morris. And Anastasia Schemkes.

MR. ROBINS: Hi. I'm Aaron Robins. I'm a volunteer with the CR Club, although I'm speaking on behalf of myself today.

I want to thank the Council for taking the time to do these hearings. And I particularly want to thank your staff for the fantastic job they've provided, the wonderful analytical data for energy wonks like me, who want to be able to go through that and parse it and figure out what our system really looks like.

And I think addressing global warming is a moral imperative, and I think it needs to be addressed aggressively and urgently. But frankly, I'm here to talk about money.

There's a lot of great stuff in this plan. There's a lot of great data about efficiency; there's a lot of great data about fuel prices; there's a lot of great data about renewable portfolio standards and all of that wonderful stuff. But a huge part of the draft plan is, frankly, a guessing game about the price of carbon.

No one in this room knows what carbon is going to

cost in 20 years. I don't know. Puget Sound Energy is just now finishing up their integrated resource plan for 2009. Their best guess is $130 a ton. That frankly seems pretty reasonable to me. It might even be low. One thing that's abundantly clear is that the price of carbon represents the greatest risk to our system, the greatest risk to our rate payers all over the Northwest. Fortunately, there is a very easy, simple, cost effective way to virtually eliminate that risk, and that's the planned retirement of coal-fired power plants throughout the Northwest. We can do it safely, we can do it responsibly. We can replace the energy with renewables in conservation and natural gas, all of which create more jobs and more economic activities than those coal plants.

Now, we don't know what's going to come about for the price of carbon, but we know its coming. It may be done through cap and trade; it may be done by the EPA. They just proposed their draft rules today on regulating carbon from power plants. It might be done by the Western Climate Initiative or it might be done at the state level. But it's going to be done, and those coal-fired power plants are going to close down.

We have a couple of options. We can close them in a planned manner, where the jobs are replaced with better jobs, and the resources are replaced and the power is

replaced, and the conservation and the renewables are in place to do it. Or we can wait around, we can let them close by themselves, sporadically whenever they become too expensive, like when carbon hits $90 or $100 a ton, and if owners of those plants decide its not worth it and they shut down, and we end up buying our power on the spot market and rates go through the roof. And that's not acceptable.

So I want to encourage the Council to look seriously at the data and look seriously at what we're planning to do. We need a responsible plan to close those plants in a timely manner and get the risk out of our system. Because ultimately, the coal-free scenario is the least cost, least risk scenario. Thank you.

MR. KARIER: Thank you.

MS. DUKES: Dan Morris.

MR. MORRIS: My name is Dan Morris. I'm a mostly retired environmental engineer. I've inspected over 4,000 buildings in my career. And I think there's one thing that has not been mentioned at all about coal fire plants. The carbon dioxide is what produces global warming. But those plants produce the most pollution of anything in this country, of any industry; that includes arsenic, chromium, lead, hydrogen chloride, mercury, ash, soot, and about 20 other particles in gases which are harmful to people.

My son, who is healthy, but a little bit

sensitive, moved to Bejing, and after three years he had trouble breathing. And I was there twice. And if you looked around at the air, and that city is the most polluted city on the planet, and they use -- almost all of their energy is from coal.

So I want to expand the consideration beyond the global warming, which is an important one, to look at what impact the coal fire has, not just on people, but on acid rain and on the plants and on the flora and fauna of the region. And I've also worked in energy efficiency, solar and sustain built. And I think there's something, that although you don't set rates, that we need to bring up to the table. Is that all these incentive plans for conservation and renewable energy are real excellent and well thought out. But there's one plan which would make it much more effective, much faster, and much simpler. And that is to greatly change the rate structure to make people who use very little, pay very little. People who use a lot, pay a lot. And therefore, the ingenuity, and people's concern about their own bottom line and what they pay, will come up with all kinds of new ways of saving energy that won't require a lot of complex incentive plans. It will happen all by itself.

So I want to thank you, in closing, I think you've done a good job. And I agree with everything that's been

said. I think we're heading in the right direction. But I think the Northwest has a chance here of setting the standard for the country. The Northwest and the Northeast are the two most sustainable areas of the country. And we have a chance of saying, we can go carbon neutral; we can get rid of all our coal-fired plants first in the country. It would be a great star on all of your caps. Thank you.

MS. DUKES: Anastasia. Dave Warren. Patrick McNally. And next is JP Kemmick.

MR. McNALLY: I'm Pat McNally. 10,000 years ago, right here where we're sitting, the ice was about close to a mile high. Nothing I've heard here is suggesting you're going to restore this to what it should be. I sent an e-mail to Tom Karier and the other Washington representative. I asked you to walk across the Seattle Center. Did you do that? I asked you to go look at Seattle's big original solar project. Its kiddy-korner at the far end of the Seattle Center. It's a boondoggle. It was pitched as a 2-kilowatt thing. I never saw a number bigger than 1.25, and for the last couple years all I've seen is zero.

Anyway, in that e-mail, I put it out to you, coal oil and gas will be the world's primary sources until we run out. That's pretty much what I have to say. Except that I mentioned the -- back solar briefly. They made two trips up the Hubbell to replace solar panels.

MR. KARIER: Okay. Thank you.

MS. DUKES: JP Kemmick. Donna Albert. Alan Hamlet. And next is Susan Taylor.

MR. HAMLET: My name is Alan Hamlet. I work with the Climate Impacts Group with the University of Washington. I'm speaking largely for myself, though, today.

The plan does a very nice job of identifying no regret strategies that are cheap and environmentally responsible and address the global warming problem. But there's several shortcomings in the plan with regard to global warming.

In the first place, there's a lack of scenario-based planning in the report. We continue to use historic records when we have projections which much more accurately reflect the situation that we see coming in the horizon of the plan's forecast horizon. And in particular, I think by not encompassing the warmer temperatures and changes in stream flow timing that we expect to see, we are underestimating the impacts to salmon, and some of the challenges that we face in terms of meeting summer demand, in particular in the Pacific Northwest. This is a need that I think can be addressed. Our planning Council has the expertise and the resources to do this as it should be done, and actually made a start in the Fifth Power Plan, which was not carried through in the Sixth. So I was disappointed to

see that.

The second point I'd like to make is, the basis of the power planning Council's planning strategy is to look forward 20 years on a five-year recurring interval. And I would argue that that timeframe is too short to understand what is likely to happen in terms of the true costs, in particular, related to global warming. The kind of impacts that we expect to see at the end of the 21st Century, which is of course well outside of this planning horizon, are where I think many of us are really frightened by what we see. So I would also argue take it's not about cost, and it's not about the economy in the Pacific Northwest. This is a problem, in my view, we have to solve regardless of cost. So placing it in the context of what's cheapest, and what makes sense in that context, what makes sense for the Pacific Northwest economy, fails to address, I think, a very important thing, that we just have to deal with this problem, and we have to do so as rapidly as we can, and no matter what it costs. And I think that will become apparent as we go forward. But its not part of the thinking behind the plan. Thank you.

MR. KARIER: Thank you.

MS. DUKES: Susan Taylor.

MS. TAYLOR: Thank you. My name is Susan Taylor. I'm here as a private citizen, and as a mom. I'm here to

urge the Council to adopt a plan that would reduce global warming emissions and that would establish a roadmap for eliminating coal-generated power in the Northwest. While coal generates 20 percent of our region's electricity, it causes -- it creates 90 percent of our power system emissions. It's time to be more aggressive about eliminating coal. Coal plants cause global warming, and they're also dangerous to human health. The mining, transportation and burning of coal, as well as the handling of coal waste is dirty. I understand that the Council's own staff has found that coal power could be eliminated with fairly minor rate adjustments.

I think given all of that, it's time for the Council to take the lead on this issue. That's it. Thank you very much.

MS. DUKES: Thank you.

MR MEASURE: Thank you. Ms. Albert.

MS. DUKES: Next is David Ban Holden.

MS. ALBERT: My name is Donna Albert. I'm a licensed civil engineer with a Masters degree in civil engineering. I'm working as an energy engineer for the state of Washington. But I'm not here for my employer, I'm here for my grandchildren, Austin, Donovan, Terence and Christian, who will be in their 40s and 50s in 2050, and may be looking then --

So from the Sixth Power Plan overview on pages 5 and 6, significant reductions of carbon emissions from the Northwest power system require reduced reliance on coal, which currently emits over 85 percent of the carbon dioxide in the regional power system. A carefully coordinated retirement and replacement of coal-fired generation with conservation, renewable generation at lower carbon emission resources, could reduce carbon emissions to 35 percent of 1990 levels.

I was encouraged to see that you investigated scenarios which retire coal-fired generation with conservation and renewable generation.

The report states that the carbon emissions can be reduced to 35 percent of 1990 levels. By what date could coal plants be closed? 2025 is too late, especially if we don't have a plan to reduce transportation emissions quickly within the next few years. You have a plan to close coal plants, but do you have a plan to close them quickly enough? The UNEN climate -- 2009 says that actual warming since the IPCC's 2007 synthesis report has exceeded all the scenarios they used in their 2007 report, including the business-as-usual scenario, and appears to be accelerating. The recent economic downturn slowed this, but the trend is expected to continue on recovery.

Climate scientists are now recommending more

aggressive emissions reduction, sometimes expressed in terms of atmospheric concentrations of greenhouse gases of 350 parts per million or less. I believe that the goal of reducing emissions to 1990 levels by 2020 is no longer in line with what we know about climate change. How are you prepared to respond when the state of Washington or the EPA requires that your plan is updated in light of more current recommendations by scientists?

Another question: Are you looking at the big picture? In 2020, 2030, 2040, and 2050 how much of our carbon dioxide emissions will come from electricity, how much from natural gas used for heating, how much from transportation, and so on? Not only should there be a plan to reduce greenhouse gas emission s for electricity to zero by 2050 or sooner, but there will have to be a plan to replace natural gas used for heating with something else, and our current transportation fuels with something else. If that something else is electricity, your plan should account for the extra load.

Electric vehicles can be charged off peak, but replacing natural gas with electric heat or some other source of energy may be a bigger challenge.

So what I am suggesting is you should have a plan to retire all the coal-fired plants within a very short time, using energy conservation. Your 20-year plan should

be the first stage of a longer-term plan for zero emissions electricity by 2050 or earlier. You should not wait for five years to update your plan, but continuously update it to meet new goals as they are identified.

I'm also suggesting that your 20-year plan and the longer-term plan that's a part of it should be coordinated with transportation and heating fuel requirements.

Also, the previous person who spoke expressed concern about trying to analyze this -- you're put in this position by the way you were asked to do the report -- but you're asked to use an economic analysis in this sort of very unique situation, where we need to act quickly to do something totally different that we've never done before. So I don't know how to tell you what to do with that. But maybe if you can recognize that, and I will keep talking to my government about that.

MR. KARIER: Excuse me. Are you close to wrapping it up?

MS. ALBERT: Yes. Sorry. Last sentence: Think about how much hydroelectricity we have in the Northwest, what a mild climate we have west of the Cascades, how much great sunshine we have east of the Cascades, what a materially and economically rich country we live in. We're in a position to show this can be done. We must do this. We must retire our coal plants. Thanks.

MR. KARIER: Thank you.

MS. DUKES: David Van Holden. And after --

MR. VAN HOLDEN: Thank you very much, Council members, for the opportunity to speak. I have about 20 years in the energy industry, with a number of utilities and research firms. However, I'm speaking on my own behalf in this case.

My first point to you, and I think I'd like to make it strongly, is this is a scenario which is far more deep and challenging than the situation that caused the creation of the Power Council in 1980. At that point we were simply looking at an energy crisis. At this point, we are looking at literally an environmental crisis that threatens a future generation. So I urge you to stand back and consider the gravity of the situation in comparison to the one that caused the formation of the Power Council initially.

The second point I'd like to make is, as I breezed through your Sixth Power Plan which I found to be quiet nice reading, thank you, I was struck by something that several people have noted, which is the balance between risk and cost. There are a couple scenarios here which really give us a major impact on carbon dioxide, those are the coal retirement scenarios.

But what's also interesting is that they really

don't cost that much. The impact that we're being asked to bear as rate payers, you know, on our monthly bills, is really not substantive enough to compare on a risk-to-cost benefit ratio with the value of 14 million -- what is it -- 14 million tons of carbon dioxide retired per year for the indefinite future, you know, for the rest of the future. So I'm sorry if I wasn't real articulate, but I think its real for that you deeply consider that cost benefit relationship in regards to risk and the gravity of the situation that you're in. This is not business as usual, and it won't be business as usual going forward. Thank you very much.

MR. KARIER: Thank you.

MS. DUKES: Bonnie Frye Hemphill. And then -- Justin -- a hyphenated last name, the last part of it is Redding. Great.

MR. ROLFE-REDDING: Fantastic. My name is Justin Rolfe-Redding. Seattle Light was here today, I saw an op-ed in the paper, that mentioned this hearing yesterday, so I thought I would come down and share my views. I'm certainly not an expert on these issues. But I do know that we have very few opportunities in our society to make long-term planning decisions. Of course, that's what this process is all about. And so I think it's an important moment for us to contemplate what the future is going to hold.

Once these planning decisions are put into place,

they're difficult to change them, they're set. So we encourage you all to think long and wisely about these choices, and what our situation is going to look like in 20 and 30 years, what the climate is going to look like, what the policy environment is going to resemble, and plan for that future. You know, look ahead and not into the past, because many have said, Coal is the past. And obviously, we're not debating the signs of climate change today. But I think it's important to see sort of the climate of public opinion going forward on this. I'm a graduate student and instructor and teaching assistant, and so I work with college-age students all the time, in classes on public speaking. And for them, the debates over climate change are long gone. It's a settled issue. Opinion is clear amongst college students in this day and age. This is an issue that we have to address and deal with. And I think those views in our public are only going to crystallize as we move forward.

So take that into account and consider how we can reduce our emissions 80 percent in the next 50 years. There's only one way we can do that, and that does not involve using coal. Thanks so much.

MR. KARIER: Thank you.

MS. DUKES: Michael Foster. And after Michael, Ben Sibelman, and Genevieve Vayba.

MR. FOSTER: Hi. I just finished reading a really good book called "Hot, Flat and Crowded," by Thomas Friedman. It's a New York Times guy, and he's a good writer, and he's won a couple of prizes over the years. But it's a really good book. It's really inspiring. It's also very terrifying. But it was a page-turner. And it was published in August of '08, as the campaign was winding up. And it's funny, because some of the stuff in there sounds like, you know, stuff I've heard Obama saying from the podium, right, about the clean energy plan for America.

The other thing that's funny about the book a year later is that some of it is already outdated. And so anyway, I really recommend it. I find it a great read.

The other thing I wanted to tell you about, I'm a private citizen here in Seattle, and I'm driving an electrified vehicle. I'm driving a little Geo Metro that I paid somebody to rip the guts out of it put in some batteries and a little electric motor, and I can drive it around town and go home and plug it into my wall. And it's so fun. And my little girls are so excited about it, they love getting into it and driving around town. It's a lot of fun. And once a month I go down to the Seattle Electric Vehicle Association meetings, and I hang out with a bunch of old curmudgeons who stand around and talk about things I don't understand about electricity and connectors and

mechanics, and they complain about the state of the world. But there's a couple hundred of them, a couple hundred of these guys hanging out once a month, bothering each other to tears. And when they say, How many of you are here for the first time? Half of the room raises their hand. So in other words, there's like 100 new guys coming through this boring meeting every month in Seattle. And we don't have any electric cars yet. These are guys who are, like me, kind of desperate who'd like get off of gas and C02 emissions, and just want to be able to drive electric. And so they're trying to do this in their backyard.

There's going to be an incredible demand for electricity. The Nissan Leaf arrives in Seattle next year, and I'm signed up to drive one of those electric cars, if I can. And I buy green power from Seattle City Light. So I pay an extra, I don't know how much, I don't really care. I'm not paying enough. I wish my bill was higher. It can't be enough. I've put some insulation in the house. I bought the electric car. My electric bill went down $75. I don't understand why it's so cheap. I should be able to pay more.

I'm all excited about this community solar pea patch idea, like my house is no good for solar, but apparently there is a program somebody is going to come up with and I'm going to be able to go in with some neighbors, and you know, like we have little pea patch community

gardens. I'm going to be able to do this. I'm going to be able to go in with some neighbors and start with some solar array on somebody's house that faces the right direction. And I'm really excited about that. I'm actually trying to decide right now if I can invest in college for my girls, like saving for my girls' college, or if I should invest in some clean tech company here, because apparently a lot of our clean tech companies are being like -- or the industries are being bought off towards China or the European Union. And I'm trying to think, which would be a better investment for their future, if I give them a college education, or if I give them a region that they can like live in and work in and breathe in?

And so I'm thinking I might invest in clean tech and see what happens. Maybe there will be a job for them to go to after college, I don't know. So I'm thinking about these things. And I'm aware that I don't have a lot of power when it comes to where my power comes from. That as a community, we're going to get it from wherever you guys let us get it from. And I hope that you'll think of ways for me to pay some kind of premium or a deluxe bill, you know, so that somebody else can have cheaper power or something. But I'm really happy to invest and do whatever I can so that my kids have a plan that they can live on. I hope that you'll do everything you can as quickly as you can. Thank you.

MR. KARIER: Thank you.

MS. DUKES: Ben Sibelman. And Genevieve, after that. And then Barbara Zepeta.

MR. SIBELMAN: Okay. My name is Ben Sibelman. I'm a software development engineer at Microsoft. I'm speaking on my own behalf, however. And I thank you very much for giving me the opportunity to speak here. I don't have a lot of facts and figures, unfortunately.

What I have is just the general overall story, which is that according to the IAPCC, the world has to level off carbon emissions and start decreasing them in six years.

So we're at the precipice, people. I do this sort of thing because I'm trying to prove that despair is not the correct response to a desperate situation. Altivia Butler, a science fiction writer who unfortunately died prematurely, who lived in Seattle, once wrote: "We can all do the impossible, if we can convince ourselves that it has been done before."

Seattle is the place where the U.S. Mayors Climate Protection Agreement was created, and now 900 cities across the nation have basically signed up to the protocol, despite the fact that the nation itself has not. We can do this. We can be the place where things begin. The thing we have to do is find the place to stand and the lever that moves the world. Basically, we have to -- another way of putting

it is, we have to drop the pedal that starts a green avalanche. And if we can just like narrow this down to closing one coal-fired power plant in the Northwest where we get a small fraction of our energy from coal, then moving on to the goal of actually eliminating coal-fired power in this region, then maybe that will prove to other people that since it has been done before, it is possible to eliminate coal-fired power in regions where it's far more prevalent. Clean coal is, of course, the answer to this question from some people. It's not going to be available for 10 or 20 years, by which time we really won't have much chance of maintaining civilization.

Speaking of things that are too late, if we let the recovery be just a normal economic recovery instead of a green economic recovery, that's going to be too late as well. We also know that green jobs can be created faster per kilowatt of energy. But more importantly, we're basically talking about creating either a future where we've got all these fun electric cars zipping around the Space Needle -- in fact, like I was talking about, we've got wind turbines instead of smokestacks belching fumes across International Park, which according to Ken Burns is the 5th ever created -- if you're all watching America's National Parks -- best idea. Its really cool. But basically, that future, well, it depends on a lot of people and a lot of

places.

But here and now we have a chance for it to personally depend on us doing something that can actually -- that seems really big but is actually really small, and can make something much larger happen, or begin.

MR. KARIER: Excuse me. Are you close to wrapping up?

MR. SIBELMAN: Yeah. That's all I have to say.

MR. KARIER: Thank you.

MR MEASURE: Thank you.

MS. DUKES: Genevieve.

MS. VAYBA: Hello. My name is Genevieve Vayba. And I am an environmental design architect and urban planner here in Seattle. And my method of getting around town is by using a bicycle. I'm afraid I am not an egghead, like most of the people who have spoken prior. I'm very impressed by their arguments, and I approve of everyone, but one that I've heard.

It is -- there may be some contentions still in the broader country about climate change. But there is absolutely no argument about the negative effects of air pollution. That was the word we used back in the '70s. I suck it up every day on my bike. I am a really great candidate for more cancers than I've already had. We cannot continue to breathe befouled air, nor can other living

creatures. We must stop polluting yesterday.

Coal is really nasty stuff. It's not about climate change; it's about life itself. So I would just contend, we should turn off these halogens. We don't need to be so romantic in a meeting room. We can have the ugly fluorescents in here.

Teleconference, don't fly. Ride a bike, don't drive. Wear a sweater and turn down the heat. Stop digging Mother Earth and blowing her effluence up into the sky, which is then uptaken by our oceans, lands, forests and lungs. It's really all that I've written here. There's much more that could be said. But the severity of this issue now is so great, that its beyond speech. So please think about now, and about the future. Thank you very much.

MS. DUKES: Barbara Zepeta. And then Ethan Bergerson and Siri Nelson.

MS. ZEPETA: I'm Barbara Zepeta. And I have been working on energy issues for a very long time, because basically, the nuclear issue was something that was buried in the public utility districts of the state. And Seattle is still furnishing 50 percent of the underlying bonding capacity of WPPS. As long as we continuer to hide the true costs of energy -- and I'm talking about all kinds of energy, the diesel buses that kids ride in -- and the fact that we use twice as much energy as any other nation per

unit of GDP. People have got to understand that as long as we hide the true costs, the people who are rich can continue to buy their way out. But they can put all the costs on the central cities, which has destroyed our central cities. The commuter car, because we don't pay one-tenth, or we pay about one-fifth of our costs of the car on the highways, in the gas tax. And we're putting it on the property tax, we're putting it on the general taxes, where we have to depend on the sales tax of the state. And the municipal ownership, 100 years ago, took over the utilities in the interest of the working people -- and the people, not the corporations. But we have let the corporations take over our power and use our so-called -- even our environmental activities, to subsidize big corporations instead of individuals. And we do need to democratic democracize our energy.

We used had to have windmills on family farms, even electric power stations in the little farms down in Centralia in the 1900s. This -- we have refused to put the cost down. And I served on the City Light Committee, Citizens Committee in the '70s. And that's the first time I found out who was really getting the subsidy. We're worried about the welfare mothers. It's the corporations and the high-rise buildings that were getting a tremendous, a billion-dollar subsidy in every city in this country.

The only time you can tell the truth is when the government has to put out a bond prospectus to the stockholders. They have to be told the truth. The taxpayers do not know. And that's the only time I found out, that the people who use the most energy get the biggest subsidy. There was a law, Magneson and the energy movement in the '70s said that 10 megawatt loads should be -- require a referendum or a public vote, or at least a vote by the Legislative Council in the City. What they did is they said, well, this building isn't a 10 megawatt load, even though we have to buy this power for a 10 megawatt load. But until this building is fully occupied and all the individual loads are in there, it isn't a 10 megawatt load. Now, this is the kind of stuff that has gone on, and this is why we're wasting energy.

We are getting what we subsidize. We subsidize sprawl and wasted energy and it's all fungible; coal power plants are just one of the most obvious, but not the most. To me, nukes are worse. But we've simply got to start telling the truth. We can't solve scientific problems, we can't solve economic problems, we can't solve environmental problems until we start actually laying the costs on the table and start deciding, if we're going to subsidize something, we're going to subsidize what we want.

MR. KARIER: Thank you.

MS. DUKES: Ethan? Ethan Bergerson. And then Siri Nelson, and Terry Walker.

MR. BERGERSON: Thank you very much for hearing from me. My name is Ethan Bergerson, representing the Sierra Club and myself. I'd also like to thank you for making this whole process so open to public participation. I know that's not an easy task. And it's really inspiring to see just the level of opportunities to public involvement and transparency in this whole process. And thank you also for creating a draft plan that is very strong in energy efficiency. I'm going to try to keep my remarks brief, because I know you've heard a lot tonight.

But the main thing I want to get across is that, what was incredibly inspiring that we saw from the actual process of creating this draft plan, were the numbers that came out showing that it's possible to not only move beyond coal in the entire region within the next decade, but that that is actually going to be by far the most effective means of addressing carbon dioxide pollution and global warming. And that's incredibly important, because the Governors of Washington and Oregon and Montana have promised their constituents that we are going to meet these climate goals. And really, the only way that we can do that is by addressing carbon dioxide from coal. And what the numbers that have come out of this planning process have shown, is

that that's possible, that's affordable, and that's going to have -- it's the only way to meet them.

And so what I'd urge you to do, as representatives of people, but also as representatives of your governors, would be to ensure that that makes it into the final plan. The final plan has that strong an accurate price for carbon dioxide, and that this final plan incorporates that vision of a coal-free Northwest. Thank you very much for hearing us.

MS. DUKES: Thank you.

MR. KARIER: Thank you.

MS. DUKES: Siri Nelson.

MS. NELSON: Thank you for giving me the opportunity to speak to you tonight. My name is Siri Nelson. I'm a Seattle resident. I am a biologist and a volunteer at the Sierra Club. As you can guess from the sticker, I'm here to talk about coal, one other person. So I'm really here to urge you to revise the plan and to begin shutting down coal-fired plants now. Many people here have stated the numbers tonight, and I don't neat to quote them for you. But the use of coal creates an enormous environmental degradation, from the mining to the processing of coal to the C02 and me than emissions. It's directly contributing to global climate change, to human health problems.

As a member of the scientific community, I've observed alarming and far-reaching data on the effects of climate change on our planet. There's not a single person I know who does environmental research, does ecology research, does biology across the globe, who has not seen some example of climate change. It's greatly alarming. I also instruct college students in ecology and biology. I get a lot of questions, and it's hard not to despair when I tell them what we're witnessing. So that's really why I'm here today. As a descendant of Northwest farmers, the continued use of coal power does not reflect my family's values. They're still farmers now. And I know we're pretty unanimous at the family reunions about coal power on both us urban Seattleites and the people who are still driving the columbines in Montana.

I believe you guys are in a unique position to be leaders. I really think the Northwest could be leaders on this issue, we have in others. And we can really set an example for how we can do this as a nation and the world. So thank you again this evening, and for staying so late and hearing all us speak tonight. Again, thanks.

MR. KARIER: Thank you.

MS. DUKES: David Atcheson. And Terry Walker. I'm sorry, is Terry Walker here? Well, come on down, David.

MR. ATCHESON: Hi, I'm Dave Atcheson. I'm the

immediate past President of the Wedgwood Community Council. Wedgewood is a neighborhood in northeast Seattle. Some of you may be familiar with it.

For the last ten years or so I've really looked for signs that our society is serious about addressing the problems of climate change and fossil fuel energy consumption. And I've looked at various levels. And one of the levels is the neighborhood level. And as a Community Council Trustee, I tried to figure out, well, what would it really look like if we were serious in the neighborhoods about energy conservation. And I pictured a door-to-door campaign, block by block, provided good information to folks, putting together incentives with contractor efficiencies. And I'm very excited that this is actually coming to pass.

There's something called "sustainable works." We're fortunate that the Wedgwood Ravenna neighborhood is one of the pilot programs for that project, which will attempt to have over 200 homes within a defined geographic area sign up for audits and follow-up energy conservation measures. So it seems to be coming to pass at the neighborhood level.

Of course, at the national level, I was looking for progress on a cap on carbon emissions. And we're getting closer there, too. Internationally, of course,

we're all holding our breath for what happens in Copenhagen in December. But at the regional level, what I've thought for years was I've thought about the coal-fired plants. To me they just jump out as the single most important thing we can do to reduce our carbon emissions in this region.

I think the plan that you've produced is really good as far as it goes. And I think what really jumps off the page is that opportunity that we have, if we were to retire the plant in Centralia and the other plants in the Northwest.

So I really think, although I really applaud your public service on this commission, and you've got a very difficult job, but I think it's almost a gift that you have something that stands out this clearly, that you can have a significant influence on bringing about this, for instance, the Centralia plant being 10 percent of Washington's carbon emissions. In single master strokes we can really take a huge bite out of the problem.

So I think you'll have your back covered if you choose to go that route by strengthening the plan in those ways. From what we've heard tonight, that certainly seems to be the case. So thank you again for the opportunity.

MR. KARIER: Thank you.

MR. WALKER: I'm Terry Walker. And I'm an architect. I have a background in engineering and degrees

in architecture and urban planning, and an MBA. And I spend my time designing houses for billionaires and apartments for poor people. And I'm concerned about our built environment. And that concern has led me to come here tonight to talk to you on behalf of Walker Architects about what I see as the emergent problems, and the problems that are being sustained. I'd like to thank you for the legislation that you've supported in the past and for the plan that you have written and put before us.

I'd like to express two concerns about that plan. The first one is that it doesn't take a hard enough, or aggressive enough view of coal-generated power. We need to stop using coal immediately. I know it's not physically possible. I know that we can't replace the power that the coal plants are generating right now. But we need to do more to do the reduction of coal-generated power more aggressively. And that brings me to point No. 2.

I don't see in the plan where you're planning to empower distributed power generation in the distribution system. In order to bring solar energy, rooftop power plant, small scale hydro, wind power, actively into position where we can manage that power generation in our existing infrastructure, we have to empower more energy storage in the system, and we have to have a control system which will allow us to bring that new green power online. And I don't

see that in your planning. It's like you're not planning for distributed power and renewable power generation to take a very significant role in our future.

So I think you need to re-visit your plan regarding where this has to go in terms of the climate science. Without fortifying the distribution system for our power with energy storage systems, we cannot bring or take power aggressively online. The failure to plan for that, telegraphs a lack of thinking, a lack of preparation. And that's alarming. Because the inability to make a decision to stop the practice of using coal to generate power, and thereby stop the damage to human populations, even here in the state of Washington, is the same as the decision to continue the damage to human populations here in the state of Washington and the rest of the world. Coal is too expensive, because sooner or later, its cost is counted in human lives all around the world.

So we encourage aggressive action to reduce the carbon footprint of our civilization, and its cities here in the state of Washington, and this region. And we encourage renewable power generation and preparation of the electric power delivery system to empower distributed power generation. Thank you very much.

MR. KARIER: So that exhausts our list. And I'm going to have to excuse a number of our staff at this point

that I think have flights to Portland. And so I want to make sure they have an opportunity to make those flights. I do want to check to see if there's anyone here that has been sitting here all night -- there were some that had signed up and we had to --

MR. KARIER: How many are there of you here? Can you three come up here and I'll ask you to try to keep your remarks preferably to topics that have not been covered. And very brief, and briefer than what we've had before. Okay. Thank you. If you could give us your name and who you're with.

MR. CANTER: I apologize. I was on the list but was called out to speak at the rally. I'm Evan Canter. I'm a doctor. And I am the National Board President of Physicians For Social Responsibility, a Nobel Prize-winning organization that addresses the gravest threats to human health. So I thank you very much for the opportunity to testify here today.

Coal-fired power plants are the leading global warming culprit in the U.S., accounting for more than 30 percent of our nation's carbon dioxide emissions. They're also one of the nations largest sources of air pollutants that damage cardiovascular and respiratory health and threaten healthy child development. Particulate matter, sulphur dioxide, nitrogen oxide, mercury, and more than 50

other air toxics are among the dangerous mix of pollutants spewed from the smoke stacks of coal plants. Because of the imminent threat of global warming as well as the extensive toxic emissions, coal-fired power plants represent a medical emergency.

I want to state that I really appreciate all the thoughtful work that has gone into this plan. It is really very impressive. It is particularly gratifying to see all the analysis in the plan that puts a price on carbon. Yet, the price of carbon is not some arbitrary cost that is dropped down on us from Congress or state governments. An accurate assessment of the true costs must include the medical and public health effects of coal. There are -- and I will take you briefly through some of the effects of both global warming and traditional pollutants, quickly.

There are four main categories of health effects of global warming that are already being felt here. First, increased frequency and intensity of heat waves, with associated health problems of heat cramps, heat exhaustion and heat stroke.

Second, increased air pollution. Increased temperatures cause increased production of ground level ozone, the main component of smog. This will increase rates of asthma and other respiratory diseases.

Third, infectious diseases. Climate changes alter

the range of disease-carrying organisms. West Nile Virus carried by mosquitoes was not seen in the U.S. until recently. More than 25,000 cases and more than 1,000 deaths have now been recorded.

Fourth, extreme weather events. These include severe storms, increases in both drought and flooding, and associated features such as erosion and wildfires. We do not have the public health capacity to respond to increasing numbers of large-scale disasters that are difficult to predict. As global temperatures increase, sea level rise will severely disrupt the lives of more than 150 million U.S. residents living in and around our nation's coastal cities and towns. Across the U.S., the poorest and most vulnerable individuals, those least able adapt, will be disproportionately affected as the U.S. public health infrastructure becomes overly burdened by the impacts of global warming.

In addition to massive C02 emissions, coal combustion produces a slew of harmful air pollutants. Every year particulate matter pollutants spewed by coal plants triggers hundreds of thousands of asthma attacks, and causes tens of thousands of hospitalizations, heart attacks and early deaths. Coal plant emissions of nitrogen oxide also contribute to the formation of ground level ozone or smog, which itself is associated with asthma attacks, new onset

asthma, heart attacks and angina pain. Particulate matter alone is responsible for 24,000 deaths annually.

In perspective, that's more than is caused by motor vehicle accident. Almost done.

All together, emissions from coal plants are estimated to be responsible for 49,000 deaths and 400,000 serious illnesses annually. Coal-fired power plants are also the single largest source of mercury emissions in the U.S. Pregnant women and children are particularly vulnerable to the toxic effects of mercury, exposure to which occurs primarily from consuming contaminated fish. As many as 600,000 children are born each year with dangerous levels of mercury in their bodies, putting them at heightened risk for developmental disabilities. This is particularly concerning, given the increasing incidents of autism and other neurologic problems among children. So I've just mentioned the health effects only of burning coal. The mining, transportation and waste disposal associated with coal also have significant and costly effects in public -- on public health.

In conclusion, we have an exceptional opportunity to significantly advance the health of our population and our environment by creating a coal-free Northwest. For the health of our region and beyond, we must take full advantage of this opportunity.

Thank you again. Thank you for listening to all of us tonight. I will submit on behalf of my organization a more detailed report with references on the health effects of coal. Thank you.

MR. KARIER: Thank you.

MS. RICE: Hi folks. My name is Kristy Royce, and I'm here tonight as a mom. I'm not really an eco warrior, and I'm certainly not an energy expert. I'm just a mom who happens to know a fair amount about climate change. My dad is an atmospheric scientist, and so I do know my fair share about climate change.

I started an organization here in Seattle that's been -- it's actually been pretty popular, and it's called Cool Moms, and we're edging up on a thousand members. We're actually going to speak with the Senate in a few weeks about climate change and how moms are very concerned about climate change and really what it's going to do for our kids.

When I look into my dad's eyes when he starts talking about the future -- he's a scientist, he is a really smart guy -- but he gets this look in his eyes that's -- I don't really see it very often, and it's kind of sheer panic. I mean, he's really scared. And he starts talking about the future. And he's really talking about my two little girls' lives. You know, they're 3 and 4. And so when I think 34 years out, I think, gosh, I really want them

to be able to be a mom. I want them to see how hard it is, you know. I mean, that's our punishment to them, or whatever. You've heard all of this, and you know that we want to shift, and we want to get rid of the coal, and I know it's really hard. I mean, I've read the reports. I know it's different. But I'm just going to share with you a little story. And you could take it for what it is.

You know, moms, we're always trying to teach our kids to clean up. We're always picking up their socks, and we're teaching them to clean up their own rooms. And my three-year-old, she can clean up the room, she can take some responsibility to keep her room clean, her environment clean. And I guess what I wonder, is why can't coal companies do the same thing? Why is it that environmental costs of power generations, that the environmental costs of power generation methods are not added into the actual power cost? I mean, I just don't get that. Why are coal plants allowed to pollute water supplies, spew carbon dioxide and mercury into the atmosphere at no cost to them? That doesn't make any sense to me.

I ask the Council to add a realistic forecast price to carbon into its plan. We all know that there's going to be cap and trade, or there's going to be a carbon tax. I know that. I think just about everybody in this room knows that. I do believe that doing that will equalize

a playing field for clean energy, and it will spur alternative energy, and I think that will help our economy.

I just believe coal needs to be responsible for their emissions. My children and the world's children think you can and must do better than status quo. We urge the Council to do more. We must drastically reduce our carbon emissions if we're going to have a planet worth living in in the future. My children think we must do more, because they think the future of the planet is worth it.

MR. KARIER: Thank you.

MR. HOWELL: Thank you for your endurance. And I want to let you know, I brought you a gift, because there was 22 other people who wanted to testify. We've collected that in a written form. We're still collecting them. So you just got off the hook from 22 other people-plus behind me. So I'm your Santa Clause tonight.

My name is Doug Howell. I'm the Coal-Free Northwest Campaign for the CR Club. I really appreciate you being here and letting us all participate. I will keep it quick. Obviously, we are very concerned about coal. You've given us the blueprint, a coal-free Northwest within 10 years, affordable cheap, right on. Let's get that great information out there into the public realm.

But I want to focus on carbon price. Dr. Alan Hamlet really set us up to say there's nothing you can

really do within the confines of your work to accurately put a price on carbon, but I'm going to try. And what I want to say is that even at $47 a ton, you will only at best be getting half a loaf of the equation. Because when we talk about carbon price, the problem is that only represents the cost of reducing emissions. What that does not represent is the cost of carbon damages. That is the other half of the loaf. What we're really talking about, carbon price is getting at the cause of global warming to reduce emissions. It does not talk about the effects. And the preliminary research is extremely controversial, and we know that economists are going to have a field day for arguing, what is the cost per ton for climate damages?

Preliminary estimates from some of our greatest economists, like Sir Nicolas Stern, have tried to put a price tag on it. $80 a ton in 2009 dollar values. Even if you put $47 a ton in there, there is another big chunk of the pie that will never be represented. That's why this is the greatest market failure that has ever occurred. And if for this Council to not include a carbon price in the final plan, would be a disaster.

One of the most important things that you can do, clearly there is huge support for that, and our three governors have made that extremely clear. If we're going to deliver on the promise of this planet to have the vision be

about climate change, we have to get that price in there. And that price will never be high enough to capture the true cost of global warming. Thank you.

MR. KARIER: Okay. I want to thank all of you for coming tonight. We greatly appreciate it. Again, the Council's schedule, we'll take this testimony into account. We'll have it transcribed, and it will be available for those Council members who were not here tonight, although most of them were. And the Council will close comments November 6th. So you're free to submit written comments until then. And after that, the Council will deliberate and develop a final plan.

Again, thank you very much and thanks to the Council members for bearing with us. And this hearing is adjourned. Thank you.

(Whereupon, the hearing concluded at 8:12 p.m.)

CERTIFICATE

I, Tim Bellisario, do hereby certify that pursuant to the Rules of Civil Procedure, the witness named herein appeared before me at the time and place set forth in the caption herein; that at the said time and place, I reported in stenotype all testimony adduced and other oral proceedings had in the foregoing matter; and that the foregoing transcript pages constitute a full, true and correct record of such testimony adduced and oral proceeding had and of the whole thereof.

IN WITNESS HEREOF, I have hereunto set my hand this 9th day of October, 2009.

/Signed February 09, 2011

Tim Bellisario Commission Expiration

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