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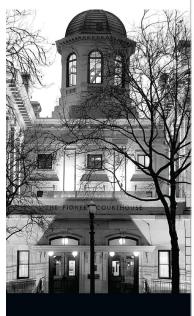
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## THE 2021 POWER PLAN HOSTED BY WASHINGTON

## VERBATIM TRANSCRIPT OF PROCEEDINGS PUBLIC MEETING BY REMOTE VIDEOCONFERENCE

HELD ON THURSDAY, OCTOBER 7, 2021 5:00 P.M.

851 SOUTHWEST 6th AVENUE, SUITE 1100 PORTLAND, OREGON 97204

## THE 2021 POWER PLAN 1 HOSTED BY WASHINGTON 2 3 VERBATIM TRANSCRIPT OF PROCEEDINGS PUBLIC MEETING BY REMOTE VIDEOCONFERENCE 4 5 HELD ON 6 THURSDAY, OCTOBER 7, 2021 7 5:00 P.M. 8 9 MR. MADRON: Hello and welcome to our second 10 public hearing on the Draft Power Plan. My name is Chad Madron. I'm on staff here at the council. And I 11 12 will be the man behind the scenes tonight helping make 13 sure that the correct names are shown, helping with audio and visual. 14 15 We will be showing the list of speakers on 16 the screen. I'll go ahead and put that in now. 17 They're in order, in general, of when people signed 18 up. You can see when you're coming up. As someone 19 speaks I'll check the box in the background and their 20 name will go down to the already testified area at the 21 bottom. 22 When you testify, you're welcome to have 23 your camera on, otherwise we ask that folks leave

their cameras off unless they're actively testifying.

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If you called in by phone, I see a few



people called in by phone only. Please be aware of 1 your phone and mute yourself if needed via your phone's controls. We've had a few problems with that. We wouldn't want to hear your dog barking or anything 5 like that. 6 So, with that, I will turn it over to Member Oshie for the official welcome and so on. Thank you. 7 CHAIR OSHIE: All right. Thank you, Chad. 8 9 And I'd like to thank everyone whose participated in 10 this hearing tonight and time and -- and your interest 11 in the work of the council. And I'd like to thank staff whose work makes this -- makes our work possible 12 13 as a council member from the state of Washington. 14 My name is Pat Oshie. I'm calling this 15 meeting to order. And I'm co-chairing this meeting 16 tonight or this afternoon with my fellow member from 17 Washington, Guy Norman. 18 I would like to welcome all of you to 19 today's public hearing on the council's Draft 2021 20 Northwest Power Plan. Today's hearing is being held 21 via GoToMeeting and by telephone conference which Chad 22 has already mentioned. 23 Anyone wishing to provide testimony should

sign up on the council's website for the Washington

State hearing. And you may sign up to provide

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testimony at any time during this hearing.

As the first order of business, I've been asked to read a statement about the hearing for this - for the record. And then I will review today's public hearing procedures.

Under what is known as the Northwest Power

Act, the Northwest Power and Conservation Council is

required to develop a Regional Conservation and

Electric Power Plan and review that plan every five

years. The council is now engaged in its latest Power

Plan review and the revision.

And as part of this process, we recently released the Draft Power Plan for public review and comment. The council is conducting this public hearing to receive oral comments on its Draft Power Plan.

This public hearing is being held virtually due to the ongoing pandemic. This hearing and the testimony provided tonight will be recorded. The transcript of this hearing will be circulated to all councilmembers and placed in the administrative record for the Power Plan.

The council will hold additional public hearings like this one over the next several weeks. In addition, the council is also accepting written

comments on the Draft Power Plan through November 19th, 2021. I'll repeat that.

We are accepting written comments through November 19th, 2021. Importantly, all oral and written comments submitted on the Draft Power Plan will be considered by the council as it makes its decision on the final Power Plan.

For more information on the Draft '21

Northwest Power Plan including the Draft Plan itself and all of the supporting materials, please visit the council's website at www.northwest -- n-w-c-o-u-n-c-i-l, northwestcouncil.org. [sic]. I'll repeat that, www.nwcouncil.org.

As a brief reminder, you may submit written comments by using the provide comment link that's on the website devoted to the Draft 2021 Power Plan or by submitting comments@nwcouncil.orgl.

And at this point, I would like to welcome our fellow council members who have joined this meeting as well. We have Member Douglas Grob, the state of Montana. We also have Member Richard Devlin from the state of Oregon. I'm looking to see if here we have others as well. It looks like we have Member Jeff Allen from the great state of Idaho. And I believe that covers the waterfront or members who are

also participating. 1 MR. MADRON: Member -- Member Oshie, this is 2 3 Chad. 4 CHAIR OSHIE: Yes, Chad. 5 MR. MADRON: Member Yost and Member Milburn 6 are also here. 7 CHAIR OSHIE: Oh. Welcome, I didn't see your faces. I guess the cameras are off. Michael Milburn from the state of Montana and Jim 10 Yost, again, from the great state of Idaho. 11 So, with that, I'm going to -- there is -- I just wanted to notify everyone and I think this is 12 13 part of also the record that this meeting will be conducted consistent with the council's code of 14 conduct which and it can be found on our website. And 15 16 we expect all participants to review and abide by this 17 code of conduct throughout today's hearing. 18 The process for this hearing, I'll walk 19 through that right now is quite straightforward. 20 hearing is scheduled to run for two hours until the 7 21 p.m. Pacific Time and 8 p.m. Mountain Time. 22 Again, as a reminder, anyone wishing to 23 provide public testimony, please sign up on the 24 council's website for the Washington hearing. Once 25 you sign up, your name will be -- appear on our list.

You may say -- you may sign up at any time during the hearing to provide testimony.

Individuals will be able to track the order of speakers on the GoToMeeting screen. Before I conclude the hearing and that will be at 7 p.m., I will confirm whether there are any participants that have dialed in by phone that may want to provide testimony. Depending on the number of persons signed up to testify, we may need to establish time limits, but hopeful -- hopefully, that will not be necessary.

And from what I see of the people that have signed up, I don't think we really need to have a limit at this point, but we may -- we may proceed to do that as this -- if -- if more people do sign up.

MR. MADRON: Chair Oshie, I --

CHAIR OSHIE: Yes.

MR. MADRON: I want to mention that there are five folks connected only by phone. They may have — they may have already signed up and be visible on the screen. There's no way for me to know until we call on them. So, we can turn to that at the end or we can check with them, however you want to go about it.

CHAIR OSHIE: Chad, let's check with them just to check in and we'll see if there's anyone

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interested, we can get them -- that way we can do it
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 2
   in an orderly fashion.
 3
             MR. MADRON: Sure. So if there's somebody
   only called in by phone and you have not already
 5
   signed up via our website, please let me know and I
   can add your name to the list to be called on. Speak
 7
   up now, I have unmuted you.
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             MS. NG:
                     Hello, this is Pamela Ng. I just
   signed up an hour ago and I don't know if I'm on the
10
   list.
11
             MR. MADRON:
                          Pamela, you are on the list.
12
   You're 14th on the list and we'll call you at that
13
   time.
14
                      Great. Thank you very much.
             MS. NG:
15
             MR. MADRON: Sure. Is there anyone else --
                     Well, what if I -- what if I need
16
             MS. NG:
17
   to leave early before you call me?
18
             MR. MADRON: Member Oshie?
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             CHAIR OSHIE: Well, if you -- please let us
20
   know and we'll see if can get you in. We -- it's --
21
   it's -- we really value your comments, Ms. Ng, and --
   and so be sure to let us know if you have to -- if you
23
   know you have to leave early, so we can -- so we can
24
   move you up the testimony ladder so to speak.
25
                     All right. Thank you very much.
             MS. NG:
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1 CHAIR OSHIE: You're very welcome. 2 MR. MADRON: Is there anyone else who was 3 not signed up yet who wants to speak up? Okay, great. 4 CHAIR OSHIE: So, in a moment I'm going to 5 ask staff to make a presentation and a brief overview 6 of how we arrived at this point in the process. 7 But before staff provides his presentation to be done by Mr. Ben Kujala, I'd like to invite any 8 comments from other members either that are also in --10 in attendance tonight. So, members, anyone like to speak up at this point or just proceed with Ben's 11 12 presentation? 13 MR. NORMAN: Thank you, Member Oshie. This is Guy Norman. I just want to thank everybody for 14 15 attending the hearing tonight, taking time to do that. 16 And I certainly look forward to hearing the 17 perspectives from those that are signed up to speak 18 recognizing the importance of this Power Plan to the 19 citizens of Washington and the Northwest. certainly look forward to the input, I think it's 20 really important. 21 Thank you. 22 CHAIR OSHIE: Thank you, Guy. 23 All right. With that, Ben, please proceed. 24 MR. KUJALA: Thank you, Member Oshie. 25 me go ahead and just give a brief overview of the 2021 Northwest Power Plan.

So, just to start out why we have a regional Power Plan and why we exist. Power planning, basically, mistakes in the 1970s led to unneeded investments in power plants that were not built. So costing the Northwest customers millions of dollars, it really prompted Congress to write the Northwest Power Act which was approved in 1980.

And it gives the states a voice in decisions pertaining to the federal power system to assure an adequate, efficient, economical, and reliable power supply.

The Act authorized the four state to council and direct the council to conduct regional energy planning focused on these cost resources to meet future demand for power and note we focused on energy efficiency.

The Power Act directs the council to review the Power Plan every five years and that is why we are here.

The 2021 Plan responds to some things that are different than maybe what we've seen in our previous plans. State, municipalities, and utilities adopted clean energy and departmentization goals. And those really come in -- into play and become more

common in the last five or six years.

Many power plants that are fueled by coal are no longer economical or efficient and retire over the next decade. Many of those retirements are scheduled dates that are out there and in the coming years. And we certainly have seen some of the retirements happen up to this point, had plans within our region.

Electricity generation is shifting away from fossil fuels to more renewable-based generation as we seek these technologies are taking a bigger and bigger part of the energy generation in our region.

And really that's been driven by, both, kind of the requirements of policy, but also the decreasing cost for these technologies. Solar and wind are becoming less expensive. And the cost of the dispatch of them is driving down wholesale prices, particularly in the middle of the day when we see a lot of soar in the market.

But relying on this increasingly variable—output generation, does bring some risk with it. The power supply will remain adequate and reliable if we implement these recommendations, although, certainly, we just looked over a large range of potential things. And the recommendation in this plan is a balanced

approach to the future power supply.

Just to give a general sense of where we in the Northwest get our energy from. Predominately, our electricity comes from hydroelectric generation. Our energy in the name, sorry, the capacity of the hydrosystem accounts for about 55 percent of the actual energy generated is slightly under that. And it changes from one year to the next.

After hydroelectric, certainly we still have thermo system where you have generation coming from natural gas and cogeneration. And then in addition to the thermal system, there are renewables like wind and solar and there is the nuclear plant as well. So, still hydro is a huge part of our system.

But, in addition to what generates electricity, there's the energy that we've saved by energy efficiency over the years. And the region has saved over 7,200 average megawatts from energy efficiency since the start of the council. And this is a massive resource that is not part of our generation, but is power that we did not need to build plants to meet by going out and saving energy.

In the next 20 years, we do anticipate we will see an increase in the demand for electricity. We expect that it will climb, although we look at a

range of potential outcomes and there are some potentials where it would be more flat. But, generally, we see the electric demand climbing above our previous peak which was prior to the 2001 energy crisis.

The resource strategy set forth in the Power Plan is to look at getting a combined set of resources. 700 -- between 750 and 1,000 average megawatts of energy efficiency, at least 3,500 megawatts of renewable resources, and as available, any low cost and frequently deployable demand response. All of this is something that we would expecting built by 2027 which is around the time that we will be looking at the next power plant.

While we did see a substantial reduction in the emissions that we expect going into the future from the electric sector, one thing to note about the forecast that we see in at least our expected kind of baseline cases is that the emissions for the region, while the electric sector does have a substantial call for emissions, we see that there's a substantial growth in the emissions coming from the transportation sector and anticipate that even giving the projections that we have put into the power plant, the emissions in the region maintain at a level above what was in

1990. And there's a lot voice to bring that down.

So there are some scenarios where we looked at our aggressive reductions in emissions by converting transportation, but, overall, it should be the -- the forecast that we have in the resource strategy have over the next five years looks at a future where we are headed towards a lower emissions from the electric sector, but, certainly, the region as a whole continues to have some emissions that are the higher level.

So, we have collected a lot of material. We have the Power Plan documents that we wrote. We have a bunch of online material that supports that document. And it's all available from our website and at the link here. And we are, of course, in public comment as has already been said. So, we are very interested and looking forward to hearing from you. With that, I will turn it back over to Member Oshie.

CHAIR OSHIE: Thank you, Mr. Kujula.

Just a reminder to the people that are participating. Please mute your phone or your -- or your laptop or PC while -- when you're not speaking because we can hear some things going on in the background in -- at your -- at someone's location.

So, at any rate, so we're going to begin now

up. I'm going to be starting from the beginning, of course. You'll see the list up there.

And when we walk through -- as I call your name and you begin to -- your testimony, I'd like you to very clearly and for the record state your name and state and -- your full name, excuse me, and to spell your name, particularly your last name, for the court reporter.

Just so everyone knows, this is being -this meeting is being recorded. We also have a court
reporter to take the verbatim testimony of everyone
who's participating this afternoon.

Right now with the number of people that we have signed up, everyone can have five minutes. If, again, if we have more participants, we'll scale that back to three and a half or in that area. We want to hear everyone's testimony and, so, we're going to try to make sure that we are -- we can bring everybody to the podium and allow you to share your views with the council.

Again, you may also submit a full statement and any additional information or comments in writing to comments@ -- @n-w-c-o-u-n-c-i-l.org,

northwestcouncil.org [sic] noting that you attended

and testified during the Washington hearing.

And with that, ladies and gentlemen, I'm going to call as our first participant and our first witness, if you will, giving testimony Mr. Glenn Blackmon.

MR. BLACKMON: Thank you, Councilmember
Oshie, and councilmembers. My name is Glenn Blackmon,
B-l-a-c-k-m-o-n. I'm manager of the Energy Policy
Office at the Washington Department of Commerce.

I want to start by thanking the council and staff for the tremendous amount of work that is reflected in the Draft Plan. We especially appreciate the council's work assessing the impacts of climate change, improving its ability to model the rapidly changing western power mark system in its initial efforts to incorporate environmental justice and equity into power planning and resource decisions.

We also have some concerns that we hope to see addressed in the final plan and in the action plan. The one that I want to focus on today is the lack of consistency of the Draft Plan with the energy and climate policies in Washington.

It's often hard to see our state's energy and climate policies reflected in the draft plan.

This may be because of the extended time that's been

required to have developed the 2021 Plan with data in the plan frozen 18 months ago.

The Draft Plan reflects a 100 percent clean electricity law enacted in 2019. But in the last 18 months, Washington has published an economywide energy strategy for achieving a state's greenhouse gas emission limits, enacted deeper reductions in emissions limits, enacted a low carbon fuel standard and enacted an economywide emissions cap and invest program.

We understand the challenge of incorporating the impacts of these laws into the analytical work.

But we suggest that the final plan at least acknowledges these developments and provide an assessment of how the 2021 Power Plan aligns or doesn't align with Washington law and policy.

I do see some reflection of Washington law and policy in the pathways to decarbonization scenario and the related partial decarb analysis. The pathways to decarb scenario appears to reject deep carbon -- decarbonization is unfeasible. That's a conclusion that we think is neither adequately explained nor reconciled with several deep decarbs studies that conclude otherwise. We think the final plan should provide a comparison of the council's decarbonization

analysis to those more comprehensive studies.

Nonetheless, even in the limited decarb analysis, we find that it suggests that the council's draft resource strategy is inconsistent with the deep reductions in greenhouse gas emissions that Washington law requires. We also note that the Draft Plan acknowledges that the council's cost effective in the standard for energy efficiency is likely not the appropriate test for jurisdictions with deep decarbonization requirements.

The partial analysis shows that this energy use shifts from fossil fuels to clean electricity and clean fuels. The region will need much more in renewable resource development, more energy efficiency acquisition, and more demand response acquisition than what is called for in the Draft Plan resource strategy.

Renewable resource additions were roughly double what's proposed in the draft strategy as would the amount of energy efficiency required. Demand response resources have almost no role in the draft strategy, but the decarb analysis indicates the need for more than 2,000 megawatts of demand response resources.

In other words, the draft resource strategy

would put the region on a path that leaves electric utilities in Washington insufficiently equipped with the clean electricity resources that will be required as the transportation and building sector shift from fossil fuels to electricity and clean fuels.

We believe this deficiency should be addressed in two ways. First, council should give more weight to the decarb analysis in developing the final resource strategy and adopt substantially higher targets for energy efficiency, renewable energy, and demand response resources.

Second, when the council develops the action plan for 2022 to 2027, the actions should include improving its ability to analyze the electric power system within an overall energy system that is shifting from fossil fuels to clean electricity. The action plan should also call for developing more appropriate methodologies to evaluate energy efficiency and demand response resources with economy wide decarbonization requirements incorporated.

We look forward to providing further comments in writing in November. And we look forward to working with the council and its development of its final strategy and action plan. Thank you.

CHAIR OSHIE: Thank you, Mr. Blackmon. All

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right. Our second speaker this afternoon is Mike is
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   it Shapley, Shapley?
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             MR. MADRON: Member Oshie, I do not see Mr.
   Shapley currently connected. I've unmuted all the
 5
   phone lines.
 6
             CHAIR OSHIE: Okay. Why don't we move to
 7
   the -- move to the next speaker, Chad.
             MR. MADRON: Okay. We'll keep an eye on it
8
 9
   and hopefully he'll turn up.
10
             CHAIR OSHIE: Okay. Our next speaker is
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   Robert Vadas.
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             MR. VADAS: Can you hear me?
13
             MR. MADRON: Yes, sir, we can.
14
             CHAIR OSHIE: And, yeah, and if you can --
15
             MR. VADAS:
                        Okay.
16
             CHAIR OSHIE: -- again, just state your
17
   name, spell your last name, and please state the
   organization that you may be affiliated with.
18
19
             MR. VADAS: My name is Robert Vadas, V as in
20
   Victor, a-d-a-s and I'm just here to represent myself
21
   as an independent environmental scientist.
22
             I -- my main concern kind of rifts off the
23
   first speaker, but the -- or the responder. But,
24
   anyway, one of the -- as -- as electric cars become
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   more important in the region which they undoubtedly
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are going to, you know, there's going to be a -- a big demand on energy that way.

And I know there's at least one in I think it's in Eugene, Oregon now they have solar powered electric car charges. Because right now like it -- like I'm in the system of pungent sound energy who are still using coal.

And I know a lot of people who are driving electric cars think that they're being totally eco, but a lot of that energy is coming from dams, the hydropower which, of course, has a lot of fish impacts and -- and still from coal and other forms of fossil fuels.

I think if we're going to have a progressive electric card infrastructure, we need -- we do need solar powered or I don't know if it's possible to have wind power. But, in any case, we need alternate energy to be powering the electric car charges. And that's my comment.

CHAIR OSHIE: All right. Thank you, Mr. Vadas. So our next speaker is Mr. Keith Kueny.

MR. MADRON: Unmuted the phones again. Are you there? I guess he's not connected either right now.

CHAIR OSHIE: All right. So, Chad, we'll

just move him down the list and we'll -- we'll return 1 2 if we need to. 3 So our next speaker is Brian Grunkemeyer. So, Mr. Grunkemeyer, would you please if you're 5 available, please begin your testimony with your name, 6 spell your last name and the organization that you are 7 maybe affiliated with. MR. GRUNKEMEYER: Thank you, Commissioner. 8 9 My name is Brian Grunkemeyer, G-r-u-n-k-e-m-e-y-e-r. I am the founder and CEO of FlexCharging, an electric 10 vehicle demand flexibility aggregator. 11 We shift EB charging to the best time of day 12 13 for the utility to save carbon emissions and money. We're based in Redmond, Washington and we are doing 14 15 business with utilities in Utah, California, and 16 Australia. 17 So when I glanced at the plan, I was a little bit confused by the modest amounts of demand 18 19 response in the plan. I actually do think demand 20 response should decline, but it needs to be replaced with demand flexibility. BR might callable only six 21 22 times per year during emergencies.

We think utilities should get people to shift load to the best time of day every day by default without any of the automated parts of -- of

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demand response. If you've already made that conceptual leap, great. But I didn't get that from my reading of the plan today.

I believe there's substantial potential for demand flexibility in the northwest using electric vehicles and smart hot water heaters. But to make this easier to ramp up, we actually need some market innovation on the business side. Aggregation is hard especially with the way that many of the RFPs are structured.

With some utility programs, you need to pay all of the customers to sign up before you can even bid on a project to a utility. That risks a lot of capital for an unpredictable amount of time.

In California, Marin Clean Energy now MCE,

I've created a demand flex market to make this easier.

Demand flexibility providers get a reasonably well

understood incentive if you perform. And there are no

penalties for missed projections. So this pivoted the

entire B to B sales process from a multi-year process

down to something that only took 10 days.

And we then needed to focus on the B to C aspects. We could then bring customers into this program as our marketing efforts allowed. And this was a great modeling for implementing a program

without taken enormous financial risk or an aggregated. Business model innovation like this is necessary to help get the right things done.

Lastly, on the resource adequacy side, I strongly recommend that you ask questions of your staff about transmission capacity during wildfires. Be creative. At the level of what you'd see in a disaster movie, say that wildfires take up both of our cross-cascade transmission lines for two weeks during a summer heatwave, can keep the lights on in Western Washington with the six gas plants we've got on this side of the mountains and with imports from the I-5 corridor? Maybe.

If a fire destroys The Dalles in Oregon,

does all of Oregon and California lose power? I don't

know. I think these questions are worth asking. And

I'm sure that Montana and Idaho have similar

transmission bottlenecks in certain areas.

I'm not saying these are high probability scenarios, but ask your talented staff to model the truly extreme events that last for a week or two, maybe not wires alternatives are sufficient, but if we need a new transmission start building now. Thank you.

CHAIR OSHIE: All right. Thank you, Mr.



Grunkemeyer. Our next speaker this afternoon is Mr. Tony Usibelli. So, Mr. Usibelli, go ahead and -- and state your name and spell your last name and state the organization that you may be affiliated with.

MR. USIBELLI: Good afternoon, Commissioner Oshie and -- and other members of the council. My name is Tony Usibelli. That's spelled U-s-i-b-e-l-i. I'm speaking here this afternoon as a private citizen who has been involved in energy program and energy policy work since actually before the adoption of the Power Act in 1980.

I want to echo one of the comments that was made earlier certainly praising the council for its continuing quality of its overall analysis of the region electricity system. And, in particular, wanted to note that it's encouraging that the council continues to improve and expand on its analysis of the impacts of climate change on both, the demand and on the supply side.

It is also heartening to see the council more explicitly recognizing issues around equity within our system. As many of you are probably familiar, issues of social justice and equity have become significantly more important in our decisions around our energy system.

And it is encouraged that the council has at least begun to work in that area. I look forward to the council continuing to do significantly more work in that area, both, in recognition within the plan and as you move forward with the implementation aspects of it.

And I would also in the accommodation side,
I would also praise the council for their discussion
around research and development. I think we all know
that the rate of change within our electricity system,
both, on demand technologies and on supply
technologies is probably accelerating. And it is
encouraging to see the council continuing to call for
additional engagement in that area.

I'd like to conclude, though, a little bit with some things that I think that the plan could be improved on. The plan clearly lays out that we are in an era of major transformation, a new paradigm driven by low carbon and, particularly, no carbon supply and energy systems on the one hand, and likely the massive electrification of our entire economy.

And the plan further goes on to acknowledge that that represents new sets of risks and new types of uncertainty. I believe that council recognizes that, but could do more in adoption of a final plan in

ways that would help to more effectively mitigate those risks and uncertainties on both the demand side and the supply side.

I would note one area in particular related to policy. And that is I would like to see the council take a careful look at the currently proposed funding and legislation in Congress related to infrastructure. It seems reasonably likely that one or both of the massive multi-trillion dollar infrastructure investment bills will pass, perhaps, prior to even the final comment period on the draft.

And I believe that council should take a careful look at the implications of those for infrastructure and energy and climate development in the Northwest. They have the possibility of really transforming our energy and climate systems on a scale. Comparable to that, we -- we saw resulting from the New Deal. And our region certainly has a long history of reaping the benefits of those investments in the New Deal.

And, finally, as has also been mentioned earlier, I would strongly urge the council to take a much sharper pencil to its analysis and the goals that it has set forward in the areas of, both, energy efficiency and demand response. I won't echo comments

1 made by some previous commenters here.

But I would note that, both, energy efficiency and demand management really present additional ability for our energy system to be more resilient. In particular, I think you may undervalue the benefits of newly insulated homes and businesses, retrofits, and more aggressive codes in equipment standards that would allow many of our structures and -- and differences to periods of supply disruption at relative low costs.

I think there could be more potential in the area of demand response to beyond just conservation production and time and use rates. And I would echo the comments made by Brian who was prior to the related to the potential risks of transmission constraints that may limit some of the supply options that you laid forth. With that, I'll conclude my comments. Thank you.

CHAIR OSHIE: All right. Thank you, Mr.

Usibelli. All right. Our next -- next speaker is Mr.

Richard is it Voget or Voget?

MR. VOGET: It's Voget. Can you hear me?

CHAIR OSHIE: Yes, sir. Can you please

state -- spell your last name for the court reporter and identify the organization that you may be

associated with.

MR. VOGET: Richard Voget, that's V as in Victor, o-g-e-t. I live in Seattle. Organizations I'm affiliated with are the Sierra Club and the Green Team at Keystone Church where we're fighting climate change as much as we can.

The science is clear, climate change is real and failure to fully address a problem is to knowingly inflict death, harm, and destruction. Your role should be to decarbonize power as rapidly as possible.

Although the draft plan includes a pathways to decarbonization scenario, the recommendations were not incorporated into the action plan or resource strategy. The pathways to decarbonization scenario as a more balanced resource strategy including substantially more energy efficiency, demand response, storage, and additional renewable energy.

I saw that climate change models were incorporated into your analysis. But as climate change was only used to show how higher temperatures would affect hydropower and increased peak demand, you missed a key effect of climate change, namely, the influx of climate refugees.

With demand increasing due to population growth, this is not the time to have the Draft Plan

adopt a diminished role for energy efficiency in the region during the action plan period. More people using less energy per person means the utilities can still manage the power supply.

Energy efficiency programs are popular with customers, provide significant employment and local economic benefits and are critical to implementing climate policy. Reducing BPA's share of the regional target from 42 percent to 36 percent is unfair to customers of small rural utilities since many rural areas rely on BPA's program as their only source of funding for energy efficiency.

This report adopts a range for energy efficiency. The low end of the range cuts the energy efficiency target in half from the seventh plan. The top end of the range, though lower than the seventh plan, still maintains a trajectory of energy efficiency program budgets.

What can't be allowed to happen is you adopt the low end of the range and then reduce funding for energy efficiency. Funding should be increased to match increased population growth and certainly not decreased.

Another short coming of the plan is it does not include any energy storage despite the fact that

all day every day still leave them on all day and every day even during a heatwave and even when the pipeline in British Columbia breaks.

I urge you to model a more complete rollout of energy efficiency. The low-hanging fruit keeps growing back because new construction and because the owners of commercial properties have no incentive to invest in energy efficiency when they build because they won't be paying the bills.

And even if they wanted to borrow for conservation measures later on, the loan obligation stays with them even when they sell the building which then becomes a financial barrier to conservation.

easier. For 50 years, I've pointed out energy waste and commercial properties to my wife. She always says "Don't tell me, I can't do anything about it." Even though some utility commissioners tout energy conservation, when I ask them to provide examples of energy waste, they can't provide an answer because they don't see energy waste even when it's right in front of them. It's like I need to take them on a tour around town.

I notice abundant energy waste even in Seattle and Portland. Managers of commercial

properties have no incentive to turn off the light switch.

Regarding electric vehicles, change happens more slowly than we think it should and then it happens more quickly than we thought it could. Your five-year plan needs to recognize that the transition to electric vehicles will be much more aggressive after 2026, but we need to get ready now. Tesla plans to be a merchant generator in Texas.

It plans to aggregate the energy stored in batteries during off-peak hours. And allows willing owners to resell the energy to the market when demand is high. Make a model of that opportunity.

Utilities need to invest in energy waste.

Need to make inventories of energy waste in that

commercial sector. The more we invest in energy

efficiency, the easier everything will be.

I urge you to model a more ambitious plan for our efficiency and recommend ways to finance it such as a commercial property assessed for clean energy and resilience also known as CPACER.

And we'll have more written comments, but I've added some right now since we have a little bit more time.

I -- I echo what Brian Grunkemeyer said

about flex charging . If you don't have that or something like it, a commercial property owner might have to install a transformer and plugs, live plugs, to charge every car in his parking lot all at once. But some of them don't need it all at once, then flex charging allows them to distribute that demand.

And I noticed there was inconsistency in your report about the need for electrification. On one hand you said that -- that the high fuel cell, hydrogen for fuel cells could require that you double the BPA power system. But then on the other hand you say electric vehicles and hydrogen for electric vehicle transmission, those two combined would, I think, at most 900 megawatts which is not consistent with what BPA produces.

And I urge you to -- to also match the city and the state goals on reducing emission. And the City of Vancouver is committed to reaching the state goals on -- on emissions reduction or exceed them.

And integrate the pathway to decarbonization within your planning, put more time into demand response and distributed energy resources. And you didn't put a value on resilience. Distributed energy resources may cost more to install, but they save money on transportation and they provide resilience

which could be modeled in your planning.

So thank you very much. And my wife Alona is right here with me to testify. And she represents other organization.

CHAIR OSHIE: All right. Thank you, Mr. Steinke. So, Alona, if you would like to state your name for the record, spell your last name. I know it seems repetitive, but we'll do it that way. And then any affiliation you have or organization that you represent this afternoon. So please go ahead.

MS. STEINKE: Good evening. Thank you. My name is Alona Steinke, A-l-o-n-a S-t-e-i-n-k-e. I'm a registered nurse retired after a 43-year career. I'm a member of, both, Washington and Oregon Physicians for Social Responsibility and also active in the Sierra Club.

I'm commenting because the combustion of anything has significant adverse effects on public health. I urge you to adopt a more ambitious plan for renewable energy.

The cost of solar is falling so fast that the international energy agency can't keep up. The price that they forecast for 2040 was reached last year.

According to Wright's Law, the cost of a new

technology drops a fixed percentage every time the number installed is double. For solar panels, the fixed dropped is between 30 and 40 percent. With EV batteries, the drop is 18 percent.

A week ago, the state building code council voted to move forward to public comment a proposal to require heat pumps whenever a building permit is needed. That would reduce adverse health impacts and bring in increased demand for electric energy. I don't believe that your forecast take that into account.

The forecast for renewable energy are not much better than what the utilities and private industry are already planning to do. A more ambitious plan for conservation and renewables is necessary to provide for heat pumps and EVs as well as for the likelihood that the dams on the lower Snake River will be removed.

More conservation and more renewables means less gas will be burned which means heathier air.

Fossil gas in buildings is now the fastest growing source of carbon pollution in the state emitting hazardous pollutants, both, indoors and outdoors.

House Bill 1091, the Clean Fuel Plan, has been quantified into the RCWs and rule making has

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begun.
           We need to be ready. We need a more ambition
1
          Thank you for the opportunity to speak.
 3
             CHAIR OSHIE:
                           Thank you very much. All
           Our next speaker is Heather Nicholson.
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   right.
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             MS. NICHOLSON: Good evening. Am I audible
 6
   to everyone?
 7
             CHAIR OSHIE: Yes.
                                 Yes.
             MS. NICHOLSON: Oh, thank you.
 8
 9
             CHAIR OSHIE: Please -- please spell your
10
   last name and any organizations you may be affiliated
          Others may want to mute.
11
12
             MS. NICHOLSON: Sure, think. Okay.
13
   Heather Nicholson, N-i-c-h-o-l-s-o-n. So, good
14
   evening. And to begin I'd like to thank everyone for
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   all of the hard work that's gone into power planning
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   and for communicating all of that work. I'll express
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   my concerns, but I -- I just also wanted to extend my
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   appreciation during a very dynamic time.
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             So, sorry, I should have mentioned. I'm a
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   Washington State resident and rate payer. That's the
   basis that I'm submitting my comment on this evening.
21
22
             So as a rate payer, I can't feel confident
23
   about whether the power system we're getting is
24
   economical when the costs involved in producing
25
   hydropower are omitted from the planning process.
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don't see how it's possible to achieve a least cost system without that component. As a rate payer, this is very perplexing and of great concern to me.

And as everyone knows, Snake River wild salmon and steelhead and the southern resident killer whales who rely on the salmon are imperil. These species must be restored immediately. And everyone wants it done. The region is in a crisis mode over -- over it.

Breaching the lower Snake River dams will eliminate the adverse effects that are jeopardizing the fish. And with the core ocean conditions from climate change affecting the fish, it's imperative to provide the best possible river conditions for the fish to protect them and to restore them.

So, given this reality, it's -- it's quite hard to imagine that the Northwest Power Act actually prohibits the council from analyzing the retirement of the lower Snake River dams as it says in the Draft Plan. These fish -- these species are a blink away from extinction. So if the Act really doesn't provision for protecting these species under the current circumstances, then something needs to be revisited before work on this plan continues.

And with the extensive work that staff is

Millions of

pointing out, I think, you guys have developed a

really powerful and incredible model.

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rate payer dollars have been spent in the development of this model.

In the two years of pressing the buttons on that model and every data, you've looked carefully at a whole bunch of scenarios. You've analyzed the -- the cost and benefits or the cost, basically, of the early retirement of coal plants.

You've looked at energy efficiency in great depth and so forth. But you've avoided one of the most important things that you said in your opening slides that's in the Power Act is that the federal hydrosystem is supposed to also be economical.

Now, we don't -- you can't know that if you haven't analyzed the cost of each of the dams in the system and understand which ones are producing and which cost per megawatt hour and so forth. Without that information, we really don't know whether the -- the system is economical and so forth.

We also, based on my experience and all the recent documentation, you're not -- you're not willing to address the early retirement of the Snake River dams. That's no different than looking at the early retirement of coal plants.

They didn't -- the coal industry didn't call you up and say, would you please model early

retirements no more than the corp has, you know, said the same thing about the lower Snake dams, but you did it.

So I would just like to, you know, point out that this is a necessary ingredient because its rate payers and -- and customers ebonical power go into the negotiations of the 2028 contracts, we basically have nothing but this plan.

And -- and while I've been a big defender of your among my colleagues, I still am, you know, sitting here providing these comments and say we -- we wholly and adequate in terms of our economic understanding of the hydrosystem as we march into these -- this period of negotiations and commitments that we, our rate payers and utilities must make regarding BPA's cost and their ability to deliver power versus other forms of power.

And, so, you know, I honestly believe that the Power Plan should have been the instrument particular at this point, critical point in history, as we move forward with these contracts to have some document that, basically, we can rely on to, you know, the full effect of the hydrosystem and renewables and -- and the early retirement of fossil fuels. So thanks for allowing me to make these comments.

CHAIR OSHIE: All right. Thank you, Mr.

Waddell. Our next speaker is Skip Dise, Dise.

MR. DISE: Hi. Yes, thank you very much for the opportunity to speak. My name is Skip Dise-, D-i-s-e. I'm the vice president of product management at Clean Power Research. We are a software and technology provider to the energy industry and we're located in Kirkland, Washington.

In my role at Clean Power Research, I work directly with over 60 US-based electric utilities and over 200 multi-national energy developers and owner/operators.

I wanted to share to this council and to this plan that through this work, I've learned firsthand the economic and technological benefits that distributed energy resources or DERs can bring to this current energy transition and overall process of creating modernization. So, these for definition sake would include assets like distributed solar, storage, like vehicles, their associated charging infrastructure and building electrification.

From what I seen in the plan, I want to recommend that stakeholders and authors more strongly consider and include the value that the DERs have and the associated innovation that they are leaning on the

distribution system and all of those benefits that can be brought to our region.

First, we know that the commercial demand for these technologies is going to just continue to grow. And that means that the relative capacity of DERs and -- and the energy that they provide to the grid will only increase year over year.

Second, the role that DERs have on -- on being a non-wires alternative in support of great resiliency and reality is well known. So, as a result of both this expected growth and well-known ability to provide value at all levels of the grid, I recommend careful consideration at this time in stage of DER development. And the result will be that we are ensuring the path that our Northwest Region takes is as efficient economical and equitable as possible.

Also, given the relative -- relatively low-level of regional deployment of DERs in our Northwest Region, this gives the plan authors as well as other stakeholders the opportunity to provide input and -- and learn directly from other regions of the country that have successfully demonstrated transitions to higher DER penetrations. Thank you very much for the opportunity to provide comment.

CHAIR OSHIE: All right. Thank you. Our

next speaker this evening is Bill Will. Mr. Will, are 1 2 you available? 3 MR. WILL: Yes, I'm here. Can you hear me? I think I'm unmuted. 4 5 CHAIR OSHIE: Yes, sir. So if you could 6 just spell your last name for the record and any 7 identifying -- any affiliation you have for your testimony tonight, please. 8 9 MR. WILL: Will, W-i-l-l, I'm representing 10 Washington Solar Energy Industries Association. 11 have a couple of brief comments. I'll echo some of the -- first of all, I'd like to thank the council for 12 13 the many months of work that went into this process 14 and appreciate the opportunity to provide some input. 15 I'd echo some of the comments that we've heard earlier with a couple of the concerns with the 16 17 Draft -- 2021 Draft Power Plan. 18 Number one is the retreat from the council's 19 longstanding focus on energy efficiency measures, 20 they're going to be increasingly important as we move 21 on to the rest of the decade and into the 2030s and 22 the 2040s when we're trying to reach the goal of 23 decarbonizing the electric grid in Washington and

So we can't retreat from the goal of using

Oregon and potentially across the entire country.

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the electrical resources, what we have as efficiently as possible. That needs to remain a priority.

I also want to address something that Mr.

Blackmon noted in its opening comments. The 2021

Washington State Energy Strategy that was crafted last year over an extensive public process projects that electrical load in Washington State could potentially double by 2045 -- this is the carbon -- carbon-free target -- date due the widespread electrification of transportation and building sectors.

That means we're going to need all of the resources available to meet those goals. We're going to need lots more renewable energy including blocks of rooftop solar paired with storage which has tremendous advantages to the grid as some other speakers noted. We're going to need new transmission resources. We're going to need demand response. We're going to need the whole package.

And my final comment is an early speaker mentioned the resource modeling and how that's evolved. I would also ask the council to continue work on more advanced resource modeling or supercomputer modeling that's been rolled out in the last several years that can digest transmission load, all -- all of the factors that go into the grid down

So, the one -- I have some notes here.

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Power Plans Public Hearing October 7, 2021 NDT Assgn # 52760 I just -- just thinking about what is the main thing I 1 really want to -- to impression on the commission. 3 The renewable resources as mentioned, natural gas, methane, hydrogen. Of course we know about solar, we 5 know about wind. I'd like the commission to -- the 6 7 councilmembers to jump out of that because the renewable resources really picking up and we know a lot more now. So maybe we can do, you know, think 10 about a tunnel -- tunnel for waterfall, a tidal -tidal -- turbines and stuff like that. 11 But I'm a little bit concerned about when --12 13 when you talk about renewable resources, you would 14 include natural gas and hydrogen fuels. Natural gas, 15 the -- the production process is rather devastating to

the environment. So, that I would love to look at as a viable renewable resource.

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And the other one is the hydrogen fuels. Hydrogen takes a lot of energy to split the hydrogen from oxygen. And so that would not be a really good renewable resource. And, okay, so that's renewable resource.

And methane, burning methane, some people say that is a transition to zero emission. But the -the thing is after methane is burned, the carbon stays

in the -- stays in the environment for 10, 12, 15

years, whereas, burning coals carbondiox, that only

stays in the air for a couple of years max. So,

that's the difference. And so I would not rate

methane, burning methane as a clean renewable

resource.

And then the next point I want to make is

And then the next point I want to make is with the buildings, I thought Govenor Inslee passed into law yet last year, I believe, building codes for new buildings and also for building renovation, remodeling. So, I think those should be -- should be included and we need to look at that. So that's for buildings.

And for the cost benefit analysis, the cost really need to include the pollution that's in the production process of any of the -- of any of the renewable resources even solar making -- making the solar panels. Making them cost -- needs a lot of trace minerals. And it's -- produces pollution also.

CHAIR OSHIE: So, Ms. Ng, you have about -- you have a few seconds left here.

MS. NG: Okay.

CHAIR OSHIE: You've got about 15 seconds remaining so.

MS. NG: Okay. Thank you. The cost for --

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for doing anything I think needs to include the
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   destruction of the environment. So I think that those
 3
   Snake River dams should be taken down. So, yeah,
   destruction is very important. Thank you. Thank you.
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 5
             CHAIR OSHIE: You're very welcome.
 6
   you.
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             All right. We have two speakers left. And
   we have -- also call on Cathryn, I guess, is it Chudy?
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 9
             MS. CHUDY: It's Cathryn -- Cathryn Chudy.
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             CHAIR OSHIE: Chudy. Okay. Thank you, Ms.
           So, if you could please spell your last name
11
   Chudy.
   and then if you have -- if you're affiliated with an
12
13
   organization that you're representing here tonight,
   please state that and proceed with your testimony.
14
15
             MS. CHUDY: Thank you. My name is Cathryn
16
   Chudy, C-h-u-d-y. I'm representing myself, but I'm
17
   also affiliated with the Sierra Club, with Columbia
   Riverkeeper, with the Oregon Conservancy Foundation,
18
19
   and the Alliance for Community Engagement which is a
20
   coalition of organizations here in Vancouver,
21
   Washington.
22
             I appreciate that the council has used a
23
   climate-adjusted baseline with global climate models
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   down scaled to the Northwest.
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             The past year of local climate disasters,
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underscores the urgency of addressing those impacts aggressively and equitably to protect and serve all who live here as well as those who come after us. I believe the draft plan as written falls short of recognizing and responded adequately to this urgency.

I am greatly concerned that the proposed

Draft Plan adopts a reduced role for energy efficiency
in our region setting a significantly lower target for
energy efficiency compared to the seventh plan at
reducing Bonneville's share of the regional target.

Rural customers depend on Bonneville Power to fund efficiency programs which makes reducing their obligation and equity issue. It makes no sense when we in the Northwest are already on track to meet the high end of the energy efficiency target to alter the positive course we are on and shift down and away from the momentum we have built for something so critical to our energy future.

Energy conservation, as a reminder, is the effort made to reduce the consumption of energy by using less. Your council is named Northwest Power and Conservation Council. And it seems you betray that name by relegating energy efficiency to a reduced role in your draft plan. And I would like to see that changed.

It's well known that we, in the Northwest, enjoy utility rates and bills that have been the lowest in the country. As so many of us are struggling to meet the economic impacts of the pandemic we need to continue pursuing at least as much, if not more ways, to leverage energy efficiency programs. That we, as customers support, that we now provide employment in local economic benefits and our

key means to ensure that equitable climate policy is

being implemented.

As a customer of Clark PUD in Vancouver, Washington, I have joined many other customers in urging our commissioners to direct their staff to pursue clean energy technologies that are already available and cost effective in the region, especially, demand response, energy storage and renewable and storage systems.

We have advocated customer-side resources, distributed generation and electrification as aggressive decarbonization goals in Washington and Oregon are being set into place in response to the impacts of catastrophic climate change in order to reduce greenhouse gas emissions as well as providing resilience.

I encourage the council to improve the Draft



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Plan to better reflect our need for these priorities
 1
   with a more balanced resource strategy. These
 3
   priorities keep us building rather than stalling our
   momentum for a truly clean reliable and fair power
 5
   system.
 6
             Thank you for the opportunity to speak.
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             CHAIR OSHIE:
                           Thank you. Our next speaker
   is Lauren McCloy. Ms. McCloy, are you -- are you
8
   available?
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             MS. MCCLOY: I am. Can you hear me.
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             CHAIR OSHIE: Yes, we can.
12
             MS. MCCLOY: Oh, great. Thanks a lot.
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             CHAIR OSHIE: Yes, thank. If you can --
14
             MS. MCCLOY: Good evening, councilmembers.
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             CHAIR OSHIE: Please spell your last name
16
   for the record, please. Thank you.
17
             CHAIR OSHIE: Yes, sir. Lauren McCloy, M-c-
   c-l-o-y. And I am here as the policy director for the
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19
   Northwest Energy Coalition.
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             First, I just want to congratulate the
   council and the council's staff on the release of the
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22
   Draft 2021 Northwest Power Plan with the disruption
23
   caused by the pandemic and the transition to remote
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   work, we know it's been challenging to keep the work
25
   on this plan on schedule.
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And we acknowledge that the council had to make some tough decisions in order to prioritize its work and still meet its obligation to release a plan in early 2021.

I also want to express appreciation for the format and accessibility of these public comment hearings. Providing this opportunity for public participation is an important part of the council's process. So thank you for making this happen while we're still in a pandemic.

As you've heard from many of the previous speakers, we agree that the 2021 Plan comes at a critical time for the region when we need solutions now that are going to put the region on a pathway to transform the electricity system over the next 20 years.

This draft includes some notable progress on renewable energy, understanding the impacts of climate change, and incorporating equity considerations under power planning.

We're pleased to see the climate-adjusted baseline adopted in this plan informed by consultation with climate scientists and incorporating elements from three different climate models.

As we know, climate change is already

affecting our region and has already started to shift monthly Northwest hydropower and increase peak demand with an overall shift towards summer peaks and more extreme hot and cold weather events.

It's important that we have all our regional power planning to be more forward looking given these impacts and we commend the council for this important innovation which will be valuable for the region.

We're also pleased to see diversity, equity, and inclusion discussed in the plan. We support the draft recommendation that the region can be in a series of workshops to investigate existing equity data and perform a gap analysis to identify areas where further research and data are needed with the goal to develop a regional framework to improve future power planning analysis. We would encourage the council or one of its advisory committees to play a more active role in supporting broader incorporation of equity into the council's work going forward.

However, we do have some concerns about the resource strategy proposed in this plan. The Northwest had long been a leader in energy efficiency, one of the major reasons utility rates and bills are among the lowest in the country.

Since the Northwest Power and Conservation

Act went into effect, over 7,000 megawatts of energy efficiency has been achieved, making it our second largest resource behind hydropower.

If I were concerned that this plan appears to back away from energy efficiency as the preferred resource for the region, we would encourage the council to adopt a target of at least 1,000 average megawatts, the high-end of the range proposed in this plan to at least maintain current budgets and program capabilities.

In the near term, the council should also consider revisiting its cost effectiveness methodology to account for the full value of energy efficiency and a decarbonized economy.

We're particularly concerned about the Draft Plan's proposal to reduce DPA's share of the regional energy efficiency target. This reduction in DPA's share could affect DPA's ability to provide applicable programs as required under the Power Act.

We're also concerned that this change in the council's longstanding policy with allocating 42 percent of the regional target to Bonneville occurred without public consultation or deliberation and is not supported by the materials provided with the Draft Plan.

The level of demand response and the lack of energy storage in the Northwest represented in the resource strategy is also disappointing. We think that the target for demand response should be more aligned with the analysis conducted by the demand response advisory committee which found significantly higher demand response potential.

And it also conflicts with what we're seeing on the ground in utility integrated resource plans in the region where utilities are finding significant value in a variety of demand response measures beyond time-of-use rates and distribution voltage reduction.

While the draft plan includes a soft recommendation that the region look at energy storage, a lack of energy storage in the resource strategy, particularly energy storage paired with renewals in hybrid applications is also a notable shortcoming worth a revisit.

The energy storage cost assumptions used in the regional portfolio model are based on public data from 2019. And since then, the cost of solar plus storage systems, in particular, have fallen by about a third.

I think the council should consider updating its cost assumptions for energy storage and

investigate a longer strategy of updating the regional portfolio model to better reflect the value of flexibility of a broad portfolio of clean energy resources.

And, finally, we are disappointed that the council did not continue to refine the pathways to decarbonization scenario in the draft plan. Much work was -- has been done to establish Washington's decarbonization pathway including the Washington State energy strategy and the Northwest decarbonization study among others.

And while the council had an opportunity to, you know, build on these efforts in the regional plan, it decided to -- declined to do so for the 2021 Plan.

Nevertheless, we feel that the resource strategy represented by the council's decarbonization scenario is, you know, a better representation of where the region needs to go since it includes more energy efficiency, a demand response, energy storage, and renewable energy.

We would encourage more consideration of this analysis in the final resource strategy and the action plan and support the recommendations by the Department of Commerce on this point.

So in conclusion, we think that the council

should revisit several aspects of the draft before finalizing the Power Plan and we're to stay to core on energy efficiency, continue BPA's leadership role in the region, and strengthen its recommendations pertaining to demand response storage and storage plus renewables, distributed generation and other side -- other customer-sided resources.

And, finally, we urge the council to carefully consider what next steps it can take in the action plan to help state's utilities and the stakeholder's meet aggressive departmentalization goals in Washington and Oregon.

Thank you so much for the opportunity to comment tonight.

CHAIR OSHIE: Thank you, Ms. McCloy. All right, Chad, is there anyone else have signed up to testify this evening?

MR. MADRON: Mr. Oshie, we had a few close calls, but no. Someone signed up for the wrong hearing, but we got that corrected. And so I'm unmuting the phone lines in case there's someone we have not called on. All the people who have signed up online have been called forward. Is there anyone on the phone who, perhaps, didn't get a chance to sign up yet or would like to speak? I guess not.

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             CHAIR OSHIE: Okay. Well, why don't we take
   a break here. Why don't we just make it -- let's
 3
   return at 6:45.
 4
             MR. MADRON: Okay.
             CHAIR OSHIE: And we'll see if we have
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 6
   anyone else. For those who may still be on listening,
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   we have, you know, we will keep the hearing open until
           We're going to be in recess now until 6:45.
   We'll come back to see if there's anyone else that
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   would like to testify.
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             I'd just to like to, you know, remind
   everyone that even if you testified tonight, if you'd
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13
   like to submit written comments you may do so. And
   we'll cover that. And at the end of this hearing,
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15
   you'll see the email address there for all of you to -
   - to use if you -- if you'd like doing so. All right.
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17
   With that --
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             MR. VADAS:
                         Sir.
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             CHAIR OSHIE: Yes, sir.
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             MR. MADRON:
                         Yes.
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                         I spoke already, but is there
             MR. VADAS:
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   any chance if there's time for -- to say -- make more
23
   comments that happen to be talked about yet?
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             CHAIR OSHIE: Is this Mr. Vadas?
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             MR. VADAS:
                         Yes.
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developed infrastructure.

It's already tied into the grid. I mean, to 1 me it seems that's really the better way to make this into, you know, big, you know, big bloated kind of 3 industry approach to alternate energies. 5 And I -- I will quickly reiterate what 6 others -- a couple of the speakers have said, a few 7 note. The lower Snake River dams, you know, are probably on their way out. They don't produce a lot of energy anyway. And then -- and the salmon -- the 10 southern resident orca whales are important. 11 And so we do have the energy to replace 12 that, you know, that the energy produced by those dams 13 and I would love to see the council try to work 14 towards that as, you know, until that is possible, 15 whatever they can do to facilitate that. Thank you 16 again for my extra comments. 17 CHAIR OSHIE: You're welcome. All right. 18 It looks like -- so if there -- I don't want to 19 discourage extra comments, but everyone had some time 20 here to offer their comments. You do have a chance to 21 submit written comments. We'll take one more. 22 believe there's -- I see a hand up. Chad, can you --23 MR. MADRON: Yes, Mr. Steinke, you're

MR. STEINKE: Thank you.

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unmuted.

CHAIR OSHIE: I'll give you two minutes, sir.

MR. STEINKE: Thank you. This is Don

Steinke. One of the common arguments made for fossil

fuels is made by the gas industry. And they are

always saying what about when there's a blackout?

People need a dual system of energy.

And so I would like to recommend that you model various systems -- various ways to deal with -- with blackouts. And I think one system I like is to have propane tanks stored safely and only used when -- when there's a blackout.

As one of the models for resilience when there's a blackout and I guess you could say that's a form of storage too.

And back in 1965 what got me interested in this was a headline in Popular Mechanics. It had a picture of a home in Coos Bay, Oregon where the guy said he used heat from his roof. He piped it down to a bin of rocks in his basement in a septic tank, basically, full of washed drain rock. And he took the heat from his roof and he used it to warm the rocks.

And then when needed, he used the warm rocks to heat his house. And he only needed to supplement that with -- with 7 gallons of fossil fuel per year

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including his swimming pool. And it would actually
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   cool his house in the summertime because he reversed
 3
   the process.
 4
             Well, I would like you to model various
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   forms of energy storage such as that and -- and like a
   gravity storage. So those are my new comments. Thank
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   you very much for the opportunity to speak a second
   time. Thank you.
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 9
             CHAIR OSHIE: You're welcome, Mr. Steinke.
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   Okay. We're -- we'll go ahead and take a break until
   6:50 and we'll return at that point. And so we are on
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   recess until 6:50, Chad. I see you've got the note
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13
   up. And we'll be -- we'll return and we will reopen
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   the hearing at that time to see if anyone else has --
15
   has comments to give the -- to give the council.
16
             (Recess taken.)
17
             CHAIR OSHIE: Chad.
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             MR. MADRON: Hello, there.
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             CHAIR OSHIE: Hello. Has anyone signed up
20
   to testify at this point?
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             MR. MADRON: I'm double checking a few
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   spots, but, no, I do not believe so.
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             CHAIR OSHIE: All right. Well, I'm going to
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   reconvene the hearing for the purpose of putting on
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   the record that we will be taking -- we'll be in
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(Recess taken.)

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CHAIR OSHIE: Well, I just want to thank everybody for -- for participating in today's hearing.



## CERTIFICATE I, Kayla Broden, do hereby certify that I reported proceedings adduced in the foregoing matter and that the foregoing transcript pages constitutes a full, true, and accurate record of said proceedings to the best of my ability. I further certify that I am neither related to counsel or any part to the proceedings nor have any interest in the outcome of the proceedings. IN WITNESS HEREOF, I have hereunto set my hand this 12th day of November, 2021. /s/ Kayla Broden



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