



December 11, 2020

Ms. Kate Kelly  
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Energy Division  
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**RE: Comments by Benton PUD on the First Draft of the 2021 Washington State Energy Strategy**

Ms. Kelly:

Thank you for the opportunity to provide comments on the **draft 2021 Washington State Energy Strategy (SES)**. Benton PUD (BPUD) is an electric distribution utility located in Kennewick with over 55,000 metered accounts and is a preference customer of the Bonneville Power Administration (BPA).

Over the years BPUD has been actively engaged in trying to help shape clean energy policies in Washington State. We have invested significant time and money to help the state legislature and the governor's office to better understand electric utility perspectives when it comes to balancing environmental benefits and concerns associated with particular types of generating technologies with financial costs and power grid reliability.

Most recently, BPUD through our membership in the Public Generating Pool (PGP) helped fund and produce a study released in 2019 by E3 (Energy+Environmental Economics) titled "2019 Resource Adequacy in the Pacific Northwest". This study was also funded by investor owned utility partners Avista Corp., Puget Sound Energy and NorthWestern Energy. Prior to the Resource Adequacy study, BPUD helped fund a PGP study released in 2018 titled "2017-2018 Pacific Northwest Low Carbon Scenarios". Both E3 studies were based on complex and rigorous analytical methods and processes with the goal of providing a scientifically informed foundation for constructive discussions with Washington State legislators, the governor's office and the public on the least-cost approach to carbon reduction in the electricity sector while still "keeping the lights on".

BPUD recommends all participants helping develop the SES take the time to review both E3 studies (<https://www.publicgeneratingpool.com/studies-reports>) with particular attention to conclusions from the Resource Adequacy study related to the (1) role of natural gas-fired

generation in the near term versus long term and (2) the land-use impacts associated with aggressive and widespread build-outs of wind and solar power; see attached one-page summary and frequently asked questions document which is also available at the link previously provided. At a high level, results of the Low Carbon Scenarios study warned against (3) using renewable portfolio standards as a means of carbon reduction in the electricity sector as it would cost twice as much and be half as effective.

So we hope it can be appreciated why a utility in our position might look back on the PGP study efforts and be frustrated and concerned with the draft SES which has as its foundation the Clean Energy Transformation Act (CETA); legislation which BPUD asserts has ignored many of the key conclusions of the PGP studies by: (1) creating planning constraints (social cost of carbon) and future financial penalties which chill investments in natural-gas-fired generation as a replacement for retiring coal power (in spite of ongoing reliability studies which show an unacceptably high risk of blackouts in the northwest over the next five years); (2) essentially ignoring land-use impact concerns through the promotion of aggressive build outs of more wind and solar farms which will come with the need for extensive new transmission lines; and (3) indirectly creating a renewable portfolio standard through strong wind and solar preferences which can be demonstrated by study and experience in other states and countries may not be the least-cost approach to effective carbon reduction in the electricity sector.

BPUD continues to work hard to inform our own views and to help educate others regarding the complexities and considerations related to clean energy policies and believe we are well positioned to provide substantive comments on the assumptions and conclusions related to electric utilities made in the SES.

BPUD is somewhat encouraged by a recurring theme in the SES regarding the need for maximum outreach and engagement with communities and families in “all parts of the state” and the need to “identify and amend laws and rules, remove barriers and change systems that prevent equitable and just participation in our policy choices and the costs and benefits of implementing them”. While we agree with the overall sentiment of this goal, we are skeptical of its sincerity given past practices and the continued insistence that the primary means for generating clean electricity must be to build expansive wind and solar farms in rural areas of Washington and adjacent states while never mentioning the most efficient and potentially least environmentally impacting solution in the long term could be to build power generating stations closer to population centers. To continue to promote the idea that we can advance civilization globally by deepening our dependence on the vagaries of nature and discouraging (or at the least showing little enthusiasm for) the use of energy-dense fuels like cleaner burning natural gas and emissions free nuclear power seems more like rigid ideology than inclusiveness and “global leadership”.

While the SES continues to promote rapid wind and solar power development as an absolutely necessary and inevitable part of Washington State’s clean energy future, BPUD questions whether this would be the case if the sprawling wind and solar farms were being built in the back yards of

the majority of those who are most influential in the development of state policies and now the SES.

For BPUD's customers and the nearly 300,000 citizens of the Tri-Cities area in Benton and Franklin counties, our back yard includes the iconic Horse Heaven Hills which is where a developer is proposing to build what would be the largest wind farm constructed in Washington. If development proceeds according to ultimate plans, a forest of more than 200 industrial wind turbines reaching heights of 500 feet and stretching for more than 25 miles across the horizon would transform the stark beauty of the treeless hills, defacing the landscape for decades to come. And all within view of the eighth largest population center in the Pacific Northwest. While BPUD hopes the voices of Tri-Cities residents served by utilities with clean hydro, nuclear and existing wind power will be heard, there is not much evidence based on past practices that local opposition would matter (<https://nawindpower.com/state-supreme-court-upholds-permit-for-washington-wind-project>).

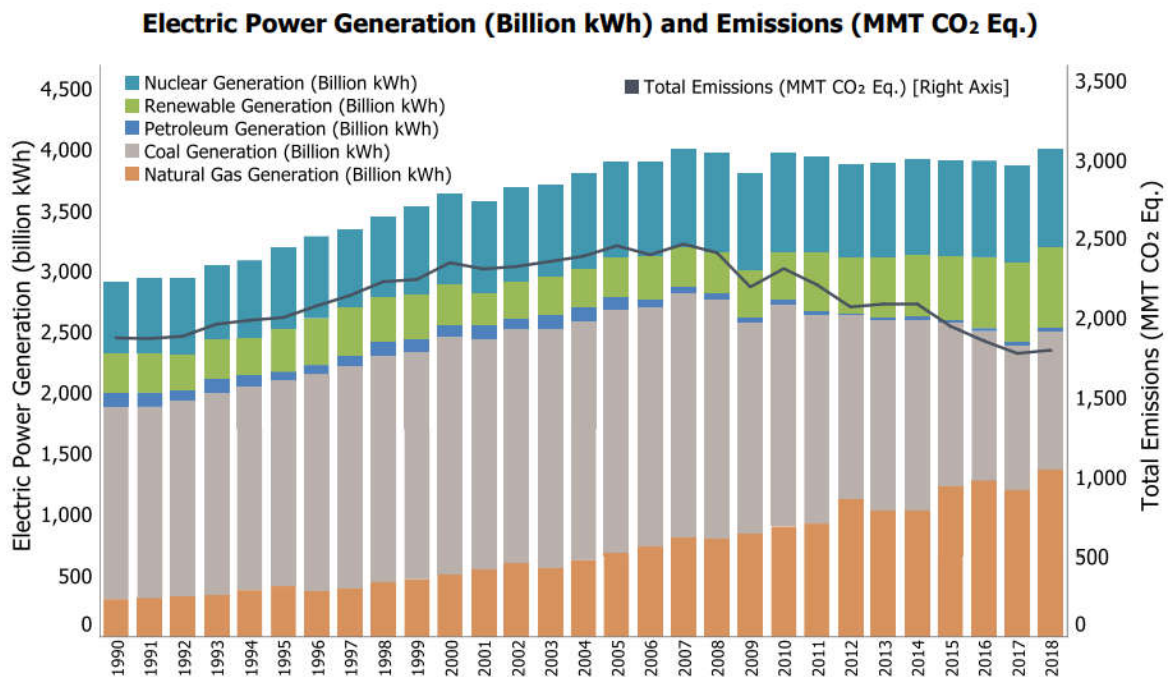
It is not lost on BPUD that the cover sheet of the SES seems to be suggesting wind turbines will be seen by most as a complimentary and even a beautiful addition to the natural landscape. But we want Washington State clean energy policy makers and those developing the SES to please consider that wind turbines are not a novelty and that they may not be a celebrated symbol of environmental virtue to many of us in eastern Washington who have to live with them as an intruding presence along every path we travel in and out of our community and as a back drop to our favorite fishing, hunting, hiking and site-seeing destinations. While we are not suggesting we speak for everyone in the communities we serve, our experience over the years and the feedback we have received recently regarding the proposed Horse Heaven Hills wind farm indicates many people outside the political power centers believe we have sacrificed enough of our scenic hillsides, canyons and desert vistas and we have sincere questions as to whether further sacrifice is necessary or even environmentally responsible over the long term.

Additionally, it is very concerning to BPUD that the SES (consistent with existing Washington State policies as it may be), asserts an urgent need for aggressive and rapid decarbonization to "avoid the worst impacts of climate change" without providing a point of reference for where we stand relative to other states in the U.S. or to the energy consumption trends and needs of advanced economies and developing countries in other parts of the world. If you are going to ask citizens to rethink "virtually every aspect of energy use in Washington", it seems reasonable to make some attempt to provide evidence, or at least a logical argument, as to why the state believes our actions and the sacrifices that will come with them should be expected to make a measurable difference nationally and globally.

For example, as part of our research on clean energy Benton PUD identified the annual average level of carbon dioxide (CO<sub>2</sub>) emissions attributable to Washington State electric utilities by the U.S. Energy Information Administration (EIA) between 2007 and 2017 was 11 million metric tons (MMT) and that the average annual electricity sector emissions during this period for all 50 states was 41 MMT. It is also instructive to know that Texas emitted an average of 223 MMT per year

followed by the next ten highest emitting states who averaged 88 MMT. As acknowledged in the SES, thanks to non-emitting hydro and nuclear power, Washington State is starting from a point of very clean electricity. Which begs the question, what are the reasons other states have such high electricity sector emissions levels and will 100% clean electricity in our state really change the trajectory of other state’s emission levels? Particularly in regions with an existing deep dependence on fossil-fuels and very little land available for productive wind and solar power development.

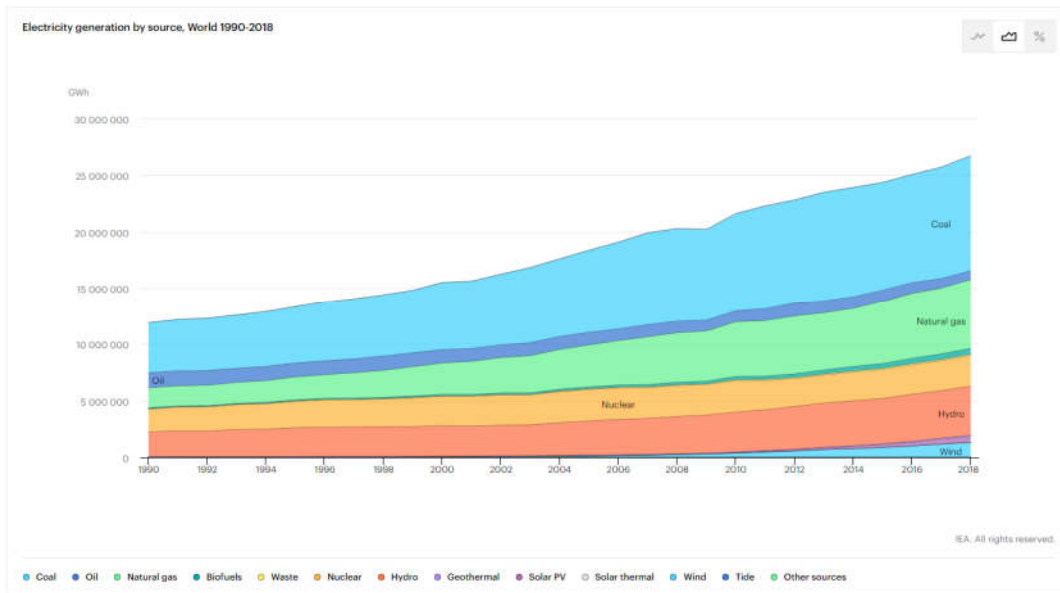
Additionally, according to EIA data, national electricity sector CO<sub>2</sub> emissions peaked at 2,414 MMT in 2007 and have declined since then to a level of 1,619 MMT in 2019. During this period of declining CO<sub>2</sub> emissions, electricity produced by natural gas power plants which emits CO<sub>2</sub> at a rate of 37% of some coal plants, replaced coal as the largest source of electrical energy in the United States. So as shown in the figure below, natural gas has emerged as a primary contributor to electricity sector emission reductions in the United States and the likelihood utilities in other states will rapidly abandon their investments in this technology under the influence of aggressive actions and 100% clean electricity goals set by states like Washington just doesn’t seem credible.



BPUD believes it is also important for the SES to acknowledge the developing world is accessing low-cost fossil fuels to bring people out of poverty like advanced economies have already done and that United States clean energy policies should not be developed in a vacuum.

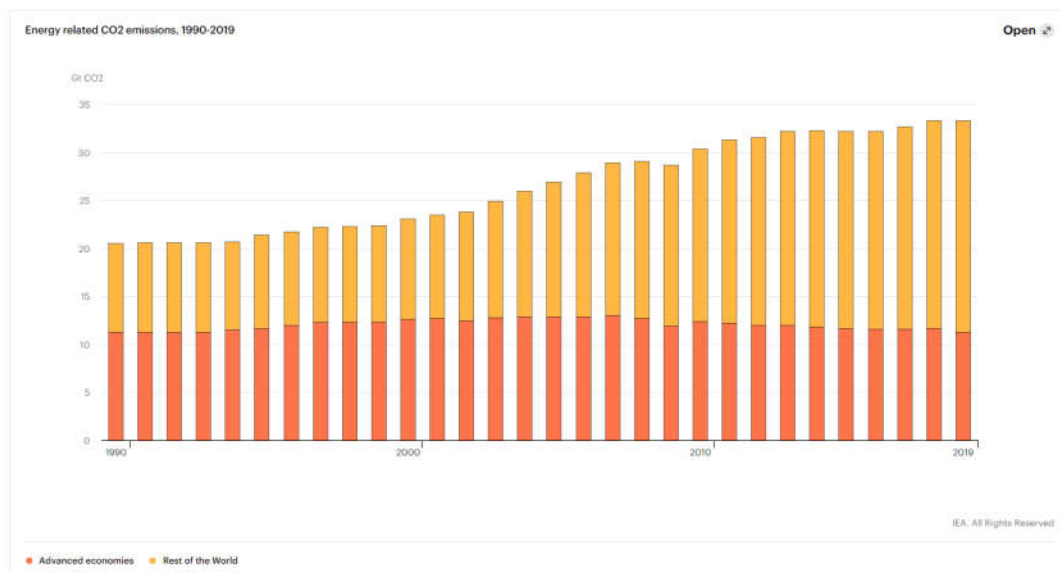
If we are going to ask our citizens to radically change their energy sources and consumption patterns, we must also consider the scale of electricity generation needed to continue to advance civilization and to reduce the poverty and suffering around the world that comes from energy deprivation. Put another way, if you are going to make the claim that Washington State is “a

global leader in the clean energy transition”, then you owe it to citizens to help them understand where we are starting from globally and what near-term or long term global impacts we can conceivably make given the competing and compelling interests of other human beings on the planet. As seen in the following graph, coal and natural gas represent by far the biggest sources of electricity generation in the world today. And while wind and solar are popular in politics and the press as representing the path to a clean energy future, a chart like this really puts global decarbonization of the electricity sector into perspective.



Source: <https://www.iea.org/data-and-statistics?country=WORLD&fuel=Energy%20supply&indicator=ElecGenByFuel>

Additionally, the following graph reinforces the decline in electricity emissions in the United States and the rest of the advanced economies in the world contrasted against global electricity emissions which have continued to increase due to developing countries accessing fossil fuels.



Source: <https://www.iea.org/articles/global-co2-emissions-in-2019>

Looking at the trajectory and volume of fossil energy use in the world and the continued construction of coal plants in China and other developing countries, can we honestly say that wind and solar have a chance of making a global difference in the next decade or even the next 30 years?

In the September 2020 edition of Modern Power Systems magazine, they wrote: *“China, which has half of the world’s operational coal fleet and 48% of planned capacity expansions, continues to dominate the global landscape for coal, accounting for 90% of newly-proposed capacity additions in the first half of 2020, as well as 86% of new construction and 62% of plant openings. During the six-month period under review, 11.4 GW of coal-power capacity was brought online in China, while authorities granted permits for 19.7GW of new coal projects, the highest rate since 2016.”*

Contributors to developing the SES need to seriously consider by what means will Washington or any other state or country stop China or other developing nations from using low cost fossil fuels to dig themselves out of crushing poverty and associated human suffering? And despite the hopes of many, we must consider the evidence at hand and come to terms with the fact that it is unlikely developing countries will "leapfrog" the fossil-fuel technologies that advanced economies have used to prosper and flourish for decades.

BPUD is not suggesting that knowing where Washington State stands nationally and globally with respect to electricity sector CO<sub>2</sub> emissions means we should do nothing, we are just suggesting that knowing this information would be helpful when considering the rate at which certain actions should be pursued and perhaps where the state might focus our strategic efforts related to investments in generation technologies that could be exported to other parts of the United States or to other countries in the world. And if there is evidence to support the claims of the SES that Washington State’s aggressive pursuit of more wind and solar power will “avoid the worst impacts of climate change” you owe it to our citizens to produce it.

Furthermore, BPUD believe the SES needs to acknowledge that all energy solutions involve environmental tradeoffs and that wind, solar and battery power are not environmentally benign propositions. Particularly if you are promoting them as a regional and global solution and are willing to be totally honest and transparent about the lifecycle environmental impacts; i.e. rare-earth elements mining, industrial manufacturing requirements, concrete and steel use, ecological disruption, and future volumetric and toxic waste recycling and disposal.

BPUD is not just saying no to wind and solar power. We believe common ground can be found in emissions reductions by replacing coal with cleaner burning natural gas in the near term and ultimately transitioning more of the country and the world to nuclear power over the longer term. BPUD believes if the Washington State is serious about making a difference in global emissions, we cannot be afraid to discuss nuclear power and that we should be enthusiastically supporting Energy Northwest, X-energy and TerraPower who recently received initial funding from the U.S.

Department of Energy through their Advanced Reactor Demonstration Program. In the words of Energy Northwest (EN):

*“The selection of these advanced reactor designs is a promising step forward and underscores the federal government’s commitment to developing advanced nuclear technology in the U.S. Through a 50-50 cost shared partnership with industry, ARDP will accelerate the demonstration of advanced reactors and expand access to clean energy.*

*As efforts continue to address our climate challenges and reduce carbon emissions, we believe nuclear energy has a key role to play now and well into the future. Department of Energy’s commitment to developing advanced nuclear energy systems – and choice of X-energy and TerraPower-GE Hitachi designs – brings the region one step closer to a carbon-free electric grid.”*

To be frank, BPUD believes the draft SES gives lip service to nuclear power when based on the data and information from a national and global perspective, should be recognizing the significant and unique potential for national and global emissions reductions through its use. And how nuclear power seems to be the only large-scale generating technology that could conceivably make a difference in the economy wide electrification strategy so prominent in the draft SES.

Additionally, BPUD challenges the idea that Washington State’s preferred strategy of deepening electricity sector dependence on wind and solar power represents “global leadership” particularly when you consider this strategy has been underway in Europe for nearly 20 years with questionable results and during a period in which global electricity emissions continued to increase due to developing nations increased fossil-fuel use. At a minimum, an honest evaluation of a proposed clean energy strategy should include learning from the experience of others.

Take Germany’s *Energiewende* (or energy transition) for example which has resulted in only slight decreases in overall economy wide emissions while electricity rates have increased by 50% since 2007. As for the idea presented in the SES that a total of 11 gigawatts of new transmission lines into Montana and Idaho is essential for capturing the diversity of wind and solar resources in other states, it should be somewhat sobering to know that in Germany only 8 percent (950 miles) of the 4,800 miles of transmission lines planned to bring wind and solar power to population centers have been constructed due to local opposition to construction of towers and lines.

An even more compelling and relevant reality check has been the planning, permitting and right-of-way selection process for the 300-mile Boardman-to-Hemingway 500-kV transmission line which began in 2007 and is still not completed. With a currently expected in service date of 2026, the total project development cycle would be over 19-years for 1 gigawatt (GW) of capacity.

Furthermore, BPUD believes the writers of the SES must also acknowledge that rural and disadvantaged communities (who are likely to be disproportionately impacted by the construction of thousands of miles of new transmission lines and thousands of acres of wind and solar farms)

may see more than a bit of hypocrisy in the fact the SES does not seriously contemplate whether power generating stations built closer to population centers (on vastly smaller footprints) may be the best option when considering realistically achievable and meaningful carbon reductions. And when honestly considering ecological and environmental tradeoffs of all potential technology solutions.

Finally, BPUD would like to acknowledge our support for the comments on the draft SES submitted by the Washington Public Utility Districts Association in their November 23<sup>rd</sup> letter and would like to extend our appreciation for the hard work of the Energy Strategy Committee in putting together this extensive draft report. Clean energy policies are unbelievably complex and clearly represent politically and even personally polarizing issues.

BPUD appreciates the opportunity to comment on the draft SES and looks forward to continuing to engage in this critically important work.

Sincerely,

A handwritten signature in black ink, appearing to read "Rick Dunn", with a long horizontal flourish extending to the right.

Rick Dunn, General Manager  
Benton PUD

Attachments (1)