Oregon Department of Energy
Oregon Public Utility Commission

March 17, 2023
Via Electronic Mail

Ms. Elena Kazarov, Long Term Energy Efficiency Planner
Bonneville Power Administration
905 NE 11th Ave
Portland, OR 97232

Re: Bonneville Power Administration Draft Energy Efficiency Action Plan 2022-2027

Dear Ms. Kazarov,

The Oregon Department of Energy (ODOE) and Oregon Public Utility Commission (OPUC) submit the following comments in response to Bonneville Power Administration's (BPA) Draft 2022-2027 Energy Efficiency Action Plan (Draft Action Plan). We appreciate the opportunity to comment and BPA's collaboration as a regional partner.

ODOE's mission is to help Oregonians make informed decisions and maintain a resilient and affordable energy system. It advances solutions to shape an equitable clean energy transition, protect the environment and public health, and responsibly balance energy needs and impacts for current and future generations.

The OPUC is responsible for regulation of Oregon's investor-owned electric utilities (Portland General Electric, Pacific Power, and Idaho Power) and natural gas utilities (Avista, Cascade Natural Gas, and NW Natural). The PUC mission is to ensure Oregonians have access to safe, reliable and fairly priced utility services that advance state policy and promote the public interest.

ODOE and OPUC encourage BPA to set more ambitious energy efficiency targets. Collectively, our two state agencies are working with the industry to help transition our energy system in line with state policies that prioritize energy efficiency and demand response as resources (ORS 469.010, Northwest Power Act, and SB 1547, Sec. 19) and require Oregon's investor-owned utilities (IOUs) to reduce their greenhouse gas emissions 80% by 2030 and 100% by 2040 (House Bill 2021). We recognize the short-term rate pressures BPA, distribution utilities, and their customers face due to supply chain issues and inflation. However, the long-term savings and associated benefits of energy efficiency make continued investment in energy efficiency essential to meeting the region's long-term energy needs.

Meeting Oregon's climate and energy requirements requires ambition and increased reliance on no-regrets resource acquisitions, principally energy efficiency and demand response. We therefore submit the following recommendations to BPA:

1. As possible, incorporate the many co-benefits of energy efficiency to improve cost-effectiveness and create future energy efficiency potential.

2. Set more ambitious energy efficiency targets that reflect increasing electrification efforts and IRA incentives.
3. Establish specific demand response goals and launch programs to meet those goals.
4. Consider how underperformance on acquiring additional energy efficiency and demand response may impact BPA's customers and the region as a whole.

As we will expand upon in our comments below, the Draft Action Plan does not sufficiently recognize the pivotal moment we find ourselves in as we transition into a new energy future. Setting higher energy efficiency targets and more specific demand response goals can improve the draft plan.

1. As possible, incorporate co-benefits of energy efficiency to improve cost-effectiveness and create future energy efficiency potential.

We are glad to see that BPA mentioned value beyond energy savings as a guiding principle in developing this Draft Action Plan. We agree that co-benefits are an important consideration in assessing the value of energy efficiency. ODOE's 2022 Biennial Energy Report includes a policy brief on the co-benefits of energy efficiency, many of which are often overlooked in standard cost-effectiveness tests. These include capacity, resiliency, flexibility, and decarbonization, each of which was determined to be in scope for energy efficiency cost-effectiveness by the Northwest Power and Conservation Council's (NWPCC or the Council) Regional Technical Forum ("RTF").[1] We believe these co-benefits, and others, should be accounted for when conducting cost-effectiveness tests, either directly through quantitative analysis, where possible, or indirectly through qualitative considerations. The California Public Utilities Commission has pioneered several strategies for incorporating co-benefits into cost-effectiveness analyses.[2] We recognize the Pacific Northwest has a fundamentally different energy landscape than California, but we believe this is a strong example of how co-benefits can be incorporated into cost effectiveness measures. The Draft Action Plan does not make clear the extent to which these benefits were considered, and the Plan concludes that low renewable energy prices eliminate the ability for energy efficiency to compete with these resources. The co-benefits of energy efficiency are likely to shift the calculus of cost-effectiveness and demonstrate the value of continuing to pursue energy efficiency resources aggressively despite the changing landscape.

The decreasing cost of renewables is but one of many significant changes taking place in the transition of the electric power sector. In part due to the significant value of these co-benefits, we see tremendous potential for future energy efficiency in the region. Energy efficiency can continue to be one of the key drivers of Oregon's energy policy goals. Below, we highlight energy efficiency contributions to tackling three of today's most important energy priorities:

- **Decarbonization –** Oregon is actively exploring decarbonization policies for existing buildings. These policies are supported by recent Oregon Global Warming Commission and ODOE analysis, which found commercial and residential energy efficiency and weatherization to be some of the most effective measures for achieving the state's greenhouse gas emissions reduction goals.[3]

[1] Northwest Power and Conservation Council. (2022, March 30). Update on the NEI Discussion: Is the RTF scope broad enough? https://nwcouncil.app.box.com/v/20220330RTFPACNEIs

[2] State of California, P. U. C. (2021). Order Instituting Rulemaking Concerning Energy Efficiency Rolling Portfolios, Policies, Program, Evaluation, and Related Issues, Rulemaking 13-11-005. Pages 10-14. https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M385/K864/385864616.PDF

[3] Oregon Global Warming Commission. See the TIGHGER Project Report and the Oregon Global Warming Commission December meeting (2022, December 16). https://www.keeporegoncool.org/meeting-calendar/2022/12/16/oregon-global-warming-commission-meeting-virtual

These findings are the result of analysis from Sustainable Solutions Group that considered co-benefits and equity impacts along with traditional cost-effectiveness analysis. The bulk of the cumulative $120 billion in net financial and health benefits to Oregonians, as well as the thousands of additional jobs, comes from energy efficiency actions, in particular weatherization of residential and commercial buildings.

- **Resiliency –** High-impact events can be expensive and taxing on the electricity system. Reducing system demand through efficiency could mitigate the impacts of these events. At the household level, efficiency also provides benefits to customers who can better withstand severe weather events due to an efficient building's ability to maintain comfortable temperatures during outages and an overall reduction in the amount of load that must be replaced with an alternative source during an outage.[4]

- **Capacity** – In addition to the traditional value of energy efficiency realized through kWh savings, there is tremendous value in the kW capacity reductions during peak and net peak demand that energy efficiency investments can help achieve. To ensure our grid can handle the increased loads expected under high electrification scenarios, we must deploy energy efficient resources as a means for lowering peak demand, even as peak need shifts through deployment of customer-sited resources. Energy efficiency can also help offset the need for transmission and distribution infrastructure, helping to avoid the expense and long-lead times associated with transmission projects.[5] Avoided costs of new transmission are likely to be higher than the Council's current value, leading to an undervaluing of energy efficiency.[6] Finally, this valuable capacity translates to net revenues when it is available to markets at peak price intervals and represents an opportunity cost that could be considered in any cost effectiveness evaluation. BPA is well-aware of the revenue potential from selling additional electricity when it is in demand elsewhere. In 2022, BPA recorded $964 million in net revenue and cited surplus power and transmission sales driven by higher electricity prices and favorable water conditions.[7]

We also agree with BPA that the Northwest Energy Efficiency Alliance ("NEEA") plays an important role in creating market opportunities for cost-effective energy efficiency. This work has been crucial to the historical success of energy efficiency in the Pacific Northwest. NEEA has proven itself exceptional at transforming the market to constantly create new "low-hanging fruit" and develop opportunities for cost-effective energy efficiency. Oregon's IOUs, with the help of Energy Trust of Oregon, exceeded

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[4] U.S Department of Energy. (n.d.). Resilience. Retrieved March 13, 2023, from HYPERLINK "https://betterbuildingssolutioncenter.energy.gov/resilience/about"https://betterbuildingssolutioncenter.energy.gov/resilience/about

[5] American Council on an Energy Efficient Economy (ACEEE). "Energy Efficiency as a Resource" Accessed 15 March, 2023. https://www.aceee.org/topic/ee-as-a-utility-resource

[6] PacifiCorp and Portland General Electric's most-recent IRP Transmission Deferral Credits are $6.34/kW-yr and $55.93/kW-yr respectively. These are both increased from prior values and are significantly higher than the Council value. ProCost v5.07 uses $3.61/kW-yr for the combined T&D credit, down from $26.00/kW-yr in the 7th Power Plan. PacifiCorp and PGE avoided costs per UM 1893: https://edocs.puc.state.or.us/efdocs/HAU/um1893hau15168.pdf. Council avoided costs: https://nwcouncil.app.box.com/v/ProCostv5-07.

[7] Annual Report 2022. BPA. P. 24. Accessed online: https://www.bpa.gov/-/media/Aep/finance/annual-reports/ar2022.pdf.

energy efficiency targets in recent years, including 2020 and 2021.[8] Further, recently filed integrated resource plans are forecasting even higher levels of gas and electric savings in years ahead. For this reason, we are confident that there will continue to be significant cost-effective energy efficiency opportunities even in a changing environment.

2. Set more ambitious energy efficiency targets that reflect increasing electrification and IRA incentives.

The Council's 2021 Power Plan and BPA's 2022 Resource Program made it clear that under scenarios of higher electrification, energy efficiency and demand response targets increase significantly. The Council's least cost portfolio selects 300 MW of demand response, while a high-electrification scenario selects five times that amount at 1,500 MW.[9] With increasing electrification in both transportation and buildings, we recommend BPA set more ambitious targets to hedge risks against underperformance in achieving the targets, which has occurred relative to previous plans.

BPA's own market research for the residential HVAC (ResHVAC) market demonstrates an important example of accelerating regional electrification. Over the study's six-year window, the number of homes without cooling fell from 52% in 2016 to just 28% in 2021.[10] While there are many subtexts to this finding, the demand for cooling is driving a dramatic increase in air source heat pumps (ASHP) being installed in the region. Over the same period, the number of northwest homes with a heat pump as the primary heat source rose 60% from 990,000 households to 1.6 million households.[11] BPA states that much of that heat pump load is displacing electric resistance; it is likely that those heat pumps are also displacing some fossil fuel HVAC use. In BPA territory, this new load will be low cost and low carbon considering BPA's cost and emissions profiles.

BPA's decreasing programmatic efficiency targets, from 69 aMW in FY '22 and '23 to 63.8 aMW in FY '26 to '27 (an 8% decrease), are particularly concerning in light of these electrification scenarios. Reducing near-term energy efficiency targets while likely facing increasing electricity demand may create a scenario in which the region must later spend aggressively on relatively costly energy efficiency to manage high demand. Investing in energy efficiency in the near-term will help avoid this issue by maintaining effective program capacity and capturing opportunities created by the organic capital stock turnover cycle.

In addition to the aMW targets laid out in the Draft Action Plan, the performance metrics outlined in Section 3.7 are helpful for understanding how BPA evaluates the success of its programs. However, the Draft Action Plan does not provide any mechanism of accountability for failing to meet the goal for each of these metrics. We believe it is important for BPA to specify how it will do ongoing monitoring of progress and what type of corrective action it will take if it appears BPA is not going to meet its goals. BPA should not repeat the underperformance in meeting the last NWPCC five-year conservation target during this upcoming period.

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[8] 2021 Annual Report. Energy Trust of Oregon. Accessed online: https://www.energytrust.org/2021-annual-report/
[9] BPA EE Action Plan 2022-2027. Accessed online: https://www.bpa.gov/-/media/Aep/energy-efficiency/energy-efficiency-action-plan/2022-2027-bpa-draft-ee-action-plan.pdf.
[10] BPA ResHVAC Model Report and Slideshow. Slide 7. Accessed online: https://www.bpa.gov/-/media/Aep/energy-efficiency/momentum-savings/2016-2021-res-hvac-market-model-presentation.pdf.
[11] Ibid, slide 13.

We are encouraged by the results of the ResHVAC model that provide one example of how much BPA programs have delivered efficiency in the residential market. Further, we appreciate BPA's dedication to their ResHVAC programs, as discussed in the Draft Action Plan, despite short-term cost-effectiveness challenges. Heat pumps are both a specific and illustrative example of an area where we encourage BPA to consider the impacts of the Inflation Reduction Act (IRA) on the Draft Action Plan. Given ODOE's leadership role for Oregon on implementing several heat pump and electrification elements of the IRA, we stand ready to assist BPA in this area. Federal and state incentive programs will reduce up-front costs, support contractor workforce training, and can help advance shared priorities for regional stakeholders. In particular, the most efficient heat pumps will not only reduce peak loads, but because of the enhanced up-front incentives and the reduced monthly energy costs, they can also help reduce the energy burden of low-income customers.

Overall, BPA should consider the impact of federal funding more closely in setting its efficiency targets. The Draft Action Plan accurately summarizes the key policy advances relevant to energy efficiency in the Northwest at both the federal and state level. However, it is unclear the extent to which these policy actions were taken into account in setting BPA's target for energy conservation acquisition in the Action Plan, particularly the new federal rebate programs authorized by the IRA. We encourage BPA to consider the impacts of these recent policy changes more thoroughly.

As noted in the draft, the rebate programs and other funding in the IRA represent a historic investment in energy efficiency. We are excited about the potential of these funds and the benefits they will deliver to Oregon consumers. We are aware that further guidance from the U.S. Department of Energy is needed to fully understand the extent to which new federal rebates can "stack" with BPA-funded programs, however we feel confident that there will be pathways that enable consumers to benefit from a variety of funding sources and ensure efficiency funding is appropriately braided.

BPA's COU customers have existing energy efficiency programs that are highly accessible to customers, and ODOE is actively working with these partners to deploy federal funding in a way that seamlessly layers these new federal funds with existing local programs.[12] With this approach, we hope to maximize the impact of federal funds for customers of these COUs. Further, IRA programs emphasize serving low- and moderate-income populations, which in Oregon includes many rural households that are served by COUs.[13] This means that a large amount of the federal investments in energy efficiency may be targeted toward households that receive power from BPA. We encourage BPA to take these additional investments into consideration.

3. Establish specific demand response goals and launch programs to meet goals.

We encourage BPA to commit to more ambitious and specific demand response activities. After reviewing both this Draft Action Plan and the prior Action Plan for the 2016-2021 period, we find evidence of BPA underperforming relative to prior goals, while lacking clear landmarks for progress in the new plan. For example, in the 2016-2021 Action Plan, BPA committed to five goals.[14] Of those goals, BPA succeeded in understanding demand response need and developing in-house experts. However,

[12] Public testimony on HB3166 (February 22, 2023). https://olis.oregonlegislature.gov/liz/2023R1/Downloads/PublicTestimonyDocument/53631

[13] Climate and Environmental Justice Screening Tool. The White House (November 2022). https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5

[14] Page 108, accessed online: https://www.bpa.gov/-/media/Aep/energy-efficiency/energy-efficiency-action-plan/2016-2021-bpa-ee-action-plan.pdf

BPA also committed to facilitating development of a provider base (set of approved demand response providers) and committed to a commercialization plan. This Draft Action Plan makes no mention of those concrete goals and instead sets more general and exploratory objectives, including "exploration" and "monitoring of electrification load impacts." [15] Modeling from both the Council and BPA's Resource Program give clear guidance that demand response is an essential component of the least cost portfolio. The 2021 Power Plan selects 300 MW of frequently used demand response products by 2026.[16] BPA's 2022 Resource Program model selects 436 MW of summer demand response and 283 MW of winter demand response by 2027.[17] These modeling results provide clear objectives, that if not acquired will result in a more expensive system to operate.

Today, Oregon already has valuable, cost-effective, and diverse applications of demand response programs implemented by several electric utilities. The programs and pilots come in all varieties of demand response including:

- Infrequent and "traditional" load shed type programs;
- Passive time-of-use tariffs; and
- Active, direct-load-control with little-to-no advanced warning.

These programs are cost-effective, incorporate equitable outreach and enrollment, and allow consumers to opt-out of events as necessary. By 2023, Oregon's two largest electric utilities, Portland General Electric (PGE) and Pacific Power (PAC) project 104 MW and 53 MW respectively of summer demand response capacity, and these are forecasted to grow.[18] Combined, PGE and PAC serve 1.5 million customers in Oregon, about half the amount of BPA's customer base.[19] This means that by 2023, PAC and PGE anticipate demand response resources equal to BPA's per capita target for 2026 set forth by the 2021 Power Plan.

We recommend that BPA set clear demand response goals. We acknowledge some of the challenges that BPA cited in the Draft Action Plan but believe there is still opportunity for BPA to be more ambitious. BPA can establish the regional infrastructure necessary to support the customers who enter future, long-term contracts with BPA. Specifically, we recommend BPA take the following actions.

3.a. Stand up a joint Conservation Voltage Reduction (CVR) and Demand Voltage Reduction (DVR) program.

Via prior demand response activities, BPA has relevant experience implementing successful CVR and DVR programs and setting those up in relatively short periods of time. Plus, the Council's 2021 Power Plan and the 2022 Resource Program both call for significant amounts of CVR and DVR in the least cost portfolio. CVR and DVR present a significant opportunity for a blended

[15] Pages 77-80, accessed online: https://www.bpa.gov/-/media/Aep/energy-efficiency/energy-efficiency-action-plan/2022-2027-bpa-draft-ee-action-plan.pdf
[16] Ibid, P. 77.
[17] Ibid, P. 78.
[18] PGE Flexible Load Plan Forecasted MW Capacity. P. 6, accessed online: https://edocs.puc.state.or.us/efdocs/HAD/um2141had163540.pdf; ADV 1436, based on PAC 2021 IRP. Accessed online: https://edocs.puc.state.or.us/efdocs/HAU/adv1436hau10313.pdf
[19] PGE: 912,000 retail customers, https://portlandgeneral.com/about/info/quick-facts; PAC: 618,000 retail customers, https://www.pacificpower.net/content/dam/pcorp/documents/en/pacificpower/about/Pacific_Power_Fact_Sheet.pdf; BPA: nearly 3 million people depend on BPA power. https://www.bpa.gov/about

product in which DVR is deployed daily during summer and winter seasons where intra-day material price variation exists. Such a DVR product could reduce voltage, within acceptable parameters, during morning and evening peaks, while reducing voltage during midday and overnight periods of low-price and higher concentrations of renewable energy on the grid. Establishing such a program and offering will help the region achieve the least cost, least risk energy system.

3.b. Solicit bids to establish demand response software and platforms that BPA's customer utilities can use to run their own programs.

A similar goal was identified in BPA's 2016-2021 Action Plan, and we believe this is essential for achieving a future, valuable demand response asset. Several large Oregon electric utilities have successfully completed requests for proposals (RFPs), in which they've solicited competitive bids on the software and services necessary to support distributed demand response across multiple sectors including irrigation, commercial and industrial, transportation, and residential. Many companies exist in this space that offer ability to connect and operate demand response programs with a range of connected technologies such as thermostats/HVAC, water heaters, battery energy storage, and electric vehicles.

We realize many of the smaller utilities that BPA serves may not have the resources to conduct and operate the competitive solicitations or the implementation directly with vendors. Therefore, similar to BPA's role with energy efficiency, BPA can act as the regional infrastructure by establishing trusted relationships and cost-effective services that enable successful implementation by any BPA utility customer.

3.c. Establish mechanisms for time-of-use pricing in 2028 contracts.

Time-based pricing can successfully shift demand into less constrained and less expensive hours by using a price signal. For example, Portland General Electric operates a Peak Time Rebates Program and a Time-of-Day Pilot in which they have enrolled by 2023, 19.9 MW and 2.6 MW of demand reduction respectively.[20] BPA should consider updates to rate structures which reflect the time-based impacts to costs and emissions of electricity consumption. BPA's current contracts effectively protect their consumer-owned utility (COU) partners from price volatility in electricity markets. We fully support efforts to keep ratepayer bills low and simultaneously recognize that there is a need for alignment on how to cost-effectively use regional resources. Time-of-use rates are one of several tools that help align energy use with market pricing and that reward consumers with even lower rates for prioritizing their energy use during less expensive hours. Without an incentive structure to shift consumption away from peaks, BPA runs the risk of acquiring expensive power to meet COU needs. In the short term, COU ratepayers may be insulated from this impact, but the dynamic adds long term risk to BPA and their utility customers.

BPA's history of success gives us confidence in BPA's ability to operationalize demand response based on their institutional success in standing up demand response programs of all scales. In the early 2000s, BPA operated a multi-year demand response program through BPA Power, which enrolled 850 MW of

[20] Flexible Load Multi-Year Plan September 2022 Update. Portland General Electric. Accessed online: https://edocs.puc.state.or.us/efdocs/HAD/um2141had163540.pdf.

curtailable load, mostly large commercial and industrial loads.[21] The program delivered net savings of $2.5 million from 2000 to 2002, during the energy crisis—a period of high uncertainty.[22]

Further, BPA's demand response successes extend beyond the curtailing of large loads. BPA has successfully implemented demand response programs to resolve acute needs with their customer utilities. In a non-wires project to avoid new transmission to Orcas Island, BPA and Orcas Power & Light Cooperative successfully operated a demand response program mostly targeting residential water heating and HVAC loads that saved a net $6 million to $23 million over six winters.[23]

4. Consider how underperformance on acquiring additional energy efficiency and demand response may impact BPA's customers and the region as a whole.

The Federal Columbia River Power System, for which BPA markets the electricity, is the region's most valuable decarbonization asset. Oregon's largest electric utilities are required to decarbonize their electricity supply and meeting the requirements of HB 2021 requires regional coordination and relies on the services of BPA's systems including electricity generation, capacity, and transmission. Additionally, electrification among BPA's customers spurred by state and national public policy, climate change driven pressures on hydro availability and timing, and increased market price volatility all raise the risk of cost pressure for BPA customers. In the Draft Action Plan, BPA, "does not anticipate a need for peak load reduction through the mid 2030's." We believe this view is short-sighted, considering the regional needs and pressures in the next decade. We understand the modeling constraints leading to the conclusion, but we encourage BPA to think and act regionally, placing significant value on risk mitigation, when it comes to efficiency and demand response.

BPA's system may not forecast transmission and capacity constraints by 2030, but many other regional utilities do. The beginning of this phenomenon is already being seen in general rate cases and during integrated resource plans (IRPs), in which the avoided costs of decarbonized energy, capacity, and deferred transmission and distribution investments are all increasing. Every aMW of energy efficiency adds value to BPA's utility customer, protecting them from exposure to volatile market prices and creating the opportunity for regional sales to defray the cost of purchasing power when hydropower is not available. This also frees up valuable clean, firm power to support regional load growth and economic prosperity, particularly in rural counties served by BPA. Every MW of demand response not acquired by BPA during peak events limits capacity and transmission that all regional utilities must compete for and pay a scarcity price premium to access. In low water conditions, that could include BPA customers.

The region relies on BPA's firm and flexible hydro resources, which is even more valuable to the region now in reducing the carbon intensity of its supply while adapting to new climate extremes. We encourage BPA to increase energy efficiency and demand response goals to embrace this regional role and to think long-term. In doing so, BPA will help its utility customers reduce energy costs by investing in

[21] Demand Response Potential in Bonneville Power Administration's Public Utility Service Area. BPA. March 19, 2018. P. 13, accessed online: https://www.bpa.gov/-/media/Aep/energy-efficiency/technology-demand-response-resources/180319-bpa-dr-potential-assessment.pdf
[22] Ibid, p. 13.
[23] Ibid, p. 12.

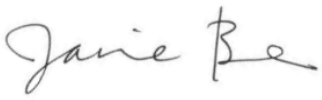
more efficiency and demand response. It will also reduce the risk of price volatility and regional scarcity that can be difficult to insulate native load from.

Conclusion

We recommend BPA embrace the opportunity presented by the market momentum, the energy transition, and the IRA to set higher and more ambitious energy efficiency and demand response goals. As evidenced by the high electrification scenarios, there is little risk to over-acquiring efficiency and demand response in the near and long-term. BPA's effort in raising its goals and targets will also help them manage risk in a future with higher and more variable costs.

We appreciate the opportunity to comment on BPA's Draft Energy Efficiency Action Plan. Thank you for considering our comments.

Sincerely,



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