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www.klickitatpud.com

.....
Goldendale Office
1313 S. Columbus Ave.
Goldendale, WA 98620
509-773-5891
800-548-8357

White Salmon Office
110 NE Estes Ave.
P.O. Box 187
White Salmon, WA 98672
509-493-2255
800-548-8358



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Klickitat PUD’s 5-Point Plan to Respond to Changes in Power Markets

By KPUD General Manager Jim Smith and Rodger Nichols

Last month’s back page was about some unanticipated impacts of carbon legislation passed in Washington the past few years. This month, we want to give you a bigger view of the changes happening in our electric industry and what we are doing about it.

Klickitat PUD still buys most of its power from the Bonneville Power Administration. By statute, BPA is required to sell power at cost—not for profit—to provide the power needs of public utility customers. BPA guarantees it will supply a set amount of power, which the system can reliably provide. This is known as Tier 1 Preference Power and is the least expensive.

However, demand for power often exceeds BPA federal system’s supply to the region’s electric utilities. That leaves the utilities with two choices: buy additional power through BPA’s more expensive Tier 2 power or from the open market. In Klickitat County, there is a definite need for this additional supply. Klickitat PUD customers use more power than BPA can supply at the lower preference rate. KPUD buys surplus power through the open market.

The PUD has a small amount of its own generation through a hydro facility on the McNary Dam. The project is co-owned with Northern Wasco PUD. This power generated is used to offset market purchases. We have a small share in a Packwood hydro project, as well as a 13% share of the output from the White Creek Wind Project, though that output is sold on the market.

As discussed last month, demand is getting more critical. Historically, Klickitat PUD has seen a steady 1% increase in load growth each year. In recent years, that number

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The Snake River dams' operational flexibility during extreme weather demonstrates the value they provide to the region. PHOTO COURTESY OF U.S. ARMY CORPS OF ENGINEERS

Klickitat PUD's 5-Point Plan

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has doubled. It's due in part to population growth, but also to agriculture, cryptocurrency mining and a significant increase in irrigation load.

In the near future, the current carbon reduction policies adopted by the Legislature will drive further electrification. These policies affect residential and commercial building codes and will shift the use of natural gas to electricity.

These policies are also driving electrification of the transportation industry. Our county is already seeing an ever-growing number of electric vehicles, which require charging at homes or at charging stations.

The increase in electricity demand is huge. In one case we are familiar with, the vehicle charging tripled a home owner's electricity use.

Currently, 206 EVs are registered in Klickitat County. That number accounts for just 1% of all vehicles. The state predicts 1,300 EVs will be registered in the county by 2030. Keep in mind, the current legislation in Washington state bans the sale of new internal combustion engine vehicles starting in 2035.

Together, these policies will increase our electric loads. Klickitat PUD has a responsibility to plan now for upgrading our electrical infrastructure in order to supply these increasing loads.

Replacing Power Sources is Difficult

Washington's Clean Energy Transformation Act considers any wholesale electric purchase on the open market to be coal, from a cost of carbon perspective. That's even if the utility can demonstrate that it comes from a renewable resource. CETA is one of the strictest energy acts in the nation, requiring all electric utilities in the state to eliminate power purchased from coal-fired generation by 2025. It also requires all power purchased to be greenhouse gas neutral by 2030. Electric utilities are expected to fully transition to carbon-free resources by 2045. As discussed last month, CETA also

requires utilities to track and reduce low-income energy burdens, which will transfer those costs to you.

CETA requires that baseload coal generation be removed from the system and prohibits new natural gas electric generation. This presents a problem, as currently the only other generation options are new hydro, wind or solar generation.

Wind and solar power are intermittent resources and need storage to back them up. This is a larger problem than we are reading about in the mainstream media. Most people appear to believe that if you add 1 megawatt (MW) of solar and a small amount of battery storage, you can supply load 24/7.

That is not true. We actually need significantly more solar power and battery sources than this.

For example, in the east side of Washington state, on average, solar panels typically only produce 20% of their max production capacity. This is because there are days, if not weeks, when solar will not produce due to clouds, rain or snow. The same is true for wind turbines. During those times, it would take hundreds of MWh of storage and hundreds of MWs of solar to charge the batteries just to have 1 MW of solar generation for use when it is needed 24/7.

The costs and the land-use implications of this are staggering. Until a carbon-free option becomes available or until natural gas peaking facilities are built to provide base-load power during these times, our electric rates will continue to rise significantly.

There is no chance of adding more clean hydropower on the Columbia River, and if proposals to remove the four dams on the lower Snake River go through, the situation will be even more difficult. According to BPA, those dams can provide 3,000 MW of peak power—11% of the BPA total system—at a cost of less than half of BPA's lowest preference power rate.

All of this combines to create a situation where electricity prices—during times of peak demand—are extremely expensive and volatile. These costs will flow through directly to PUD customers if they're not managed or mitigated, and we are not sure that we can mitigate these cost increases.

KPUD's Plan

1 Instead of buying the additional power on the open market, KPUD will buy additional power needs from BPA under its second rate called Tier 2. While this product is still market-based, the price is set for a two-year period, allowing us to plan.

This will drive up retail rates. At current prices, the PUD forecasts a 9% retail rate increase. We have already implemented a plan to spread these impacts over three years if markets do not change and other actions do not reduce the cost. The first 3% was applied to our electric rates in January 2023.

2 The PUD recognizes that under the current rate system, customers who are actively working to reduce their carbon footprints—through the net metering program, for instance—are shifting the costs to those who choose not to or do not have the means to do so. Net metering is a program where utility customers can install wind, hydro or solar generation on their homes to offset their electric use, and the utility acts as a battery for excess generation to be returned to them later.

In reducing their electric bills, they leave fewer people to pay for the expenses of operating the system, even though they still need the system for the net metering process.

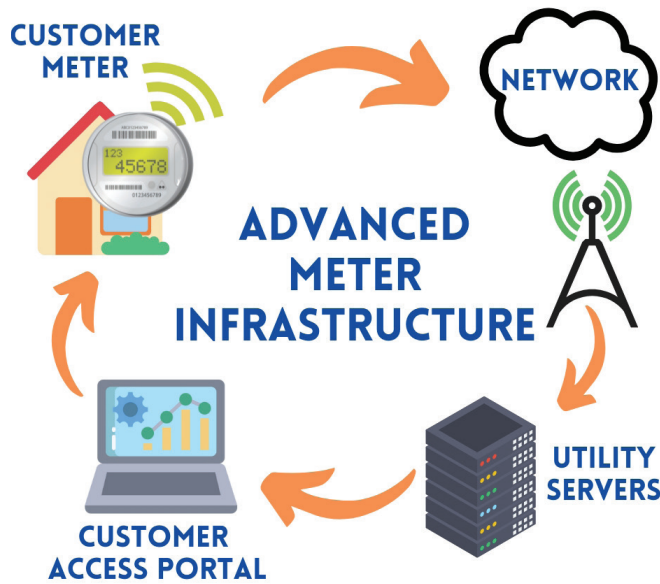
To correct this inequity, a new rate structure will be implemented so the choices customers make won't cause others to bear more of the burden. Net metering continues to grow with legislative policies and incentives, which only increases KPUD's need for appropriate cost recovery and price signals.

3 To serve load growth in the long term and comply with carbon-free mandates, such as the CETA and the Climate Commitment Act, **the PUD is exploring carbon-free nuclear power, among other options**, by taking part in the increasing of output from the Columbia Generating Station and potential participation in construction of the next-generation small modular nuclear reactors. No other resource can meet the zero-carbon emission targets as well as our base-load needs without significant improvements in technologies or the impacts on land use discussed above.

The wholesale electricity market, like all markets, runs on supply and demand. During periods of heavy use, the costs paid by KPUD go up. This typically reflects the activity of the population as a whole, which currently tends to use more electricity during the mornings and early evenings rather than at night. Even this pattern is changing, so we have a need for a flexible rate structure that can change as needed.

Our current residential and small commercial retail electric

HOW DOES AMI WORK?



rates have a fixed charge and a usage charge. The total you use at any one point in time is not considered. This peak use is called demand, as opposed to the amount of energy used over time. This peak demand is commonly charged to large users so they pay for the amount of the system they use. It also provides the opportunity to reduce their demand and their bills. This, in turn, also helps reduce the amount of infrastructure KPUD needs, as well as potentially decreasing the peak demand for which we purchase power.

4 To offer demand and time-of-use rates and provide customers information to manage their use, KPUD needs to have accurate data. **KPUD will install advanced metering infrastructure, or AMI, in place of the current meters.**

Advanced meters have several advantages for our customers. It means you will not have to worry about remembering to read your meters every month or have someone come on your property to do so. It also means you get access to use data daily. This can help with determining how to adjust your power use to your advantage. KPUD AMI Project details are available at www.klickitatpud.com or scan the QR code below to be directed to the page.

There are extra benefits to these advanced meters. If an outage occurs, we can instantly pinpoint the location of the problem and get repair crews on the job quicker. When a customer moves from their service address, they can contact us and we can total their bill on the phone.

5 **When the new meters are installed, we will design and implement a rate structure that accurately bills for use and demand.** Over the next year, Klickitat PUD will install these meters throughout our service territory. We can then price our power to you in a way that matches how we pay for it and how we deliver it.

Klickitat PUD, as a public utility district, was formed to have local control. The use of the AMI system and a demand rate structure allows for individual choice and will give Klickitat PUD customers the opportunity to have even more control over their use of electricity. ■

