

EXECUTIVE SUMMARY

AS WE BEGIN STRATEGIC PLANNING, it is useful to look backwards as well as forward. In 2015, the PUD adopted a strategic plan. In the four years since, there have been significant changes. Yet there also have been many fundamentals that have not changed. The significant changes include:

The PUD has experienced four of the best net revenue years in its history. But, the wholesale electric market where the PUD gets a significant percentage of its revenue has declined substantially, reducing the forecast of future revenues.

The PUD has achieved its debt ratio target, reducing its debt by roughly half since 2010. The PUD now has bond ratings that are among the top five highly rated public power utilities in the country. We are anticipating that debt reduction will no longer be one of the three key strategic objectives.

The PUD's asset management program has uncovered a substantial need for investment in refurbishment and maintenance of its existing hydropower, transmission and distribution system and buildings. These investments are cost-effective over the long term.

In the coming years, our forecasts project the PUD will likely not generate the same high levels of revenues witnessed in the recent past, but any resulting The PUD has initiated a Public Power Benefit (PPB) program based on our financial health. The strategic planning process will address whether the PPB program should be retained.

Since strategic planning, there has been an influx of high density electric users such as cryptocurrency mining. The PUD has had to spend considerable effort designing rates and policies reflecting public comment. That work will ensure rates and policies reflect actual costs, minimizing the risk of cross-subsidies from existing customers. The PUD will be monitoring these rates and policies to see if they are achieving their intended goals.

While the Board has for the most part retained the existing Mission and Values, changes were made to: 1) create greater focus on the mission of the organization, starting with enhancing the quality of life in Chelan County; 2) further develop resilience in the face of extraordinary change in the electric utility industry; 3) more explicitly describe collaboration internally and externally as a key component of our values; and 4) create additional focus on taking personal accountability. The Vision was changed to explicitly adopt the perspective that we want to produce the best value for the most people for the longest period of time.

THINGS THAT HAVE **REMAINED AS EXPECTED INCLUDE:**

The PUD Board remains committed to the strategic objective of investing in assets and people to produce long-term value for the people of Chelan County.

The PUD Board remains committed to an overall philosophy described as building long-term value while protecting against long-term financial downturns.

The PUD Board has adopted the goal of achieving broadband access for 85 to 90 percent of the County's residents and continues to look for ways to cost-effectively achieve a higher percentage. The PUD has expanded access to broadband services by roughly 3000 homes since 2015. Now nearly three-quarters of the County's residents have access to broadband services, one of the highest rates for a rural county anywhere in America.

The PUD continues to offer some of the lowest electric rates in the country.

The PUD is very financially healthy, provides high levels of reliability and through its hydropower projects has 100 percent carbon and air emissions-free generation.

Our 2020-2024 strategic plan is based on our issues the PUD has identified for discussion. We welcome your thoughts on these or other issues

KEY QUESTIONS

After seven years without rate increases (and only 9% rate increase since 2000 while inflation has been around 40%), Chelan PUD plans to adopt a long-term rate plan. We have questions for our customer-owners. Should this plan:

- Include annual electric rate increases at approximately the rate of inflation to avoid the risk of large rate increases in later years
- Display the hydro financial benefit separately in electric, water and wastewater bills to help customers understand the full cost of services
- · Specify the balance between funding large water and wastewater system improvements from financial reserves and annual rate increases for water and wastewater
- · Include annual rate increases for the water, wastewater, and fiber business units to meet individual system financial metrics
- Change rate design to be responsive to utility industry changes

Should Chelan PUD lean toward "growth pays for growth" (supportive of lower rates for existing customers) or toward economic development (supportive of more jobs in the community)?

Who pays for aesthetic improvements (e.g. undergrounding of power lines) when it can increase costs by 2-10 times compared to above ground facilities - all customer-owners or iust those who benefit?

Should Chelan PUD continue to fund a public power benefit program that has been used for the fiber expansion and park passes? If so, what activities within our statutory authority should be considered for funding?

The federal hydropower license for Rock Island Dam that seeks to balance low rates, environmental protection and recreational enhancements expires in 2028. Should Chelan PUD advance the newly developed federal policy to take "early actions" in advance of a final relicensing decision? If so, what actions should be considered that support recreational or environmental enhancements and what considerations should the PUD seek in return?

Currently, Chelan PUD retail rates are subsidized by wholesale power revenues. Should Chelan PUD reduce emphasis on wholesale marketing and focus more on growing retail loads and local economic development?





IN 2015, CHELAN COUNTY PUD adopted a five-year strategic plan after a vigorous public outreach process with our customer-owners. Our purpose was to identify how our actions as a public power utility could accomplish our mission statement to enhance the quality of life in Chelan County. We provided information about our financial position and emerging threats and opportunities. Chelan PUD prepared for two possible future scenarios: one of positive financial results, where revenues exceed costs; and one of relative financial stress, where revenues were lower and costs were higher. Within this context, our 2015 – 2019 Strategic Plan reflected the following key priorities to prepare for both possible future scenarios:

- 1. Reinvest in our core, value-creating assets: the hydropower projects, distribution systems, facilities and people;
- Substantially reduce debt; and
- 3. Initiate a public power benefit program.

Since implementing the 2015 - 2019 Strategic Plan, we have enjoyed three years of positive change in net position (bottom line), with a total net position (equity) gain of \$303 million. In accordance with the key priorities, we have used these positive operating results to reduce debt by about \$200 million, invest in our generating and utility assets (\$180 million), and create a Public Power Benefit program (PPB) that includes over \$12 million of approved spending through the first quarter of 2018. We have also saved \$50 million for new facilities.

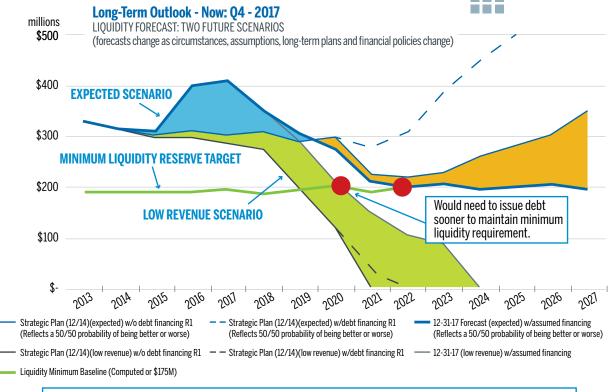
The focus of our 2015 - 2019 Strategic Plan has been delivering value back to the county in a manner that targets the highest priorities of customer-owners without losing sight of long-term financial stability for the utility and its customer-owners. In short, how could Chelan PUD "provide the best value for the most people for the longest time?" Time truly does fly - and we are rapidly approaching the end of our 5-year strategic planning window.

Once again, we are calling upon our customer-owners to provide informed input and guidance as we plan Chelan PUD's future. We want to share what has changed since we wrote our existing 2015 -2019 5-year Strategic Plan - and what we've already achieved - as we chart our course for 2020 - 2024.

Two Scenarios – Which Future?

OUR PREVIOUS STRATEGIC PLAN described two potential futures for Chelan PUD: a scenario in which bottom line results were plentiful, in the range of \$60 - 70 million per year, and a low-revenue scenario where wholesale power market prices are depressed. The spread between these two scenarios was significant. It also raised an important question: would Chelan PUD have a healthy financial outlook for the long term, or would we face financial challenges?

There have been three big changes that have reduced our financial forecast since the last plan. First, our hydropower assets are the core of our financial strength. After serving our retail load and fulfilling long-term power contracts, Chelan PUD sells about 30 percent of our hydropower on the wholesale market. This revenue-generating mechanism helps keep rates low for our customer-owners. As predicted, Chelan PUD has had several years of good revenue from these surplus hydropower sales. However, western wholesale power markets are going through substantial change, leading to a steady decline in prices. This is now expected to continue for the foreseeable future, significantly decreasing



NOTE: Both the Q4-2017 expected and low revenue scenarios assume approximately \$200M of new debt in the periods 2022-2027 to fund long-lived capital projects. The debt ratio for the District remains at or below 35% for the forecasted periods scenario.

our wholesale revenues in the 2020s compared to expectations under the current Strategic Plan.

Second, we are facing a major challenge in terms of aging assets and infrastructure. From hydropower turbines to buildings, we have discovered that achieving the best value for the long term requires additional investment. For example, our hydropower system is currently operating at capability levels below the top tier performance we are seeking.

Third, we are experiencing new load growth. This leads to needed investments in substations, distribution lines and our buildings and facilities. In addition to the anticipated organic growth that supports current economic development plans for the county, the exploding number of service requests associated with blockchain technologies exacerbates this phenomenon.

Today, we are forecasting that our expected results over the long term will be lower than we anticipated in 2014. In addition, we have taken actions that have improved our forecast of the low-revenue scenario. The graphic above illustrates the scenarios considered in the 2015 - 2019 Strategic Plan and compares them to the outlook we have today. As shown, Chelan PUD enjoyed better than expected financial results for the past few years, but we are preparing for a less robust financial future over the planning horizon. Wholesale revenues are projected to remain lower over time and we will likely need to issue additional debt in this planning horizon to fund major capital projects.

Fortunately, we wrote our 2015 - 2019 Strategic Plan to be resilient, to be prepared for either a positive financial outlook STRATEGIC PLAN TO based on expected revenue conditions or a low-reve-

FORTUNATELY. **WE WROTE OUR** 2015 - 2019 **BE RESILIENT**

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nue scenario. Since we adopted the Strategic Plan, Chelan PUD has reduced debt by \$197.5 million, and the debt/equity ratio has been reduced to achieve our goal of being below 35 percent, one year earlier than our target date of 2019. Capital investment has averaged \$60 million since 2014 compared to \$37 million for the previous five years and we are now in a stretch of years expecting to spend more than \$100 million annually. We also committed \$12.2

million on priority projects identified through our Public Power Benefit program.

Despite lower wholesale revenues, we forecast that Chelan PUD will meet its four financial metrics (liquidity, days cash on hand, debt service coverage, debt ratio) under expected value conditions through 2024. We expect to reenter the bond market to finance capital projects after more than 10 years of using only cash financing. Chelan PUD can likely manage through a low revenue scenario with a combination of higher rates and borrowing, although it would be stressed.

We concluded during the last Strategic Plan that creating "the best value for the most people for the longest time" should be a key decision criterion. Our Board has updated our mission, vision, and values to increase our focus on enhancing the quality of life in Chelan County, encouraging resiliency to address the rapidly-evolving utility industry, and the value of being collaborative and taking personal accountability. A key focus for the new Strategic Plan will be how Chelan PUD can adjust our business model to support our updated financial forecast.

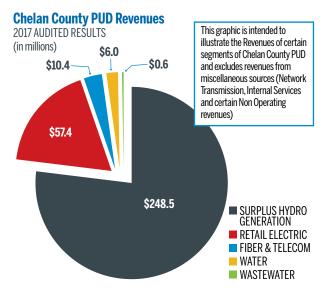
Revenues and Expenses by Business Line

IN THE PUBLIC CONVERSATION leading up to our 2015 – 2019 Strategic Plan, we emphasized how surplus hydropower is a major source of our financial value. Our dams can generate over five times the amount of electricity used by our customer-owners. Some of this power creates surplus revenue for Chelan PUD via wholesale power market sales. Our retail electric, water, wastewater and wholesale fiber businesses also generate some revenue, but historically these business lines have benefited from electric wholesale revenues.

Through our last strategic planning process, we took action to improve the outlook of our water, wastewater and fiber businesses through a capital infusion and a multi-year rate plan. We are executing on those action plans to shrink the gaps over time.

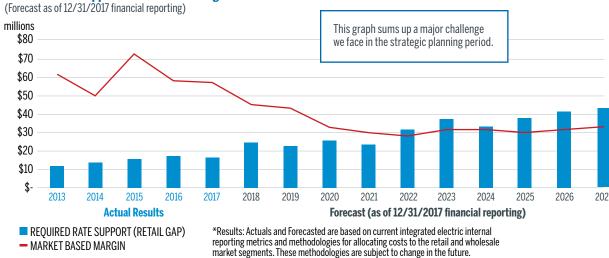
There is also an operating gap associated with our retail electric business, as we use wholesale electric revenues to keep retail rates low. This gap is large and

will increase over time as operating costs increase. At the same time, our current assessment of future wholesale power prices suggests that revenues for our surplus sales – the revenues we use to fill the gap – will significantly decrease. Also, if we continue to see rapid growth in our service area (and serve it with power from our dams), the amount of surplus power available for us to sell into the wholesale market could also decrease over time. This change in load and resources would also affect our financial outlook.



Zeroing in on predictions for wholesale surplus revenues and electric retail expenses brings a major issue for strategic planning into sharp focus: we may have less wholesale revenue available to cover increasing costs on the retail side. The next graphic shows how the financial margin from wholesale sales are expected to decrease over time as the differences between the costs of serving retail loads and retail revenues increases. Costs associated with refurbishing the hydropower projects will increasingly offset wholesale revenues, with surplus revenues projected to shrink. While expenses on the retail electric side already outpace revenues, that gap is estimated to increase over the same period. Note that these figures represent predicted retail load growth.





The graphic above sums up a major challenge we face in the next strategic planning period.

Meeting Utility Priorities

BEFORE WE LOOK AHEAD, we would like to provide you, our customer-owners, an update on how we've been doing as a utility under the 2015-2019 Strategic Plan. Let's consider where Chelan PUD stands with regard to four basic utility criteria: low rates, high reliability, environmental stewardship, and customer-owner satisfaction. A frank assessment of where we are today will highlight areas of focus for the upcoming strategic planning process.

I. Chelan Has Among Lowest Rates in Nation

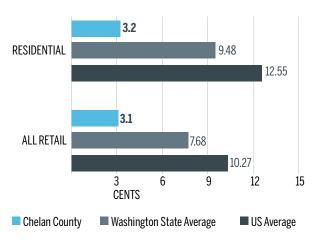
In 2017, average residential rates in Chelan County were 3.20¹ cents per kwh, compared to the Washington State average of about 9 and a half cents per kwh (and a national average of about 12 and a half cents per kwh).² Our industrial and commercial rates were 2.0 and 3.4 cent per kwh, respectively. The chart shows state and national comparisons. Because Chelan PUD has not raised rates recently, the gap has widened.

Chelan PUD's rates are so low because hydropower is a low-cost, renewable and carbon-free source of

generation and we use revenues from our surplus hydropower sales in the wholesale market to lower retail rates. In 2017, retail electric sales were roughly \$53 million out of our total \$373 million in revenue.

A reduction in revenue from the wholesale power market (or reduced output from our hydropower system) could create pressure to raise local retail rates in the future. Chelan PUD has not had a retail rate increase in seven years . Going back to 2000, we have only adjusted rates nine percent compared to

Electric Rates per Kilowatt Hour (2016)



Released November 6, 2017.

¹2.7 cents per kWh of electricity used plus a \$7.50 monthly base charge.

²2016 Total Electric Industry Average Retail Price (cents/kWH) – Residential Column. Energy Information Administration. Data from forms EIA-861.

an inflation rate of 42 percent. Currently, our retail rates under-recover our costs by approximately \$15 million per year, an amount that is increasing every year. Meanwhile, our net revenues from market-based wholesale sales are decreasing.

CHELAN PUD HAS NOT HAD A RETAIL RATE INCREASE IN SEVEN YEARS

Addressing future rate policy and rate schedules – particularly as Chelan PUD experiences increasing costs due to load growth and

asset investment – will be a key consideration for the 2020 – 2024 Strategic Plan.

II. Maintaining High Reliability

There are two aspects to reliability – the reliability of our generation resource (hydropower) and the reliability of our utility infrastructure and distribution system.

Hydropower is the only generating resource that can effectively address all of the electric grid's reliability requirements. It provides all of the power characteristics necessary to maintain reliability3. Not only is hydropower a stable generating resource for our county, but the Pacific Northwest largely depends on the grid support services that hydropower can provide. However, the reliability of Chelan PUD's hydropower projects has decreased, as generating units are aging and in need of repair and refurbishment. A key metric is the percentage of our capacity that is available to generate power. In the past, our units have been available between 90 and 98 percent of the time. These days, as we recover from a design flaw in four large units at Rocky Reach and carry out major rehabilitation work at Rock Island, our unit availability is about 77 percent. We intend to bring unit capability up to hit our goal of roughly 89% within the strategic planning horizon.

Reliable electric utility infrastructure and distribution service is also critical to providing excellent service to our customer-owners. We invest millions each year in tree trimming, underground cable replacements and line upgrades. Our goal is 99.98% system reliability.

³Hydro power characteristics: annual energy, peak capacity, voltage support and reactive power, frequency response, spinning and non-spinning reserve, reservoir storage, flexible capacity, black start capability and inertia.

Power Availability	2015	2016	2017
Percent of time over 1 year	99.98562	99.98947	99.98360

Compared against national data for electric utilities, Chelan PUD ranked in the top quartile for avoiding interruptions, and in the second quartile for keeping the duration of interruptions to a minimum. We earned these fairly good statistics despite having a challenging service territory due to the mountainous terrain that makes it hard to create redundant, looped systems.

We have concerns, though, as we have seen more equipment-related outages, particularly in underground cables, suggesting that we need to increase investment just to maintain current levels of reliability. In addition, as our county grows, we are beginning to face reliability growing pains as well even if we exclude loads associated with blockchain technology. Our utility infrastructure and distribution systems are aging, and we are nearing capacity at some of our substations. We are already planning new substations on the North Shore of Lake Chelan. in Leavenworth and in Olds Station. In addition, we are beginning to plan for additional substations in Wenatchee, Entiat and Malaga. Overall, we have determined that we may need at least fourteen new substations in the next decade. Among the lessons learned from recent experience, we heard the public ask us to plan ahead by acquiring substation sites ahead of the need being realized.

Another area of concern, particularly in our area, is the risk of fire or weather damage. We have conducted a risk assessment and are pursuing strategies for hardening our transmission and distribution system.

To respond, we are increasing budgets particularly for equipment reliability and hardening. We are also moving toward the use of advanced, two-way metering that will enhance our ability to respond to powers outages and restore service faster. Over 40% of the nation now has smart meters.

III. Meeting Environmental Commitments

Under our federal operating license for each hydropower dam, we must remain in compliance with a multitude of environmental obligations in addition to numerous engineering and operating conditions. Chelan PUD is successfully implementing new environmental measures required under the licenses for the Lake Chelan and Rocky Reach projects (issued in 2006 and 2009 respectively). For example, our one-of-a-kind habitat channel below the Lake Chelan powerhouse provides highly successful salmon and steelhead spawning opportunities. And in 2018, Chelan PUD achieved the best results ever measured at any dam for Pacific Lamprey passage, with 98 percent of the eel-like fish successfully using the modified fish ladder to migrate past Rocky Reach dam.

OUR HYDROPOWER DAMS EMIT NO AIR EMISSIONS, INCLUDING GREENHOUSE GASES

Our hydropower dams emit no air emissions, including greenhouse gases. Instead, our primary environmental impact is on fish. In 2013, after a decade of

implementing the innovative habitat conservation plans (HCPs) with state and federal fish agencies and two Northwest tribes, we met our goal of having "no-net-impact" (or "NNI") on salmon and steelhead. We are working towards another regulatory 10-year "check in" for our HCP goals in 2021 – which is within the strategic planning horizon. At that time, we will need to demonstrate that we continue to meet our NNI standard. As long as we meet our NNI standards, these HCPs provide reasonable operating certainty for Chelan PUD and verified protection for the species until 2054.

Two environmental issues associated with hydropower production have recently emerged and will need to be addressed. An environmental group, Columbia Riverkeepers, has filed a notice of intent to sue Chelan PUD and other hydropower operators regarding oil releases into the Columbia. In addition, a recent court directive to the Environmental Protection Agency to consider the Clean Water Act implications of actions that increase water temperature in the Columbia River

RAPIDLY CHANGING UTILITY ENVIRONMENT

While the PUD has been stable for many years, we are operating in a larger electric utility environment in the Pacific Northwest, the western United States and across the country as a whole. It is rapidly evolving. We are not isolated as we operate in markets and under regulatory structures that impact our operations, costs and revenues. Some of the key changes we see are:

- Policy desires to reduce greenhouse gas emissions, particularly in the electric sector. Substantial amounts of wind and solar generation are being added in western power markets as a result of legislative and regulatory changes. This impacts operations, market formation, revenues and PUD costs.
- Large corporate customers seeking to control their source of electric generation in order to accomplish reductions in greenhouse gas emissions.
- Increasing usage of distributed generation (particularly solar) by retail customers.
- Accelerated use of innovative technologies, particularly with respect to digitalization of all aspects of utility operations.
- Increased risk of wildfire and wildfire liability for electric utility operations.
- Increased policy interest in supporting electric vehicle deployment.

The PUD is tracking these evolutions and implementing strategies that seek to manage threats and take advantage of opportunities from these changes.

will require assessment.

Chelan PUD also works hard to identify and achieve energy efficiency and conservation requirements. Under the Washington State Energy Independence Act, Chelan PUD was required to conserve 1.66 average megawatts of cost effective conservation between 2016 and 2017. Because our rates are so low, motivating



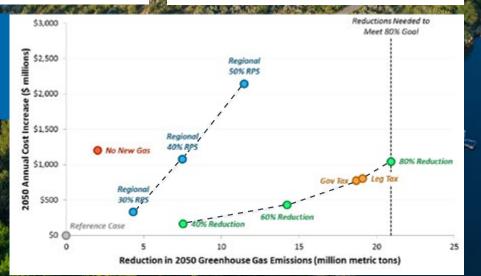


PUBLIC POLICY: CARBON REDUCTION AND RENEWABLE PORTFOLIO STANDARDS

In addition to adapting our power management strategies to respond to changing revenue forecasts, we are active in public policy development that may affect the value of our Columbia River hydropower. We are witnessing transformative change in the Western electric sector. State policies are driving the electric generation mix, while distributed energy like solar is becoming more viable. For example, Washington, Oregon and California are all pursuing carbon reduction in the electric sector. At a minimum, Washington State is aiming for 50 percent below 1990 levels by 2050, though we expect higher targets. Oregon's goal is 75 percent and California's is requiring all the state's electricity to come from carbon-free resources by 2045. Meanwhile, Washington's current renewable portfolio standard (RPS) is 15 percent by 2020 (and only includes certain incremental hydropower), but renewable energy advocates are seeking a 100 percent renewable standard by 2045. In Oregon, the existing RPS for large utilities is 50 percent by 2040; in California, eligible renewable power must serve 50 percent of load by 2030.

Unfortunately, RPS standards generally do not treat hydropower equitably compared to other carbon-free renewables resources. Load-serving utilities can only use small "eligible" portions of the hydropower fleet to meet the standards. In addition, RPS policies are a very expensive way to reduce carbon emissions. Surplus renewables are subject to curtailment

Cost and emission impacts of carbon price versus renewable portfolio standards



when too much power is on the grid, and new renewables tend to displace natural gas generation instead of coal. In addition, RPS policies do not provide economic incentives for energy efficiency or maintenance and reinvestment in existing carbon-free resources.

In 2016, a study from Energy and Environmental Economics (E3) found that a price on carbon in the electric sector achieves emissions reductions at a much lower cost. It also treats non-emitting resources like hydropower comparably to other renewables, preserving the value of hydropower generation and our investments on behalf of Chelan PUD customer-owners.

If Western states continue to pursue policies to achieve emission reduction goals, it is important for policy makers to understand which alternatives are "least cost" for our retail electric customers. To that end, Chelan PUD actively monitors and engages on issues ranging from clean energy and carbon to vehicle electrification because they can affect the value of our hydropower.

conservation can be a challenge. Yet we went above and beyond the target – capturing 4.14 average megawatts of conservation by implementing programs that benefit our customer-owners, such as home weatherization incentives, heating and cooling upgrades and smart thermostats. We also worked with commercial and industrial customer-owners and local governments to identify opportunities for efficient facility improvements and established rates for LED streetlights that recognize energy savings.

Conservation Achievements vs State Mandated Targets

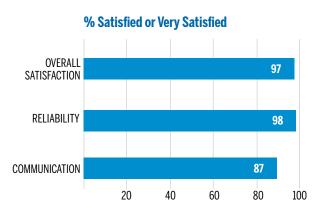


Because energy saved by retail electric customers can be sold on the wholesale market to regional purchasers (contributing to revenues), conservation programs also can help keep our electric rates low. However, if wholesale power prices continue to decline, it could impact the cost-effectiveness of our conservation programs.

IV. Customer Satisfaction

Chelan PUD conducted a Customer Satisfaction Survey in February 2018, consisting of 402 telephone interviews with residential customers. The survey addressed customer attitudes and opinions on Chelan PUD service, responsiveness, communication, problem resolution, interaction with utility staff and general performance. The table to the right above shows the percent of customer-owners who answered that they were "satisfied" or "very satisfied" with Chelan PUD.

Providing excellent service to our customer-owners



is the most important thing we do. These ratings motivate us to continue our efforts to do even more to improve and earn your satisfaction. Our hope is that the strategic planning process will zero in on how to plan and invest to maintain this level of satisfaction with Chelan PUD services.

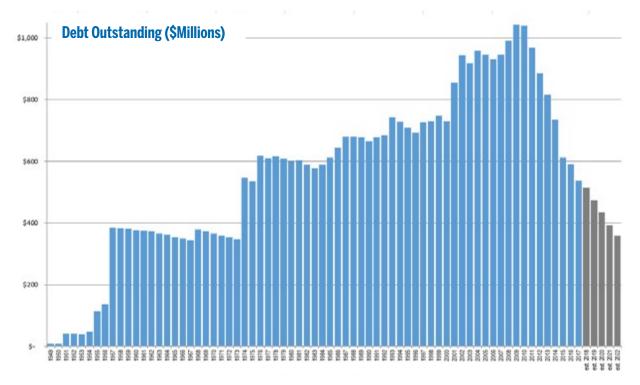
% Satisfied or Very Satisfied

The Reality of Debt

A strategic priority in our 2015 – 2019 Strategic Plan was to lower our debt ratio to less than 35 percent by 2019. In 2018 we achieved the goal a year early. High debt brings risk because we are obligated to pay bondholders whether or not we have a good financial year. The good financial results we have enjoyed in recent years have translated into a healthy financial cushion through reduced debt.

Chelan PUD has retired \$197.5 million in debt since 2014, but has scaled back our reduction efforts through 2019 to redeploy cash to invest in our assets. The next graph illustrates Chelan PUD's historic debt levels, along with our aggressive debt reduction efforts since 2010. Our current plan is to continue to reduce debt through scheduled principal payments, although debt levels may change based on our actual financial performance.

Chelan PUD is also among a handful of highly-rated public power utilities nationally. Our bond rating from both S&P Global Ratings and Fitch Ratings agencies is AA+. This puts Chelan PUD's bond



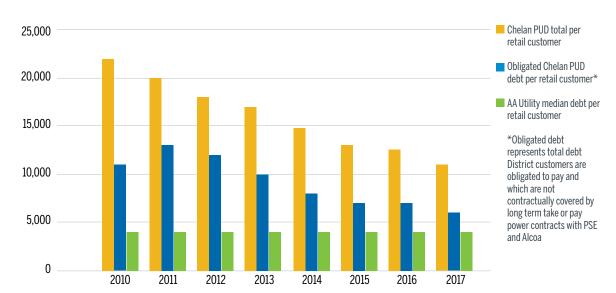
rating among the top five public power utilities. Our debt-to-equity ratio is 34.9 percent in 2018, which is below our peer utilities.

While we've made progress tackling our debt, Chelan PUD still has significantly more debt per retail electric customer than other public power utilities with AA bond ratings from Fitch Ratings agency. As shown, Chelan PUD's debt per retail customer is more than 3 times the median of similarly rated

power utilities. In part, this is a reflection of the fact that we also have a large asset value per customer.

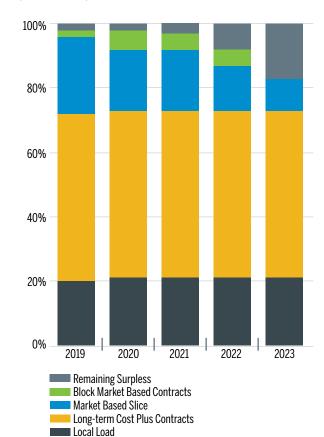
Projected declines in wholesale revenues and aging assets will affect our long-term debt strategy. Our intent is to manage debt in a manner that supports low and stable electric rates even if revenues are low. While we expect we will need to begin borrowing again in the early 2020s timeframe, under our current forecast we will be able to achieve and

Comparison of Debt to Retail Customer



Sales and Load

(% of Generation)



Key Issues for 2020 - 2024

We have identified some issues that will be key considerations as we enter into the next strategic planning process.

maintain our debt ratio target of below 35 percent. We could reduce debt further if revenues are good, or borrow more if necessary to keep rates stable.

I. Energy

About one-fifth of the power Chelan PUD generates is used in Chelan County by our more than 50,000 retail customers (residential, commercial and industrial). The rest is sold through long-term, mid-term or short-term contracts on the wholesale power market. As shown to the right, approximately 52 percent of our power is sold in long-term contracts at cost-based rates to Alcoa, Puget Sound Energy and Douglas County PUD. These contracts mitigate risk associated with the cost of our system. Our surplus hydropower, particularly the approximate 28 percent sold on the wholesale power market, has enabled Chelan PUD to keep retail rates exceptionally low here at home.

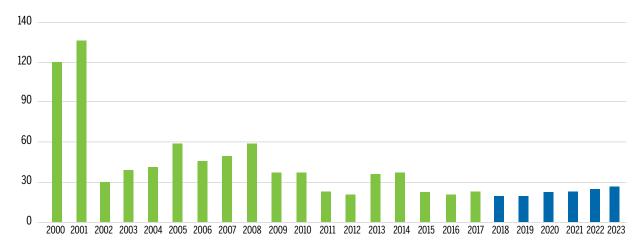
Wholesale Power Marketing

Historically, our wholesale revenues have benefitted from robust market prices significantly higher than our current cost of power. Today, however, wholesale power prices are depressed by low natural gas prices, aggressive western state renewable portfolio standards that exclude hydropower and very low

growth in electricity consumption in the West. The graph below illustrates actual annual power prices at the Mid-Columbia Hub between 2000 – 2017, and forecasted power prices through 2027.

Over the past several years, Chelan PUD reduced

Wholesale Power Prices at Mid-Columbia Hub (Historic and Projected)



power market volatility by committing surplus hydropower to rolling five-year contracts. In 2017, we also executed a 10-year agreement to sell 5% of our system to monetize the long-term capacity value that produces more revenue.

Future wholesale electricity prices are uncertain. If wholesale prices go higher, there is substantial revenue opportunity that could benefit Chelan County while lower prices could risk the PUD not being able to cover cost of production. More retail sales at our subsidized rate would be financially unstable and could require rate increases.

Nation-wide, electricity use has been mostly flat or even declining in recent years. In Chelan County, however, we have been experiencing load growth. This growth can be divided into two categories; (1) growth associated with high energy use such as data or cryptocurrency mining and (2) more traditional loads that we refer to as organic growth.

High energy use has created substantial uncertainly for PUD planning and was identified as a significant risk in the last strategic plan. In 2017 the PUD adopted a high density load (HDL) rate that reflects full cost (unsubsidized) recovery. Subsequently, the PUD received multiple requests for service as cryptocurrency prices dramatically increased. These requests exceeded the current retail load in the county. In response, the PUD has been in a process of establishing a new rate for cryptocurrency mining that assumes market purchases will be made to provide service, given the potential for extraordinary load increases. These new rates reduce the risk of high use loads increasing rates for existing customer-owners.

In the last strategic planning process, County residents expressed a desire for the PUD to lean forward on economic development. Reflecting this desire, the PUD has worked closely with Stemilt, the city of Wenatchee and Chelan County Port District to attract a new industry (the Diamond Foundry) to locate here utilizing our new high density load rate.

Retail sales at our new HDL or cryptocurrency rates assure that we would be able to cover future

costs even under a low wholesale market scenario. However, under scenarios other than a low wholesale market, additional retail sales could also reduce the wholesale revenue that is used to support the retail rate gap described on page 7.

A fundamental question for this Strategic Plan: Currently, Chelan PUD retail rates are subsidized by wholesale power revenues. Should Chelan PUD reduce emphasis on wholesale marketing and focus more on growing retail loads and local economic development?

Closely associated with this key question is whether growth should pay for growth. Chelan PUD requires that all new loads pay for extensions from the distribution system to the home or business. Larger loads are required to pay for additions to the distribution and transmission systems, such as substations. The HDL and cryptocurrency rates will require contributions toward new distribution and transmission system costs. Should Chelan PUD lean toward growth pays for growth (supportive of lower rates for existing customers) or toward economic development (supportive of more jobs in the community)?

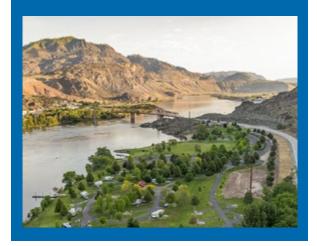
Rock Island Relicensing

The Rock Island Hydroelectric Project's existing federal operating license expires in 2028. That means we must apply for a new license, which can involve submitting a pre-application document to the Federal Energy Regulatory Commission (FERC) up to five years in advance. Associated licensing activities will get underway even sooner. Through relicensing, FERC determines if a hydropower project is "best adapted" to a waterway from a power, environmental and recreational perspective. By law, hydropower licenses endure for between 30 and 50 years. However, an October, 2017 FERC policy on license terms suggests that the new normal will be 40-year licenses – with the opportunity to secure a 50-year license by making significant "early investments." Chelan PUD also suggested modifications to the Federal Power Act to help ensure "early investments" in major equipment will be credited so that our customer-owners' investments



Chelan PUD is an active member of the Columbia River Treaty Power Group, which is advocating for the United States to renegotiate the Columbia River Treaty with Canada. A renegotiated Treaty based on today's value of coordinating river operations with Canada could increase the PUD's power supply by 60 average megawatts. We are frustrated by the slow pace of these negotiations. Addressing Columbia River Treaty issues will certainly be part of our next Strategic Plan.

The mid-Columbia PUDs have a unique arrangement regarding the Columbia River Treaty as a result of operating five hydropower projects downstream from Canada and Grand Coulee. That arrangement is defined in a contract called the Canadian Entitlement Allocation Agreement (CEAA). The CEAA expires in 2024. The mid-Columbias and the federal government in the form of the Bonneville Power Administration need a replacement contract to be put in place no matter what status the Treaty negotiations have achieved.



will be better protected. These changes have been enacted in the America's Water Infrastructure Act of 2018. As FERC implements this new law, we believe there may be opportunities to put in place beneficial actions prior to the new license. A fundamental question for this Strategic Plan: Should Chelan PUD advance the newly developed federal policy to take "early actions" in advance of a final relicensing decision. If so, what actions should be considered that support recreational or environmental enhancements and what considerations should the PUD seek in return?

• Infrastructure and Aesthetics

As growth increases, many of our existing substations are reaching maximum capacity. With growth comes potential growing pains. Chelan PUD recognizes that utility infrastructure (e.g. electrical, water, fiber) siting can prompt concerns about perceived impact to existing property value and aesthetics. **We will need to answer this question:**

Who pays for aesthetic improvements (e.g. undergrounding of power lines) when it can increase costs by 2-10 times compared to above ground facilities – all customer-owners or just those who benefit? In Chelan PUD's 2018 Customer Survey, a plurality of respondents stated that only those who benefit from underground line installations should pay for them. Twenty-four percent of respondents said that utility rates should pay for undergrounding, even if it means a rate increase for all customers. Other respondents either did not answer the question or had other comments. The costs and benefits of undergrounding distribution lines remains an unresolved issue.

How we invest in future growth will be a key topic in our 2020 – 2024 strategic planning process.

Electric Rates

Growth in the county, along with inflation, are increasing our costs. At the same time, the whole-sale revenues we use to reduce your retail rates are declining. We expect that the amount our rates under-recover retail costs will soon exceed the value created by wholesale sales. This issue will be

a fundamental consideration of the Strategic Plan.

While in the near term Chelan PUD does not face a financial crisis, it may be prudent to institute regular, small rate increases that would help avoid a potential spike in rates in later years. Similar to the current Strategic Plan, we need to plan for a range of financial scenarios. We have consistently heard from customers that they prefer more stable rates than volatility.

We are also reviewing our rate design. Many utilities are finding it necessary to make changes to rate design to assure equitable cost recovery for all customers as the adoption of solar power and electric vehicles increases. In this county we are particularly challenged by the large number of second homes that only intermittently use electricity.

We are also considering disclosing on our customers' bills the true cost of services minus the benefit they receive from our wholesale revenues. The result is the same amount on the bill, but more clarity for customer-owners as to why their bills are so low.

After seven years without rate increases (and only 9% rate increase since 2000 while inflation has been around 40%), Chelan PUD plans to adopt a long-term rate plan. We have questions for our customer-owners. Should this plan:

- Include annual electric rate increases at approximately the rate of inflation to avoid the risk of large rate increases in later years
- Display the hydro financial benefit separately in electric, water and wastewater bills to help customers understand the full cost of services
- Specify the balance between funding large water and wastewater system improvements from financial reserves and annual rate increases for water and wastewater
- Include annual rate increases for the water, wastewater, and fiber business units to meet individual system financial metrics
- Change rate design to be responsive to utility industry changes

Public Power Benefits

In our 2015 – 2019 Strategic Plan, we agreed to institute a Public Power Benefit (PPB) program to fund projects supported by our customer-owners after we have invested in our core assets and paid down debt. For the period 2015-2018, Chelan PUD has provided funding for the following PPB items, which were identified as priorities and within Chelan PUD's statutory authority.

PUBLIC POLICY: THE FUTURE OF ALCOA

Alcoa, Inc. curtailed its Wenatchee Plant in December 2015 due to low aluminum prices. In November 2016, Alcoa, Inc. separated into two newly formed companies and the Chelan PUD contract for 26 percent of our hydropower from Rocky Reach and Rock Island was assigned to Alcoa Corporation. Chelan PUD has worked extensively with the community and Alcoa to discuss options for a potential Alcoa restart.

The power sales contract included

an \$86 million deferred upfront charge that was specifically designed to encourage Alcoa to operate the plant. Alcoa earned a payment discount each year the smelter operated from 2011 to 2015. In 2017, PUD Commissioners agreed to defer the bulk of Alcoa's remaining charge, \$62 million, until June 2018 as Alcoa considered whether to restart the facility.

Unfortunately, Alcoa did not restart the plant by June, 2018. Therefore, the company made the \$62 million payment to Chelan PUD. The payment does not exclude the possibility of a restart, and Alcoa's

an \$86 million deferred upfront contract with the PUD remains in charge that was specifically place until 2028.

To date, Chelan PUD has supported Alcoa starting back up while keeping impacts to our customer-owners neutral. We will implement the contract provisions and address future requests from Alcoa, if any, with an eye toward maintaining value for our customer-owners. In the meantime, we will use the proceeds from the payment to stay focused on implementing our strategic priorities of investing in our assets and people, reducing our debt and implementing the Public Power Benefit program.

Public Power Benefit	Approved Funding 2015-2018	Amount Spent 2015 – Sept. 13, 2018
Fiber expansion program	\$8,300,000	\$2,735,014
Electric Charging Stations	\$65,000	\$64,481
Camping passes pilot at Beebe Bridge campground	\$30,000	\$41,184
Day Use Parking passes	\$281,000	\$228,759
Public safety site mprovements, Plain substation	\$200,000	\$198,931
Rocky Reach Discovery Center mprovements	\$2,270,000	\$212,197
Hydropower Research Institute	\$1,050,000	\$932,992
Total	\$12,196,000	\$4,413,558

We continue to have a countywide perspective when considering public power benefit proposals. When possible under our financial metrics, we will provide a public power benefit built around enhancing the quality of life for customer-owners.

The PPB program was established during a time when future PUD revenues were expected to continue growing. The decline in the wholesale market raises questions about its future. Should Chelan PUD continue to fund a public power benefit program that has been used for the fiber expansion and park passes? If so, what activities within our statutory authority should be considered for funding? This will be a key issue for strategic planning.

As you can see, there is a lot going on at Chelan PUD. Despite some challenges we are in a position of strength and have the ability to manage our destiny. We hope you will join with us in our strategic planning process to achieve our mission of enhancing the quality of life in Chelan County.



Mission, Vision, and Values MISSION

Enhancing the quality of life in Chelan County by providing sustainable, reliable utility services

VISION/CHALLENGE

In a rapidly changing utility environment, we will provide:

The Best Value for the Most People for the Longest Time

Strategic components of vision/challenge

- Commit to highest levels of customer-owner satisfaction (e.g. low rates, improved outage management)
- Invest to create long-term value (e.g. asset management)
- Ensure financial stability (e.g. financial metrics)
- Advance human performance (e.g. safety and operational excellence through human performance improvement, training to anticipate change)
- Protect natural resources impacted by operations (e.g. full implementation of HCP)
- Continuously improve efficient, effective, compliant, riskassessed and resilient operations (added resiliency)
- Encourage innovation (continuous improvement and cutting edge technology where valuable to our business model e.g. HRI)

ALUES

Safety: protect public and employee health and safety (no change)

Trustworthiness: competence, integrity, respect, collaboration (added collaborative meaning both internal and external)

Stewardship: acting on behalf of customer-owners, protecting public resources entrusted to us (no change)

Operational Excellence: high quality, innovative work execution through supporting personal ownership (added accountability)

SWOT Analysis

This is a standard Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis applied to Chelan PUD. All elements are addressed in our 5-year targets included at the end of this document.

STRENGTHS:

- A very low cost, flexible, non-carbon emitting hydropower supply of electricity that produces roughly five times the amount needed to serve the county's population. This allows Chelan PUD to sell surplus power into wholesale electric markets at prices that exceed the cost of production.
- Strong distribution system, which meets a goal of 99.98 percent reliability most years.
- A strong habitat conservation program, endorsed by regulators, in place to mitigate the environmental impacts of the hydropower assets on salmon and steelhead.
- Operation of the major Pacific Northwest electricity trading hub in the mid-Columbia region.
- Highly reliable fiber system with broadband access to roughly 74% percent of the county, which exceeds nearly all other rural counties.
- A parks system that is highly appreciated by local users and attractive to visitors.
- A dedicated team of employees with deep understanding of the operation of the physical assets and a deep commitment to the foundational public power business model of community service focused on customer-owners.
- Highly satisfied customers. (97 percent satisfied or very satisfied based on a 2018 survey).
- A community that cares deeply about the success of Chelan PUD.

WEAKNESSES:

- A very heavy reliance on three aging hydropower assets with the risks associated with extended unit outages, streamflow, market prices and downstream location from the river basin's largest water storage project.
- Aging distribution system components that creates reliability risk.
- Water, wastewater and fiber business units that generally do not cover their associated costs.
- The continuing evolution of environmental risk, such as fish issues and climate change.
- Nationally-significant assets engaged in highly-regulated activities that are significantly impacted by federal and regional policy — all while being only "mid-size" among more than 3,000 utilities.
- Improving, but not excellent safety record.

THREATS:

- Evolving markets that politically tends to undervalue hydropower creating fundamental risk to PUD's revenue stream.
- Substantial load growth that threatens reliability.
- Risk of cryptocurrency and other high users locating in Chelan.
- Possible loss of local control over generating assets.
- Future cost and uncertainty related to Rock Island relicensing.
- New large-scale generation in the Mid-Columbia
- Extended outages due to natural disaster, inadequate maintenance, or investment in refurbishment.
- Substantial streamflow changes due to annual variability, climate change, or upstream reservoir operations.
- Substantial negative impacts on revenues and/or expenses associated with national and regional policies.
- Delays in changes to the Columbia River Treaty that should benefit customer-owners.
- Continuing a public power benefit that increases cost structure, followed by a decline in net revenue.
- Cyber or physical security intrusions.
- Ability to compete for and retain top talent.
- Loss of connection to community service as fundamental to the business model.
- Inability or unwillingness to grow and change as the community and industry evolve.

OPPORTUNITIES:

- Possibility of growing high use loads with rates that cover all costs.
- Having the financial resources to reduce debt and invest in preventative maintenance, environmental protection, and timely refurbishments based on long-term value to customer-owners.
- Evolving markets that should place an increasing value on non-carbon emitting, renewable, flexible generating assets.
- Ability to hedge price, streamflow, outage and environmental cost risks.
- Potential to help address key national objectives in a manner that benefits Chelan County (e.g. energy efficiency investments).
- Connection to customer-owners and improved satisfaction through the way we do business (our values).
- To enhance value for customer-owners through modernization of the Columbia River Treaty.
- Potential to increase value through improved coordination of river flows.
- Continue to offer a public power benefit with surplus revenue that creates value for customer-owners.
- Ability to invest in people to take advantage of rapidly changing utility environment.
- Adoption of automated metering infrastructure leads to innovation benefiting customer-owners.
- Translating inherent PUD cultural commitment to community service into even higher levels of customer satisfaction.
- Ability to increase delegated authority within sideboards that promote operating within an aligned, "one-utility" perspective that creates clear accountability.
- Opportunity for advancing operational excellence and safety through human performance improvement.

5-Year Targets Strategic Plan Aims

Strategic Aim	Measures / Targets	Year
Commit to highest levels of customer-owner satisfaction (e.g. low rates, improved outage management)	CIS implementation	2019
	Create Prepay Option	2024
	AMI implementation	2020-2022
	New outage management system (internal visibility)	2022
	New outage management system (customer visibility)	2023
	Fiber passes 83% of residents	2024
	Decide whether to pursue Rock Island relicensing early action credit	2020
	Define growth pays for growth policy	2020
	Review and determine the future of the Public Power Benefit Program	2019
	Define wholesale vs retail strategy	2019
	Complete Diamond Foundry contract and infrastructure investment	2020
	Rocky Reach Discovery Center/museum improvements completed	2021
	Biennial customer satisfaction surveys completed in 2020 and 2022	2020 and 2022
Invest to create long-term value	Hydropower capability achieves 89%	2024
(e.g. asset management)	Build 7 substations	2024
	Establish and fund sustainable underground cable replacement and overhead feeder hardening programs aimed at improving reliability associated with those asset classes	2021
	Electric system reliability exceeds 99.98%, water system integrity less than 20 leaks on a rolling 12-month schedule, network system composite uptime exceeds 99.999% in each year	2020-2024
	Implement independent hydro system operations	2019
	Implement alternative contracting mechanisms for Rocky Reach and Rock Island facilities, Rock Island Power House 2 and substations	2019
	Obtain warranties that exceed 10 years for Rock Island Power House 2 rehabilitation	2020
	Complete new facilities at Rocky Reach, Rock Island and for service center/headquarters	2020-2024
	Identify second water source for Wenatchee area	2021

Strategic Aim	Measures / Targets	Year
Ensure financial stability (e.g. financial metrics)	Debt leverage ratio below 35%	2020-2024
	Debt service coverage greater than 2.0x	2020-2024
	Days cash on hand above 250 days	2020-2024
	Liquidity above greater of \$175M or computed methodology	2020-2024
	Retail rate design and revenue increases evaluated	2020
	Clean audit opinions every year	2020-2024
	Maintain AA credit ratings	2020-2024
	Implement, monitor and change as necessary HDL and cryptocurrency rates	2020-2024
	Columbia River Treaty Entitlement Allocation Agreement post-2024 completed	2023
	Define strategy for post-cost-plus contract	2024
	Complete new hedging contracts for generation not committed to retail load	2021-2024
Advance operational excellence (e.g. safety and operational excellence through	Establish leading indicators and targets for safety / HPI metrics; collect data and report regularly	2020-2024
numan performance improvement, training to inticipate change)	Develop knowledge of relevant safety regulations and accountability for regulatory compliance within all operational units	2020-2024
	Enhance onboarding for new employees to: inspire them with our mission; instill our culture of providing the best value, for the most people, for the longest time; and, educate them about Human Performance Improvement/Operational Excellence principles	2020-2024
	Develop reporting to ensure all employees have an Individual Development Plan (IDP) tied to future District needs and, that IDP goals anticipate and engage need for more data driven processes. Assess effectiveness of IDPs at developing needed skills in employees.	2020-2024
	Drive adoption of Human Performance Improvement / Operational Excellence culture following guidance from the HPI / OE Guiding Team	2020-2024
	Establish supervisor academy and provide regular educational offerings to develop supervisors	2020-2024
	Streamline contracting processes without sacrificing quality/compliance	2019
	Remain compliant with reliability standards	2020-2024
	Establish Open Access Transmission service and rates	2020
	Utilize trade associations for legislative support and to identify best practices that lead to at least one efficiency/effectiveness projects each year	2020-2024
	No cybersecurity breeches	2020-2024
	Regularly review market-based compensation program for effectiveness and compliance	2020-2024

Strategic Aim	Measures / Targets	Year
Protect natural resources impacted by operations (e.g. full implementation of HCP)	Rock Island relicensing on schedule	2020-2024
	Meet oil release and temperature standards in Columbia River	2020-2024
	Chelan River check-in complete	2019
	Rocky Reach / Rock Island HCP check-in complete, full compliance achieved	2021
	Decide whether to pursue RI early action credit	2020
	Complete Peshastin water quality project	2020
	Define strategy for Dryden water quality project	2021
	Achieve no net impact to listed species	2021
Develop resiliency to address future	Define wholesale vs retail sales strategy	2020
uncertainty (risk assessment for e.g. business continuity,	Gain value for hydropower in western market design	2020-2024
market prices, distributed generation, crypto-	Oppose CAISO expansion without independent governance	2020-2024
currency load)	Complete full-scale business continuity one-day test	2021
	Leaders trained to embrace change	2021
	Annually review climate change impact analysis	2020-2024
Encourage innovation (continuous improvement and cutting edge technology where valuable to our business model e.g. HRI)	At least 3 Member, 3 Contributors, and 1 Subscriber companies participating in Hydropower Research Institute (HRI)	2019
	Leverage data and utilize analytics through technology and business intelligence solutions to better inform strategy and decision making	2020-2024
	Mobile computing available to District employees for key functions	2024

We hope you find this background material helpful. We also hope it has inspired you to help us understand the values and desires of the community we serve. If you are willing to engage in our strategic planning effort contact Justin Erickson at *Justin.erickson@chelanpud.org*

Appendix:

STATE OF CHELAN PUD INFRASTRUCTURE

1. Generation

Our primary financial value is derived from our low-cost, reliable hydropower generating assets. Reinvesting in them is a top strategic priority under the existing Strategic Plan. However, major equipment at our hydropower projects is aging, necessitating significant reinvestment. Currently our hydro projects are operating at about 70% capability. Our goal is to get this above 89%. In addition, the Rock Island Project's existing license expires in 2028 – meaning we expect to initiate the relicensing process within the strategic planning period.

Rocky Reach

The Rocky Reach Project is our generating "crown jewel" at 1,300 megawatts installed capacity. However, we are facing significant costs at the project due to aging equipment and failures. Major equipment at the Rocky Reach Project may need to be repaired or replaced within the 2020 – 2024 strategic planning period. This includes ongoing repairs of four large units that were taken out of service in 2013 due to cracked turbine shafts.

Rock Island

The turbines and generators at the 629 megawatt Rock Island Project are reaching the end of their useful life. So far, three units in Powerhouse 1 have undergone modernization, with seven more scheduled for upgrades between 2018 and 2022. In total, Chelan PUD will spend an estimated \$164 million to modernize the seven remaining units.

In addition, Chelan PUD is set to begin new modernization work at Powerhouse 2 starting in 2021. Work on the eight horizontal "bulb" generating units is estimated to cost of \$352 million. Under the current schedule, work will be complete by 2029. An important goal is to have all units operating by 2023 for a scheduled check-in on the Habitat Conservation Plan that protects salmon and steelhead passing the dam.

We've learned that contracts awarded on the lowest bid do not necessarily lead to the lowest life-cycle cost or overall value. In recent years, some alternative contracting methods have emerged which may provide significant benefits for hydropower owners, if we are allowed to use them. These alternatives generally allow hydropower owners to work more closely with contractors to design a project considering key life-cycle factors and ongoing operations. For highly-specialized projects, a partnership throughout the design and build phases would produce better results for our customer-owners. We are exploring how we might be able to use alternative contracting to ensure our hydropower assets can provide superior performance for decades to come.

2. Electrical Distribution System

The electric distribution system provides service to more than 50,000 residential, commercial and industrial customers in Chelan County and parts of Okanogan and Kittitas counties. The distribution electric system includes 1,720 miles of overhead and underground power distribution lines over approximately 3,000 sq. miles and is supplied by 37 substations. The average retail residential rate is about 3.2 cents a kilowatt-hour, one of the lowest rates in the nation.

During the past five years we have seen a shift in the use of the distribution system with the advent of cryptocurrency mining – that is, 24/7 super computer processing units, as well as higher than normal traditional load growth. We have matured our asset management strategies to better inform where we should invest in the system. Our goal is to provide the best reliability as well as prepare for future growth.

We recently compared our reliability to that of other high performing public power providers. While we are good, we are not considered in the top tier. We believe we have opportunities to improve reliability or at a minimum ensure our current reliability does not degrade. To achieve this we have identified three major areas of investment:

Site and construct new substations at a pace faster than historically done. This effort will ensure we have the capacity to hook up new customers and

also relieve the strain on existing aging substations allowing for flexibility and the ability to conduct routine and regular maintenance.

Utilize asset management strategies to guide decision-making. We continue to improve and mature our asset management discipline. We have expanded beyond large equipment, such as substations, and include other opportunities designed to improve reliability. Underground cable replacement and feeder hardening will be a key focus in the near future. Chelan PUD has 892 miles of underground cable throughout the county. Installation of underground electric cable began in the 70's when this technology became readily available for utilities. Currently we have more than 170 miles of cable that is more than 40 years old. Recently, we have seen failures of this vintage underground system in areas of high impact. Forest health and increased outages due to animals also are emerging as threats to reliability. Asset management will help guide priorities and investments for all of these system impacts.

Implement advanced two-way metering to provide predictive information that supports future reliability investments. This technology will give our engineers and planners a real-time view into the distribution system instead of relying on planning models. A wealth of information from advanced metering will help guide capital investment as well as provide timely information that can reduce outage durations for customer-owners.

3. Water

Chelan PUD's water system now serves about 6,100 customers. In the 2015 – 2019 Strategic Plan, we explained that water system revenues cover operating expenses, but that there are limited funds left over to address capital needs of the system, including replacement of aged water lines and construction or replacement of new reservoirs. Based on public input, the Board of Commissioners committed to sustain existing water services by providing capital funding from electric funds to set it up for success. The Board also adopted a policy of 2 percent annual rate increases for water. Similar issues need to be addressed in this Strategic Plan.

As we shape our 2020-2024 Strategic Plan, we will consider the needs of our aging water system. For example, we have already determined that the reservoir on Skyline Drive will need to be replaced.

Larger regional water planning issues are also at stake as we begin our strategic planning process. The east bank aquifer, situated along the east bank of the Columbia River above Rocky Reach Dam, is the primary source for the regional water system. It serves an estimated 75,000 people in the cities of Wenatchee and East Wenatchee and unincorporated areas of Chelan and Douglas counties, along with Chelan PUD's Eastbank fish hatchery. Growth projections suggest that the regional source may need to serve 100,000 people by 2040. We estimate that the existing source will have adequate supply and water rights for 10 years or more.

Chelan PUD, the City of Wenatchee, and the East Wenatchee Water District are working together to develop a regional strategy for water supply redundancy and expansion. We expect this effort to cross over into our 2020 – 2024 strategic planning process. Developing a second water source will have cost and rate impacts, while reducing a substantial risk to our community.

4. Wastewater

Chelan PUD's wastewater system serves about 500 customers. In the 2015-2019 Strategic Plan, we discussed how the wastewater system covered less than 65 percent of daily operation costs. In addition, the system needed capital funding for environmental protection projects.

Based on public input, the Board of Commissioners committed to sustain the existing wastewater utility by providing capital funding to set it up for success. Improvements to the Lake Wenatchee treatment facility to improve reliability and replace end-of-life systems were completed in 2017. Toward the end of the current strategic planning period (2019), Chelan PUD will complete capital improvements for the Peshastin wastewater facilities to address phosphorus issues in accordance with a treatment plan approved by the Department of Ecology. A

significant remaining issue is how we should deal with the approximately 300 septic tank effluent pump (STEP) systems within our Lake Wenatchee and Peshastin wastewater service areas. Many tanks are over 20 years old and some components are approaching the end of their useful lives. We are performing an inventory and assessment of the STEP systems, which will provide important information about future system improvements, maintenance strategies, and associated ongoing costs.

To provide safe and reliable services while charging rates that do not create hardship for customer-owners, we increased wastewater rates by 5% per year. How we maintain the right balance will continue to be a strategic planning question. The Strategic Plan should address future rates for water/wastewater.

5. Fiber

Chelan PUD provides wholesale broadband services (i.e. transport for services such as internet access, virtual local-area networks, Ethernet, and dark fiber) to retail service providers who then serve nearly 15,000 fiber end-users directly. Our broadband services are now available to 74 percent of the county. The current footprint includes the greater Wenatchee area, Chelan, Cashmere, Manson, Entiat and Leavenworth. We have also extended fiber infrastructure to some of the remote areas of the county, such as Plain and Lake Wenatchee. In all, Chelan PUD's fiber system passes more than 32,000 customer premises, with a 45 percent "take-rate". Chelan PUD's wholesale rates allow retail service providers to offer competitive retail products.

Chelan PUD is managing our existing fiber network assets for maximum value while maintaining capacity, functionality, reliability, and resiliency. We are striving to increase the customer take-rate that has increased from 43 to 49% since 2014 while reducing the time that customers wait for line extensions. We're also working on a disaster recovery program for the broadband network, and developing a long-range technology plan to ensure we can respond appropriately to changes as existing electronics become obsolete. Meanwhile, public policy can have a direct and significant impact on our fiber system planning.

Chelan PUD closely monitors any legislative or regulatory efforts that may expand or restrict telecom authority for public power or promote rural broadband deployment.

As a result of the 2015 – 2019 strategic planning process, Chelan PUD is expanding the fiber network, with a goal of reaching 85 to 90 percent of the county by 2026. Funds have been set aside by the Board to achieve this objective. The expansion plan will cost an estimated \$25 million. In 2019, we plan to reach more residents in Cashmere, Chelan, Entiat, Leavenworth, and Wenatchee. Since 2015, approximately 2,900 premises have fiber availability through the infrastructure program. We believe there is a need for modest rate increases in the range of 2 percent per year to cover increasing operation and maintenance costs.

6. Human Resources

In the last strategic plan, a key objective was investing in our people. There is substantial change occurring in the electric utility industry and the PUD needs to evolve as well. In the next few years we expect to become a much more data driven organization as information technology projects come online. These include a new customer information system, sensors on hydropower units, automated metering (smart meters). Significant automation changes in the electric power markets that surround us are also occurring.

As a result of the last strategic plan, all PUD employees now have an individual development plan that is updated annually. Chelan PUD has also embarked on implementing human performance improvement that is, at its core, based on the concept of using all situations as opportunities to learn and improve. We are also encouraging our employees to look outside the PUD, particularly through our contacts with the larger public power community, to learn from others. We expect these will remain as focus areas for the next strategic planning period.

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7. Facilities

The generating assets are not the only assets that require significant new investments. In the 2015 – 2019 Strategic Plan, our Board of Commissioners recognized the need to reinvest in our buildings and facilities. Chelan PUD has been underfunding facilities for many years, and some of our current facilities have not kept up with our expansion into services such as broadband, water and wastewater. Inadequate facilities strain productivity, create barriers to customer service, and require ever increasing, unpredictable costs to maintain and operate. Ironically, they are not very energy efficient – even as we encourage our customers to conserve.

Our analysis shows that a status quo approach of reactive maintenance, including remodeling existing buildings and leasing space for growth, offers less value at more cost over 50 years than building new facilities. We are implementing a new, long-range approach to facilities management that will address productivity, service, financial value and predictability, and safety over the long term.

8. Parks

In addition to our Public Power Benefit program, Chelan PUD continues to maintain a parks system under our Federal Energy Regulatory Commission hydropower licenses. These parks are (PPB) arguably unrivaled among hydropower licensees nationwide. Chelan PUD built 15 parks covering more than 700 acres, and continues to own and operate most of these facilities. We also completed portions of the Apple Capital Loop Trail system and developed a new trail in the Chelan River gorge. Our parks provide services ranging from day-use picnic shelters, play equipment and baseball diamonds to overnight camping. Our Discovery Center at Rocky Reach Dam welcomes thousands of visitors every year, giving them an inside look at hydropower operations and local history. We continue to invest in these facilities, which are truly a "crown jewel" of our community. Only some of these investments are associated with the PPB program.



