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Low-Income Rate Assistance Program Annual Summary Report

For the program period October 2021 through September 2022

OREGON

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Overview

Avista Utilities' Low-Income Rate Assistance Program (LIRAP), approved by the Public Utility Commission of Oregon (PUC or Commission) in 2002, collects revenue under Schedule 493, "Residential Low Income Rate Assistance Program–Oregon." The current rate for LIRAP included in the Company's tariff Schedule 493 is \$0.00451 per therm, which is approximately 0.31% of current retail rates. The purpose of LIRAP is to reduce the energy cost burden among those customers least able to pay energy bills. This is the LIRAP Annual Summary Report (Report) for the program year October 1, 2021 through September 30, 2022.

Program Year Results

Since LIRAP's inception in 2002, approximately 12,367 energy grants, totaling \$3,811,530 in funds, have been provided to Avista's most vulnerable populations. For the program year ending September 30, 2022, approximately 58% of LIRAP participants had household average incomes less than 100% of the Federal Poverty Level (FPL), and approximately 40% of the grant recipients had annual household incomes of less than 75% FPL. Over 58% of the LIRAP participants had households of two or more people, while customers renting their residences constituted 64% of the total participants.

Avista's LIRAP provided 509 grants and distributed a total of \$209,834 during the 2021-2022 program year. The grants averaged approximately \$412 per customer. Table 1 below illustrates the number of grants distributed during the reporting program year, in addition to a collection of demographic data intended to be responsive to requests for general information regarding participating customers. This data was collected by participating Community Action Agencies (CAAs or Agencies).

Table 1				
OREGON LIRAP				
Data Compilation - GRANTS				
Year 20 - October 1, 2021 - September 30, 2022				
		# of Households	% of Households	Cumulative %
Home Ownership				
	Own	181	36%	36%
	Rent	328	64%	100%
	Total	509		
Heating Fuel Source				
	Electric	-	0%	0%
	Natural Gas	509	100%	100%
	Other	-	0%	100%
	Total	509		
Size of Household				
	1 Person	212	42%	42%
	2 People	106	21%	63%
	3 People	80	16%	79%
	4+ People	111	22%	101%
	Total	509		
Annual Income Level				
	Up to 50%	141	28%	28%
	51% to 75%	62	12%	40%
	76% to 100%	93	18%	58%
	101% to 125%	62	12%	70%
	126% to 150%	58	11%	81%
	151% to 175%	56	11%	92%
	176% to 200%	23	5%	97%
	201% and over	15	3%	100%
	Total	509		

Note: A weighted average was used to increase demographics to equal Avista customers served.

Total revenue available to distribute during the 2021-2022 reporting program year was approximately \$235,597. This amount equates to \$229,641 of new revenue collected through the 0.00451 per therm charge in Schedule 493, and \$5,956 of interest income accrued. At the end of the previous program year, 2020-2021, approximately \$45,659 in direct service funds were left undistributed, and thus were carried forward into the 2021-2022 program year. The combination of these two amounts, total revenue available to

distribute and carryover funding from the prior year, resulted in a total LIRAP balance of \$235,597 for 2021-2022. Of this amount, the CAAs were allocated \$45,301 for administration and program delivery costs (Admin) for the program year, and after subtracting this Admin from the total revenue and interest, the remaining net funds available for direct services to customers for the 2021-2022 program year was \$235,955. The Agencies spent approximately \$210,182¹ of this available balance in the provision of direct services. After an adjustment was made to account for funds returned to LIRAP from closed accounts (\$4,990), the total unspent balance at the end of the program year was \$30,764. Table 2 below is a recap of the funds collected, spent, and the amount available on September 30, 2022.

Table 2 Oregon LIRAP Year 20 October 1, 2021 through September 30, 2022	
Total Carry Over from Prior Year	\$45,659
Total Revenue and Interest to Distribute	\$235,597
Admin & Program Delivery Funds paid to Agencies	<u>\$(45,301)</u>
Net Funds Available for Direct Services	\$235,955
Direct Service Funds Distributed by Agencies	\$(210,182) ¹
Adjustments – Dollars Returned to the Program	<u>\$4,990</u>
Unspent Direct Service Funds on September 30, 2022	\$30,764
Percent Unspent in Comparison to Available Funds	12.77%

¹ Inclusive of a \$348 correction made from the 2020-2021 program year, as noted in Table 2.

Agency Administration and Program Delivery

The revenue collected for LIRAP is provided to the four CAAs in Avista's Oregon service territory for disbursement to qualifying customers and for administration of the program. Eligibility for LIRAP is determined according to existing guidelines established by Federal and State standards used for the Low-Income Home Energy Assistance Program (LIHEAP). Additionally, customers experiencing emergencies are eligible for assistance under Project Share, an Avista donation-based program. The programs and partnerships between Avista and the CAAs are invaluable to customers with limited incomes or those that have exhausted all of their resources. Per the Company's tariff Schedule 493, the Agencies may be paid up to 21% of the total low-income bill payment assistance funds collected for administration and program delivery costs.

For this reporting program year, a total of \$45,301 was distributed to the Agencies for administration and program delivery, which equates to 19.23% of revenue collections and accrued interest. This amount, including the \$42,023 in Admin carried over from the previous reporting program year, totaled \$87,324 available for CAA Admin during the 2021-2022 program year.

At the time of this Report's filing, the amount of Admin reported as spent by the Agencies from LIRAP funds as of September 30, 2022 is undetermined, as reporting from two of the Agencies has not been provided. The funding has been distributed to the Agencies and can be carried forward into the next program year to cover Admin costs for the associated undistributed direct services funding. Table 3 below represents a recap of the Admin funding spent during the current program year and the estimated amount available based on the reporting that was provided by Agencies on September 30, 2022.

Table 3
OREGON LIRAP
Admin and Program Delivery Funds
October 1, 2021 through September 30, 2022

Admin and Program Fees Carry Over from Prior Year	\$42,023
Admin & Program deliver Funds paid to Agencies	<u>\$45,301</u>
Net Funds Available for Admin and Program Fees	\$87,324
Admin and Program Delivery Funds Spent by Agencies	\$18,600 ¹²
Unspent Admin and Program Support at September 30, 2021	<u><u>\$68,724</u></u>
Percent Unspent in Comparison to Available Funds	79%

Direct Service Funding

While the Federal Government provides start-up funds as a portion of the total funding for Agencies each year, such amounts may not be confirmed until after the heating season has already begun in October. Therefore, timing and availability of LIRAP funding is crucial to ensure that the appropriate assistance is available for customers when the need begins to rise. To meet this necessity, discussion with the Agencies and other stakeholders during the first few years of LIRAP implementation led to agreement that allowing approximately 20% of unspent LIRAP funding to carry over each year would provide value to the Agencies' energy assistance programs, as it would deliver immediate

² The reported spend in Table 3 includes reporting from the Agencies serving Jackson and Union counties; Admin spend reports had not been received from the Agencies serving Klamath, Josephine and Douglas counties at the time of this Report submission.

funding relief at the onset of the program year. Actual carryover percentages have ranged from 3.65% to 32.57% since the inception of this policy.

To ensure the availability of this funding, Avista monitors the Agencies' unspent direct service funding at the end of each program year. As shown on Table 2 of this Report, the amount of unspent direct service funds on September 30, 2022 was \$30,762 or 12.77%, based on allocated direct service funds distributed to the Agencies.

Returned Direct Services

As with LIHEAP, any credit balance on a closed customer account due to a LIRAP payment may be transferred to another open Avista account belonging to that customer, or to the customer's closed account if they have such an account with an outstanding balance. When the customer no longer has an active account with Avista, the credit balance that results from a LIRAP grant is returned to the LIRAP general fund and redistributed to the Agencies. On September 30, 2022, approximately \$4,990 of returned LIRAP payments had accumulated and were disbursed among all the Agencies.

Program Design Changes

In accordance with the enactment of House Bill 2475 (HB 2475) in 2022, also known as the Energy Affordability Act—as well as associated PUC requirements for interim action in response to this legislation—significant work was conducted throughout the program year to transform LIRAP from a yearly lump-sum grant benefit to a monthly bill discount with arrearage assistance for income-qualified customers. The Company committed staff and resources to modify systems and processes, create new outreach and engagement campaigns, and engage partner CAAs and external stakeholders in the

development of program design and implementation. The resulting changes to LIRAP design are described in detail below.

Arrearage Management Plan (AMP)

Prior to the 2021-2022 program year, on March 29, 2021, Avista filed with the Commission a request to incorporate an Arrearage Management Plan, or AMP, into its tariff and to extend the provision of LIRAP outreach funds to Avista as well as to the Agencies that already receiving such Admin funds.³ The intent behind such incorporation was to leverage the Company's AMP pilot experience in its Washington service territory⁴ in order to provide financial relief for low-income Oregonians who have unmanageable past-due balances, or arrears, on their Avista bills, thereby providing a continued solution for customers who have accumulated arrears in amounts that are not sufficiently addressed by the existing LIRAP grant program alone. The AMP benefit is designed to assist qualified customers by reducing the amounts of an unpaid, past due balance owed over time and by rewarding regular payment behavior. The Company received approval of this request in May 2021, to become effective on June 1, 2021 to allow Avista further collaboration with the Agencies prior to the AMP's October 1, 2021 implementation date. As part of the AMP's approval, Avista was required to host a workshop by April 1, 2022 to report back to Staff and interested stakeholders regarding the AMP's performance, efficacy, funding metrics and any potential program modifications that may be warranted.

On March 30, 2022, Avista held its six-month AMP implementation update (Workshop), at which the Company provided an overview of its existing energy assistance

³ See Docket No. ADV 1254.

⁴ For the pilot program, the AMP was a Balance Management Arrangement (BMA). See Washington Docket Nos. UE-210077 and UG-210078 for Avista's request to make the pilot permanent.

programs in addition to its proposed AMP modifications and its future LIRAP Bill Discount proposal that resulted from HB 2475, as discussed later in this Report. Empower Dataworks, an independent evaluator commissioned by Avista to complete an Energy Burden Assessment (sometimes referred as a Low-Income Needs Assessment, or LINA), also presented their preliminary findings, as much of this data was used to help inform the design of the Bill Discount; this LINA is discussed further within this Report, and has been provided in its entirety as Attachment A. At this Workshop, Avista identified that there were zero AMP enrollments conducted by the Agencies in the six months the offering had been available. The Company identified the following learnings from this preliminary implementation phase:

- Traditional assistance programs such as LIHEAP are already sufficiently helping low-income customers with current and past due balances and the AMP is helpful for those whose arrearage balance is not fully covered by traditional assistance
- Timing of the six-month update Workshop may also be a factor in the under-utilization of AMP, as historical trends show that Avista natural gas customers typically seek assistance closer to April/May timeframe
- Explaining the benefits to customers, along with the participation requirements, can be complex
- With COVID-19 impacts considered, the customer may question even the affordability of being able to pay their current bill plus another 1/12th of their 10% arrears amortization; this is a critical and difficult educational point to convey.

To address these lessons learned, several AMP program policies were altered in April 2022 to allow Avista to jointly administer the program, with enrollment based on self-attestation of income, previous qualification for bill assistance (within the most recent two-

year period), and or enrollment in a similar means-tested program (“categorical eligibility”) – rather than requiring an application for low-income assistance to be completed with the Agencies. Additionally, requirements that were found to be barriers for the Agencies, the Company and customers were removed, such as the restrictions on re-enrollment (previously limited to 2 times every 7 years) and the requirement that all forms of energy assistance be exhausted before the AMP is applicable. To establish Avista as a joint administrator of the AMP, the role of Avista’s Customer Assistance, Referral, and Evaluation Services (CARES) staff was expanded to include qualification and enrollment of AMP customers. This undertaking required enhancements to the Company’s Customer Care and Billing (CC&B) system, processes, and program guidelines, as well as staff training. In their new role, CARES conducted callouts to 190 customers to discuss the AMP as an option to address their past due balance. Their efforts resulted in 25 customers being enrolled into the AMP. As of September 30, 2022, there were 100 active participants in the AMP.

HB 2475 and the LIRAP Bill Discount

Effective January 1, 2022, HB 2475 expanded the language under ORS 757.230 to allow the Commission to include additional factors when establishing rate classifications, including the “differential energy burdens on low-income customers and other economic, social equality or environmental justice factors that affect affordability for certain classes of utility customers.” With this guidance in place, Commission Staff (Staff) opened Docket No. UM 2211, and with it outlined the framework and timeline expected for utilities to implement differential rate programs in response to HB 2475. This framework required that natural gas utilities provide near-term relief to its customers by

way of 1) interim action proposals that provide income-eligible customers with an AMP or other enhanced bill assistance program, or explanation of existing offerings that meet the criteria by February 28, 2022; and 2) proposal of a differential rate program to become effective within the fourth quarter of 2022. In addition to these expedited customer support options, the timeline also provides for a broader investigation into the implementation of HB 2475 through which the Commission will more comprehensively explore and establish its policies regarding differential rates, including program design and administration.

As noted, much of Avista's 2022 energy assistance work revolved around the implementation of such interim action and significant overhaul needed in turning LIRAP from a grant-based program to a monthly discount with arrearage assistance for income-qualified customers. As part of its engagements with CAAs and external stakeholders to pursue this overhaul, the Company hosted three stakeholder meetings in 2022 to provide an overview of the LINA, proposed program modifications, potential cost impacts, and planned outreach and reporting. These meetings were also a time for reflection, collaboration, and discussion, with the resulting program design elements and changes ultimately supported from participating stakeholders.

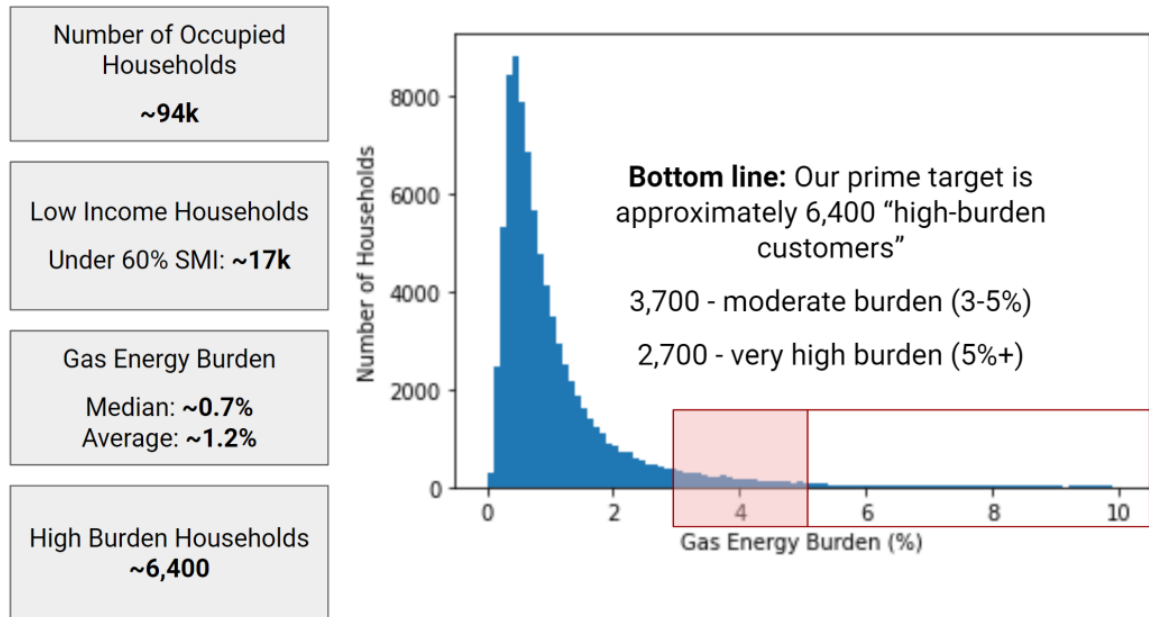
In alignment with Staff's timeline, Avista filed its "Explanation of Existing Interim Action" in Docket No. UM 2211 on February 28, 2022, after having collaborated with its partner Agencies and other interested stakeholders regarding the Company's planned approach. At that time, the Company's planned approach was to consider its existing energy assistance programs, inclusive of the LIRAP AMP, as having fully met the intent of interim action by offering a suite of options available to help Avista customers that may be struggling with financial hardships or resource inadequacies. Continued conversations with its CAAs and other stakeholders regarding its existing LIRAP, however, led to the

development of several proposed modifications to its LIRAP AMP, which were then presented to the Agencies, as well as UM 2211 stakeholders, as part of Avista's Workshop, as noted previously. Several AMP modifications that fit within the current program tariff were implemented in April 2022 and then, on June 1, 2022, Avista filed its LIRAP Bill Discount proposal with the Commission, with further modifications included its supplemental tariff request on July 19, 2022.⁵ Avista's proposal was approved by the Commission, to become effective August 1, 2022 to allow for an October 1, 2022 go-live date for the actual LIRAP components proposed.

Instrumental in the design and planning for the Bill Discount, Avista's LINA provided an assessment of the estimated energy assistance need within the Company's Oregon service territory, along with potential associated cost impacts. Empower Dataworks identified that of the approximate 94,000 residential service households within Avista's service area, approximately 17,000 could qualify for a bill assistance program with an income threshold of 60 percent State Median Income (SMI). The image below is an excerpt from the LINA, provided as Attachment A to this Report, and provides the distribution of energy burden among Avista's residential customers:⁶

⁵ See Docket No. ADV 1410.

⁶ See Attachment A, Energy Burden Assessment, at page 18.



The LINA also provided Avista with the percentage of monthly bill discount needed for low-income customers within each given income tier to achieve an energy burden of three percent or less, as illustrated below.

Zero to 60% SMI Bill Discount			
Zero to 5% SMI 90% discount	6 to 20% SMI 60% discount	21 to 40% SMI 25% discount	41 to 60% SMI 15% discount

Agency Meetings

As previously noted, HB 2475 and the associated Commission Staff engagements brought with them significant requirements for interim and future action. With these new conditions, it became necessary to increase the frequency of meetings between Avista and its Agency partners, from the typical few meetings per year to a regular monthly cadence. The intent of such acceleration was to advise partner Agencies about the new

law, various Commission requirements and the potential associated program changes; to achieve engagement with the CAAs for the Bill Discount implementation; to discuss the potential impacts to the Agencies and identify how they could best be supported for the imminent transformation of LIRAP. These CAA implementation meetings, held outside of the scope and requirement of the larger stakeholder meetings of Docket Nos. UM 2211 and 2114, are held in recognition that the CAAs are critical partners for successful program delivery and, as such, connections are made at a frequency appropriate for program-level discussions, with the larger stakeholder being involved at a lesser volume for collaborations more relevant to external voices. Additionally, the CAAs are the essential element for connecting customers to other programs to help stabilize the household – such as weatherization, rental and water assistance, and food security.

During the 2021-2022 program year meetings, Agencies identified that they would be unable to utilize the state LIHEAP database to administer the LIRAP Bill Discount with arrearage assistance. To support its CAA partners, the Company took on comprehensive systems overhaul to design, develop, and put into production various systems enhancements that enable Agency staff to enroll qualified customers into the Bill Discount and/or arrearage assistance through the company's Energy Assistance Workbench.

In September and early October of 2022, Avista staff also conducted onsite training at each CAA's place of business to educate their intake staff about the Bill Discount and arrearage assistance programs.

Outreach

Throughout 2021-2022, Avista continued marketing activity to raise awareness about its billing and payment options and the availability of bill assistance along with

hardship referrals to ensure customers experiencing financial difficulty were connected to bill assistance programs. Any time a customer indicates to Avista that they have been referred to seek assistance, are actively seeking energy assistance, or have an appointment for assistance, a Hardship Referral is created. This referral sends the customer's contact information to their local Agency in a daily referral report. At the time this referral is created, any active collections on the customer's account are also suspended for 30 days to allow the customer time to connect with the appropriate assistance needed. Each CAA then attempts to reach the customer to offer such assistance. . Customers are allowed one Hardship Referral per program year. Of those referred, 31% end up receiving energy assistance within 90 days of the referral.

Since the onset of the pandemic in 2020, the Company has included bill assistance messaging in its monthly Connections newsletter that is included with mailed bills. An example of that messaging is featured below. The print version of the newsletter is distributed to 63,678 OR residential customers and the eConnections, the digital copy, goes to 62,906 customer emails.



Do you need help paying your bill?

We have options.

We understand that there may be instances when customers find themselves facing financial difficulties. Avista partners with community agencies to provide financial assistance, plus we offer other services to help you manage and pay your bill such as **Comfort Level Billing, Preferred Due Date, and Payment Arrangements.**

We're here to help. Please call us at (800) 227-9187 to discuss your options with a Customer Service Representative or visit myavista.com/assistance for more information.

Avista's website also includes a page dedicated to assistance resources where individuals can learn about the options available, in addition to a tool that allows customers to locate their local CAA (myavista.com/assistance).

Data Collection

The data collection and measures used by Avista Utilities in the evaluation of LIRAP include:

- LIRAP Database,
- CC&B (Avista Utilities' information management data base), and
- Community Action Agency records

This Report was a collaborative effort of utility staff and Agency partners. Agency staff provide monthly demographic reporting in aggregate of those they have served with LIRAP. Agencies also provide a comprehensive Administrative and Program Delivery spending report quarterly.

Avista staff contributing to the Report includes representation from Regulatory Affairs, Revenue Accounting, the Contact Center, and Community & Economic Vitality.

Participating Community Action Agencies

- Community Connection of Northeast Oregon serving Union County
- ACCESS serving Jackson County
- United Community Action Network (UCAN) serving Josephine and Douglas Counties
- Klamath Lake Community Action Services serving Klamath County

Avista Contacts

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Low-Income Rate Assistance Program

Annual Summary Report

For the program period October 2021 through September 2022

OREGON

Attachment A



OREGON ENERGY BURDEN ASSESSMENT

empower
dataworks

AVISTA OREGON ENERGY BURDEN ASSESSMENT

JUNE 2022

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Empower Dataworks



INTRODUCTION

This brief report presents the methodology and findings from Avista’s 2022 Oregon energy burden assessment. The results of the assessment are contained in the web dashboard at <https://avista-or.empowerdataworks.com>.

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1. METHODOLOGY

1.1 GENERAL APPROACH

This energy burden assessment relies on collecting customer-level data, modeling missing attributes, then aggregating key metrics by geographic, demographic or building variables for analysis. The customer data comes from various sources as described in the rest of Section 1. Some demographic attributes were modeled or inferred using statistical techniques due to lack of primary data in the Customer Information System (CIS) or other sources. American Community Survey data was mainly used to sanity check aggregate statistics of customer-level data at the census tract level.

Three types of metrics were calculated:

- Metrics related to energy burden based on demographic and geographic characteristics
- Participation and funding in Energy Assistance Programs
- Customer energy use characteristics

The final dataset and results were packaged in a web dashboard for Avista staff.

1.2 DATA SOURCES

The data sources leveraged for the analysis are described in this section.

DATA PROVIDED BY AVISTA

Customer Information System (CIS): This data included monthly electricity bills for 36 months in 2019-21, account numbers and service addresses. A separate data extract included the dates and customer accounts that received late payment notices, allowing us to calculate the on-time payment rate for different customer segments.

Direct Assistance Program Data: We received a list of participating accounts in LIHEAP and the Low Income Rate Assistance Program (LIRAP) program in 2019-21, along with discount amounts and dates. This allowed us to calculate the total assistance funding at the household level.

Energy Efficiency Program Data: We received a list of participating accounts in the low income weatherization program in 2019-21, along with installed measures,

estimated therm savings and funding. The deemed therm savings were used to estimate the annual bill impact based on average bill savings of \$0.98/therm.

Agency Profiles: Avista provided demographic and program participation profiles for the four community action agencies in its service territory.

DATA OBTAINED FROM OTHER SOURCES

Geocoding: All customer addresses were geocoded to a latitude/longitude pair to facilitate geographic analysis. In addition, we mapped the latitude/longitude pairs to census tracts, block groups and blocks in order to pull additional aggregate statistics.

County Assessor Data: We obtained publicly available assessor data from Douglas, Jackson, Josephine, Klamath and Union counties. The assessor data included appraised values for homes, square footage, building year built, building use codes (residential, mobile homes, commercial and industrial), number of buildings on a land parcel, and other minor data points that were useful for performing general QA.

The addresses in this dataset were standardized to US Postal Service format, then matched with addresses in the CIS data. Some addresses existed in the CIS data but not in the assessor data (typically happens when multiple buildings occupy the same land parcel).

Customer Demographics: Data was purchased from a third-party data compiler that aggregates data from

public sources and credit bureaus. This data was mapped to the CIS dataset using customer addresses and included total household income, age of occupants, and homeownership status for a little over 77% of residential households. Demographic attributes for some customers were modeled due to lack of primary data in CIS or other sources. The modeling approaches are described in the next section.

American Community Survey (ACS): ACS data (2019 5 year estimates) was primarily used for QA to ensure that aggregate counts for various demographic attributes match the expected distributions from ACS.

1.3 FINAL ATTRIBUTES AND METRICS

The calculation methods for the metrics and attributes used in this report are described in this section. For all attributes, we also captured metadata related to the source of data and the confidence in the value (for example, data from primary sources has a high confidence, while modeled data has lower confidence). All of the data is robust for aggregate analysis, while high confidence data is better suited to customer-level marketing and program targeting.

Household Income: Income data was only available for 77% of households in Avista's Oregon service territory. To estimate the incomes for the remaining 23%, we used an iterative procedure.

Starting from the households for which we had income data, we applied an imputation model – this is a statistical method for filling in missing data by using the home's location, home value and building type. In other words, each household is assigned an income range based on the incomes of similar households in their area. This is the initial guess for that household's total annual income. Then, an iterative calibration procedure uses

those initial guesses and adjusts them to ensure that the overall income distribution within a census tract is similar to the overall income distribution from the ACS. The calibration iteratively takes a small sample of households (under 10%) and bumps them up or down by one income level within certain bounds until the modeled income distribution resembles the ACS income distribution.

Validation: From prior validation analysis, this modeling procedure yields fairly good results - it is able to reproduce the incomes accurately for a hold-out set of data from the original dataset, with errors under \$5k/year in household income for 85% of the test set and errors under \$20k/year in household income for the other 15%. Larger errors tend to happen for households with a larger income, which are not the focus of this study anyway. More importantly, the aggregate metrics related to energy burden (e.g. energy assistance need and overall burden) are very robust to errors in individual results because we are ensuring that overall distribution of

income is as accurate as possible, while the energy use does not change dramatically among similar households.

Poverty Status: The number of people living in a household cannot be easily obtained from any public data sources. This makes it difficult to identify a household's poverty status compared to the Federal Poverty Limit or the Area Median Income, both of which are defined by household size. The median household size in the five Avista counties in Oregon varies from 2.3 to 2.4 and household size for income thresholds is a configurable parameter in the data dashboard (for sensitivity analysis).

Building type: Meters were classified into one of five building types: single family, mobile homes, multifamily apartments, commercial or master metered and unoccupied. Commercial meters were those tagged with a specific commercial use by the county assessor or that were on a commercial rate class (unless they were clearly apartments). Additionally, we filtered out meters using in excess of 2,000 therms/year as those are likely associated with commercial uses or are master metered. Meters that showed energy consumption less than 20 therms/year were flagged as potentially unoccupied.

Overall, the number of household meters excluding commercial and unoccupied meters was approximately 94,000. Addresses with multiple units or tagged as multifamily properties by the county assessor were flagged as apartments. Mobile homes were either labelled as such by the county assessor or were sited in a mobile home park. Non-multifamily homes with addresses but without an identified land parcel are usually accessory dwelling units, trailers or mobile homes – these were all included in the “mobile home/other” category.

Validation: The aggregate housing type counts (91% single family, 6% multifamily and 3% mobile/ ADU homes) are similar to data from the DOE's LEAD tool for gas-heated homes in the five Avista counties (87% single family, 8% multifamily and 5% mobile/manufactured/ADU homes), although the LEAD tool only accounts for 67,000 gas-heated households, greatly underestimating the 94,000 actual residential customers in Avista's CIS system.

Homeownership Status: Homeownership status (rent vs. own) was determined using two methods. The demographic dataset included homeownership for approximately 77% of customers. For the other 23%,

households in multifamily apartments were tagged as “Likely Renters”, and households without any account changes during the two year analysis period were tagged as “Likely Homeowners”. Households with an account change and an accompanying sales record were also tagged as “Likely Homeowners”. This approach can potentially undercount long-term renters and tag them as homeowners. However, the accuracy of the approach seems sufficient for the purposes of large-scale aggregate analysis as in this study.

Validation: The owner-occupied housing rate for gas-heated homes in the DOE LEAD tool is approximately 71% in the five Avista counties. The homeownership rate from this analysis is up to 80% (56% confirmed and up to an additional 24% of either homeowners or long-term renters), so the two estimates fall within each other’s margin of error.

Gas Burden and Energy Efficiency Potential

thresholds: These thresholds were set as follows:

- High-burden threshold: Greater than 3%¹
- High efficiency potential threshold: Greater than 0.4 therms/sq.ft/yr.

Gas Burden: Gas burden for a household is calculated simply by dividing annual gas expenses by gross household income.

$$\text{Gas Energy Burden} = \frac{\text{Annual Gas Expenses}}{\text{Annual Household Income}}$$

Excess Burden: Excess burden is the portion of a household's energy burden in excess of the 3% threshold.

Excess Burden

$$= \max(0, \text{Gas Energy Burden} - \text{High Burden Threshold}) \times \text{Annual Household Income}$$

On-Time Payment Rate: This is the proportion of all energy bills that did not require a late payment or disconnect notice to be sent out.

Energy Assistance Funding: The dollar amount of funding flowing through energy assistance programs (including discount, donation and weatherization programs) through discounts or rebates.

Customer Bill Reductions (Avoided Burden): The total bill impact from energy assistance programs. This is the same as the assistance funding for direct assistance programs and is based on measure savings for energy efficiency programs as described in Section 1.2.

¹ The state of New Jersey uses a split high burden threshold by fuel: for customers with natural gas and electric service from different utilities, no more than 3% of income should be devoted to each. We use this as a high-burden guideline for gas heated homes in this assessment, recognizing that

there could be different interpretations or methods for designating customers as "high-burden". The dashboard allows for adjusting the gas burden thresholds, in order to test different reasonable thresholds.

Avoided Need: The total bill impact specifically for customers flagged as “high-burden”.

Census Tract Statistics: Since each customer has been mapped to a census tract and block group, we are also able to match customers to census tract average statistics (e.g. highly impacted communities, presence of children, non-English speakers, education level, environmental pollution etc.).

Energy Assistance Need: This is the sum of excess burden across all customers.

DOE Disadvantaged Community Score: The number of community vulnerability criteria (social, health and environmental) that are exceeded in a census tract. This data comes from the Department of Energy’s Climate and Environmental Justice Screening Tool.

DRAFT

1.4 SOURCES OF UNCERTAINTY

- **Household income** is a dynamic piece of data as residents move in and out of homes and income data can become outdated within a year or two.

- **Poverty status.** Since household size cannot be reliably captured through any available data source, household poverty status is subject to uncertainty. The Federal Poverty Limit and Area Median Income both use household size as a scaling factor. So, for any analysis, it is recommended to perform a sensitivity analysis with the household size assumption (this is facilitated through the web dashboard). In general, using 2 and 3 person household assumptions has been found comparable to statistics from income-verified programs.

- **Individual vs. aggregate data usage.** The underlying dataset has customer-level flags for data quality – data from primary sources is considered high quality while modeled data is considered medium or low quality, depending on the availability of supporting sources of information (example, home values and location). Higher quality data can be used for individual program targeting,

lower quality data can be used for program design and aggregate reporting.

- **Building types.** There is some uncertainty in the classification of building types as described in Section 1.3. This could result in misclassifying non-residential meters as occupied households or vice versa.

- **Achievable reductions in energy assistance need.** This analysis presents a *technical* energy assistance need based on energy burden. However, in our experience due to a variety of barriers like access to information, application process difficulties, stigma and lack of trust, many customers may not be willing to participate in programs, regardless of program design or available benefits. Understanding the *economically achievable* reduction in energy assistance need through utility programs would require a qualitative research of non-participants in a utility's service area.

2. AVISTA'S ENERGY BURDEN BASELINE



2.1 AVISTA'S OREGON RESIDENTIAL SECTOR PROFILE

Avista's service territory in Oregon state was composed of approximately **94,000 occupied households** (with a detectable energy use and not designated as shops, garages or commercial properties).

Ethnicity: According to the U.S. Census Bureau, approximately 83% of residents in Avista's service area are non-Hispanic white. Hispanic residents comprise 11% of the population, mostly concentrated in Klamath county.

Household Income: The median household income for residents in Avista's service area is approximately \$52,000, well below the state average of \$66,000. Approximately **14%** of all households would fall under 100% of the federal poverty limit.

Energy Bills: Avista residential natural gas rates are about average for the region. Annual energy bills in 2019-21 averaged **approximately \$670/year with an average annual consumption of 550 therms**. Figure 1 shows the distribution of annual natural gas bills; with about half of households paying more than \$640/year on their bills. Customers on the east side of the Cascades (Klamath and

Union counties) generally have higher bills (\$740 on average) compared to the west side (\$650 on average).

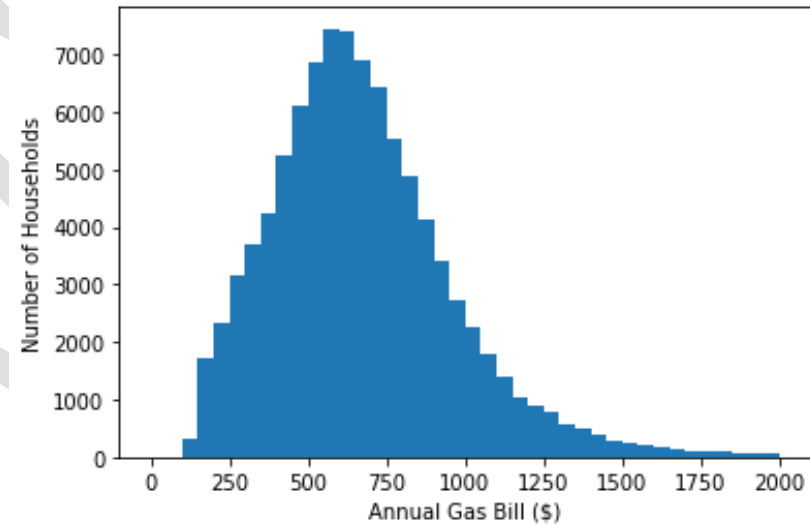


Figure 1. Household natural gas bill distribution for Avista's Oregon residential customers

2.2 ENERGY BURDEN

Avista customers have an **average and median gas energy burden of 1.2% and 0.7%**, respectively. Figure 2 shows various gas energy burden metrics in the five Avista counties. The proportion of customers who have a high energy burden is relatively low in the Western counties (4-7% of customers) vs. the Eastern counties (9-14% of customers).

The average household paid \$670/year in natural gas bills in 2019-21. Of 94,000 identified households, **6,400 were deemed to have a high energy burden**, meaning that annual natural gas bills exceeded 3% of their income. These high-burden customers paid an average of \$740 in annual natural gas bills; the higher bill average reflects their higher likelihood to live in less efficient or older homes. The **total energy assistance need for Avista's Oregon customers is approximately \$1.8M**—the total reduction that would bring all customer natural gas bills below the 3% high burden threshold.

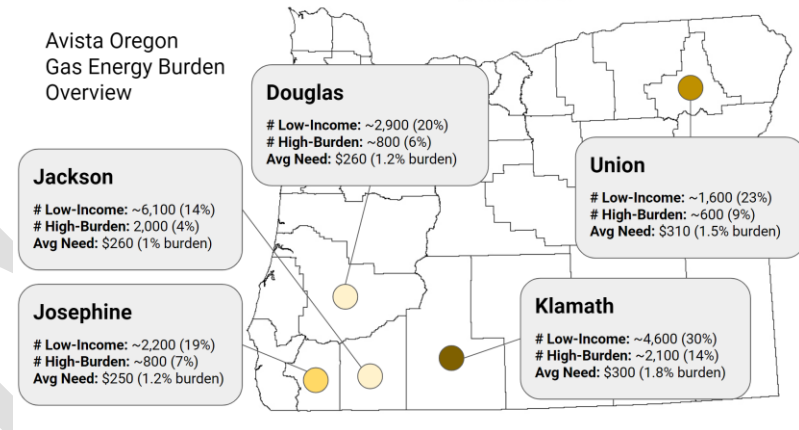


Figure 2. Energy burden benchmarking

Although averages and medians give a general indication of energy burden across a service territory, the reality is that **energy burden is a customer-level metric** and its distribution is a better indicator of the burden that customers experience. The distribution of energy burden among Avista customers is shown in Figure 3.

The goal of an effective energy assistance portfolio should be to prioritize the customers who most need the assistance, i.e. the customers to the right of the 3% threshold.

Approximately 67% of the energy assistance need is borne by single family households, with 16% in mobile

homes and the remainder in multifamily homes. The highest concentration of need is in mobile homes, requiring more than \$316/household in assistance on average, compared to \$283/household for single family and \$234/household multifamily households.

Approximately 48% of the energy assistance need for Avista customers is among renters, indicating that conservation programs targeted at high-burden customers will need to grapple with the split incentive problem between landlords and tenants, but energy burden among homeowners is equally significant. Other customer segments can be investigated in more detail in the data dashboard.

Number of Occupied Households
~94k

Low Income Households
 Under 60% SMI: **~17k**

Gas Energy Burden
 Median: **~0.7%**
 Average: **~1.2%**

High Burden Households
~6,400

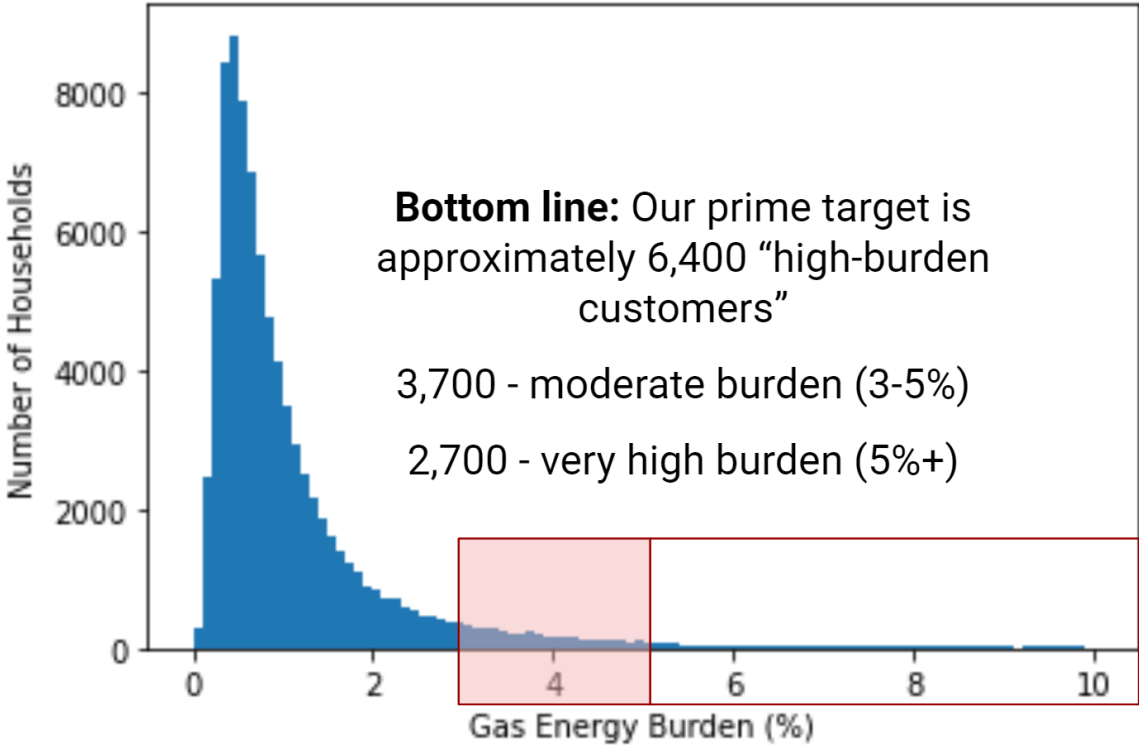


Figure 3. Distribution of energy burden among Avista’s Oregon customers.

2.3 CONSERVATION VS DIRECT ASSISTANCE

Figure 4 shows the distribution of energy burden and energy efficiency potential (defined through Energy Use Intensity thresholds) across all low-income residential customers. In a perfect world, the energy assistance portfolio would match these customer segments. For example:

- Conservation programs should primarily serve **high burden, high potential** households
- Direct assistance programs should primarily serve **high burden, low potential** households
- Crisis/emergency programs should primarily serve **low burden, low potential** households
- Traditional conservation programs with financing should serve **low burden, high potential** households

Aligning targeted customers with program strengths results are the most cost-effective pathway to energy burden reduction.

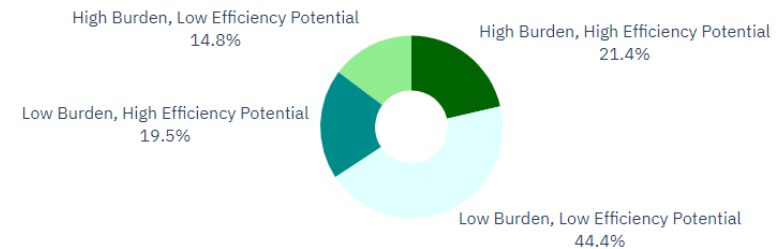


Figure 4. Avista's Oregon low-income customer segments by energy burden and energy efficiency potential.

Approximately 44% of Avista's low-income customers are low-burden and low-efficiency potential. These customers' energy bills may not be a huge expense relative to housing, medical and education expenses, and they should not be prioritized in the more intensive programs, such as weatherization.

21% of high burden customers also have a high efficiency potential indicating that the energy assistance program mix should equally prioritize sustained energy burden reductions through energy efficiency and weatherization.

3. KEY CUSTOMER SEGMENTS

A11

A12

HOUSE

3.1 OVERVIEW

This section presents statistics and profiles related to key customer segments in Avista’s Oregon service area. These customer segments were selected for a combination of reasons:

1. Flagged in this assessment as having high overall burden or high prevalence of energy burden
2. Meets the Department of Energy criteria for vulnerable communities
3. Identified as high priority through interviews with agencies

This analysis is primarily geographic, focusing on specific neighborhoods. The maps in the following sections display the level of energy assistance need in these areas as well as locations of social services for potential outreach.

These customer segments represent a big portion, but not the entirety of the high energy burden among Avista’s customers, so they should be targeted for any new programs or initiatives in the future using lists of customers who live in the block groups identified below.

3.2 EASTERN COUNTIES

PROFILE: The figure below shows the energy assistance need and average energy assistance funding in the five counties in Avista’s Oregon service area. In general, the energy assistance need is about 30% higher in Klamath and Union counties, east of the Cascades, while the average level of funding is almost equal in all counties. The difference in average need can mostly be explained by the difference in climate. Figure 5 shows the seasonal average temperatures in Medford and Klamath Falls (which are only 80 miles apart) – areas east of the Cascades experience colder temperatures in winter and the shoulder seasons, resulting in higher gas bills and burden.

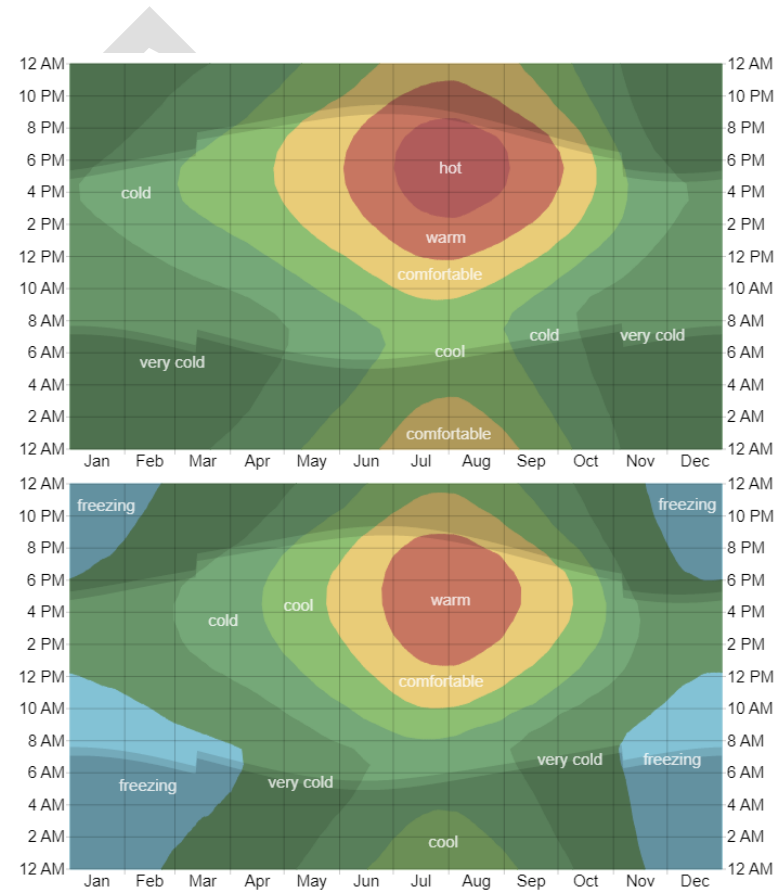
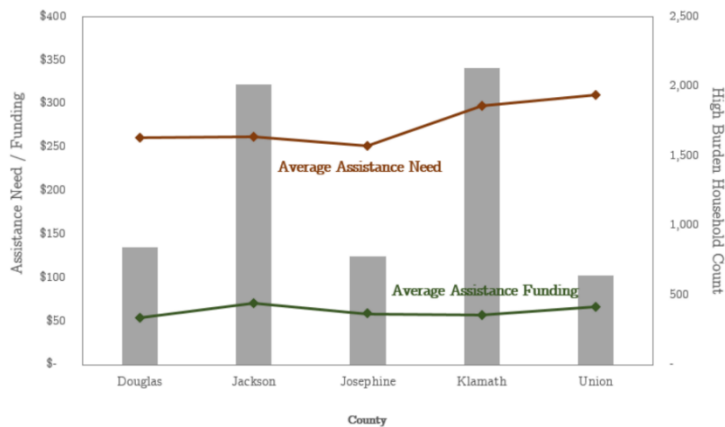


Figure 5. Seasonal average temperatures in Medford (top) and Klamath Falls (bottom) – from [WeatherSpark.com](https://www.weather.com).

RECOMMENDATIONS: We recommend adding the level of gas assistance need or gas burden as an additional consideration when apportioning program budgets among Avista’s partner agencies. Relying on customer counts alone misses the fact that gas energy burden is not evenly distributed among the different counties. This

would roughly imply a budget breakdown as follows: a third in Jackson county, a third in Klamath county and the remaining third split evenly between Douglas, Josephine and Union counties. The following table shows that three quarters of Avista’s customers are located west of the cascades, but they only shoulder about half of the gas burden.

County	Proportion of gas assistance need	Proportion of current program spending	Proportion of Avista customers
Douglas	12%	11%	16%
Jackson	30%	43%	48%
Josephine	11%	9%	12%
Klamath	36%	28%	17%
Union	11%	9%	7%

3.3 DOWNTOWN KLAMATH FALLS

Census block groups: **410359718001, 410359718002, 410359718003, 410359719005**

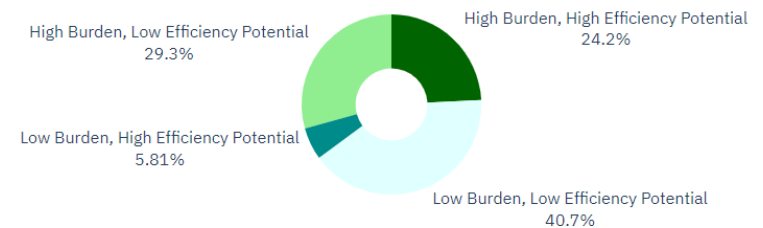
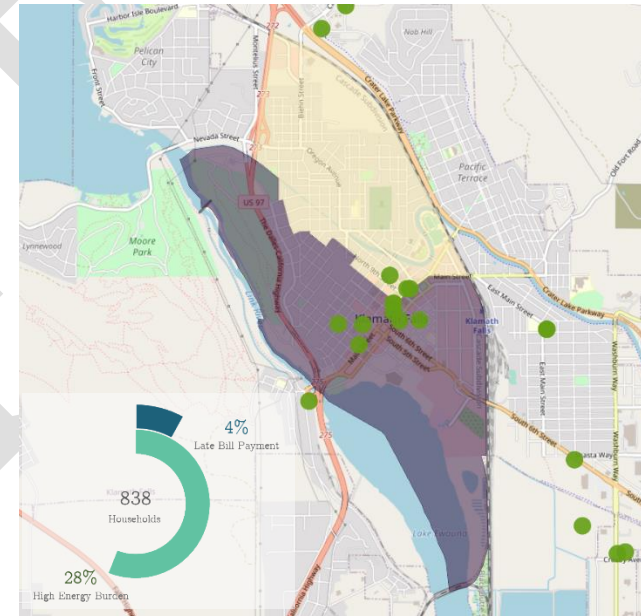
Total Assistance Need: **\$68k (4% of total)**

Total Assistance Funding: **\$18k (2% of total)**

DOE Disadvantaged Community Score: **2.6**

PROFILE: Customers in downtown Klamath Falls tend to live in older single family homes – about a third of these customers rent their homes. Although 20% of the local population are considered people of color (Hispanic), most customers are bilingual. The area has some light industrial activity and has historically had relatively high rates of unemployment and poverty.

RECOMMENDATIONS: This customer segment is urban but dispersed. KLCAS has primarily relied on word of mouth to recruit program participants. There are numerous social services organizations in the area, which introduces an opportunity to build partnerships with local community organizations.



3.4 ALTAMONT

Census block groups: **410359712001, 410359715002, 410359716003**

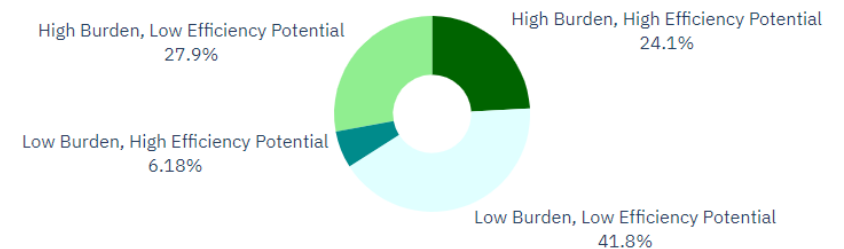
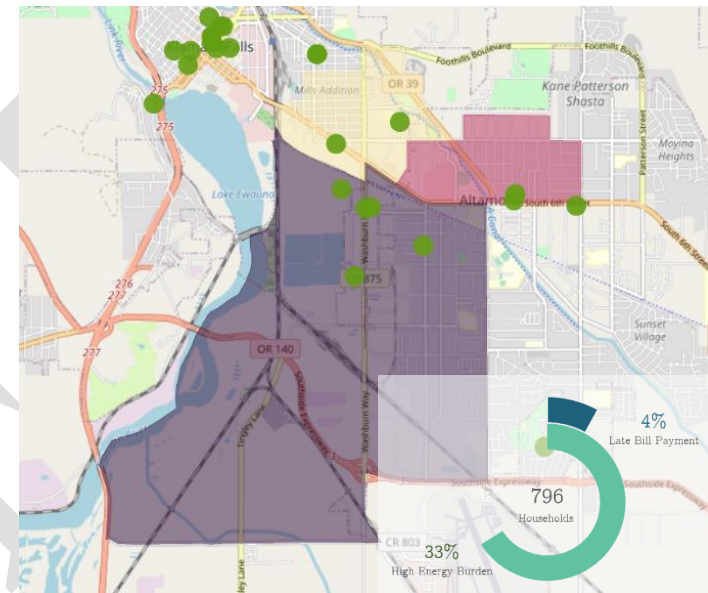
Total Assistance Need: **\$88k (5% of total)**

Total Assistance Funding: **\$40k (3% of total)**

DOE Disadvantaged Community Score: **4.7**

PROFILE: Altamont is an unincorporated community just south of Klamath Falls. Most homes in the area are smaller, older, stick-built on concrete slabs – more than 90% of homes were built prior to 1980. Almost a third of customers in the area have a gas energy burden higher than 3%, but on-time bill payment rates are still reasonably high. There is a large proportion of senior customers in the area. The area appears to be slightly underserved by existing programs, but the local agency is moving to a new location in summer 2022, which should be more accessible by public transit.

RECOMMENDATIONS: This customer segment is more dispersed than Klamath Falls and physical access to services may be harder. Consider targeted mail campaigns to the area informing customers of programs. KLCAS is introducing a new online application system that could improve program access for these customers.



3.5 OLD MEDFORD

Census block groups: **410290003002, 410290001001**

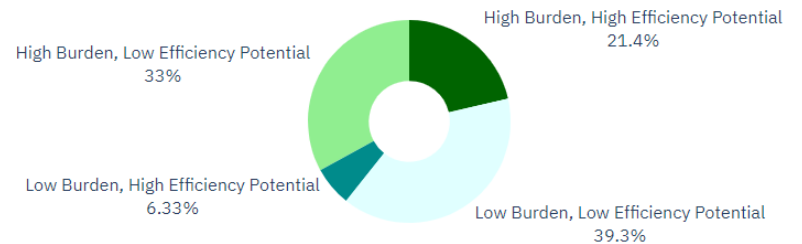
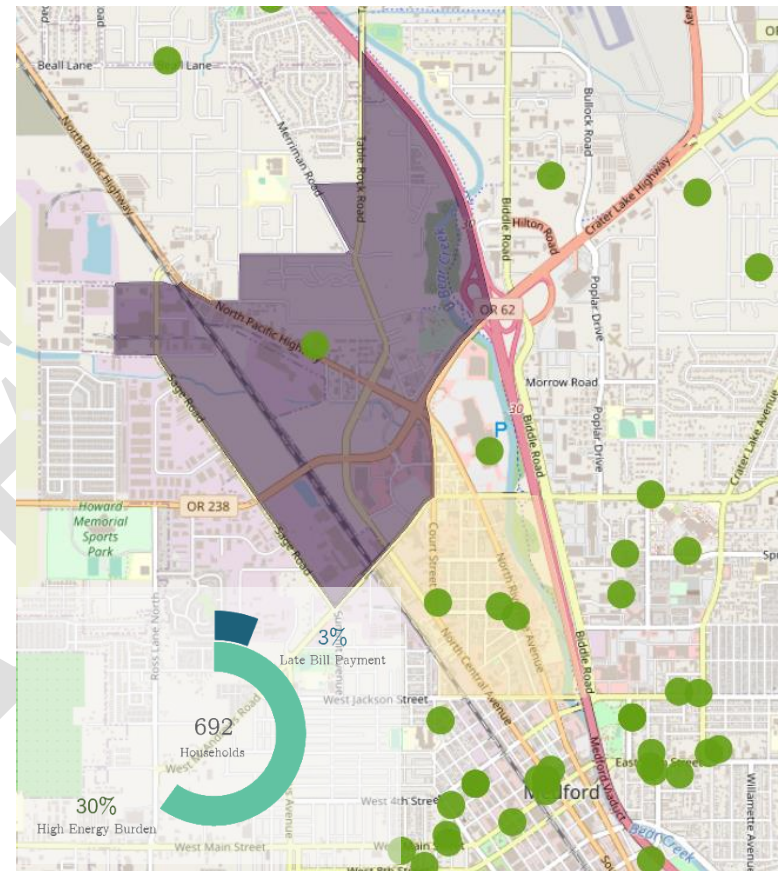
Total Assistance Need: **\$66k (4% of total)**

Total Assistance Funding: **\$18k (1% of total)**

DOE Disadvantaged Community Score: **2.6**

PROFILE: The area surrounding Northwest Medford is an older part of town and includes several gas-heated mobile home parks that were flagged as having a high gas energy burden. The area has a high rate of property crime and appears to be somewhat underserved by existing programs.

RECOMMENDATIONS: Outreach to trailer park managers can be very effective at recruiting program participants who reside in mobile homes. The area should be prioritized for weatherization or lighter touch energy efficiency (e.g. energy savings kits, thermostats and air sealing), as more than half of customers have a high gas savings potential.



3.6 NORTHEAST LA GRANDE

Census block groups: **410619704002, 410619704003, 410619705002, 410619707001, 410619707003, 410619708001, 410619708002**

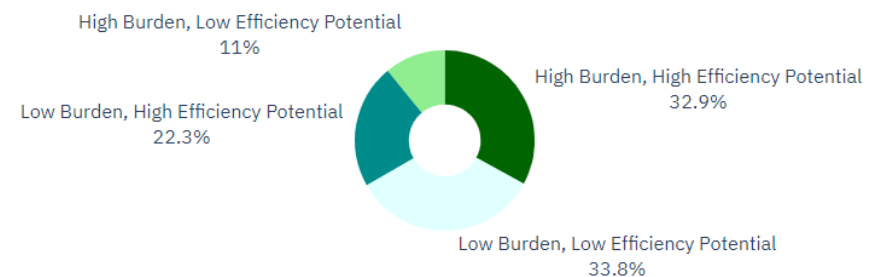
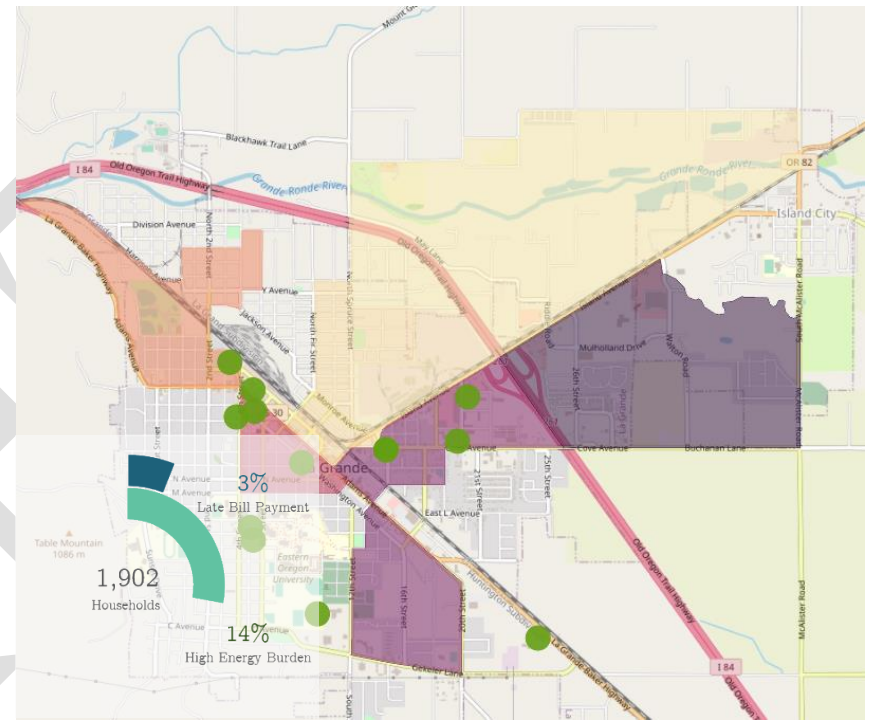
Total Assistance Need: **\$82k (5% of total)**

Total Assistance Funding: **\$37k (3% of total)**

DOE Disadvantaged Community Score: **0**

PROFILE: The high priority areas in La Grande have predominantly older housing and a relatively large senior/fixed income population. Northeast La Grande is surrounded by agricultural land.

RECOMMENDATIONS: As rural areas, traditional mass communications may not be effective at reaching this customer segment. Collaborating with local schools, churches or community organizations (like Union County Casa) will be more effective. Door-to-door canvassing may also be feasible in collaboration with the local agency.



3.7 SOUTH GRANTS PASS

Census block groups: **410333612001**

Total Assistance Need: **\$22k (1.2% of total)**

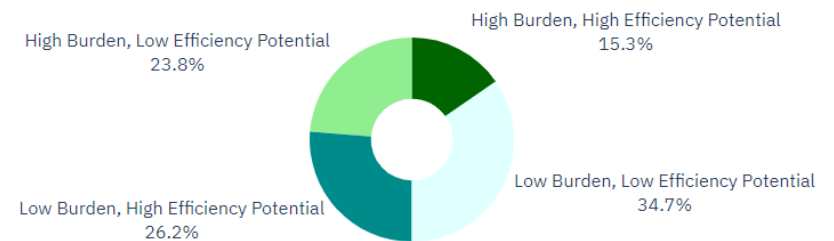
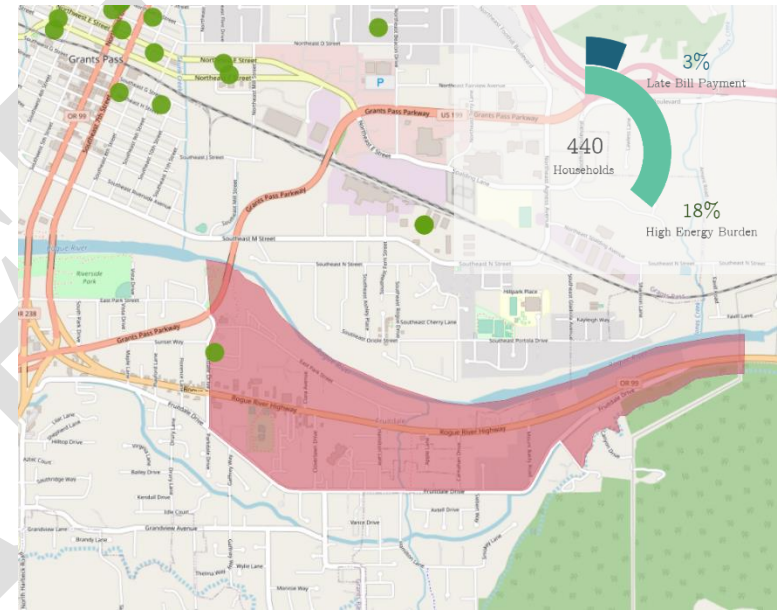
Total Assistance Funding: **\$5k (0.4% of total)**

DOE Disadvantaged Community Score: **1**

PROFILE: The area south of Grants Pass has various neighborhoods composed of mobile homes and ADUs. Some of these were affected by wildfires in the past few years.

Old Town Roseburg (410191300001) is also an area of older manufactured homes, with a high level of homelessness due to the availability of social services.

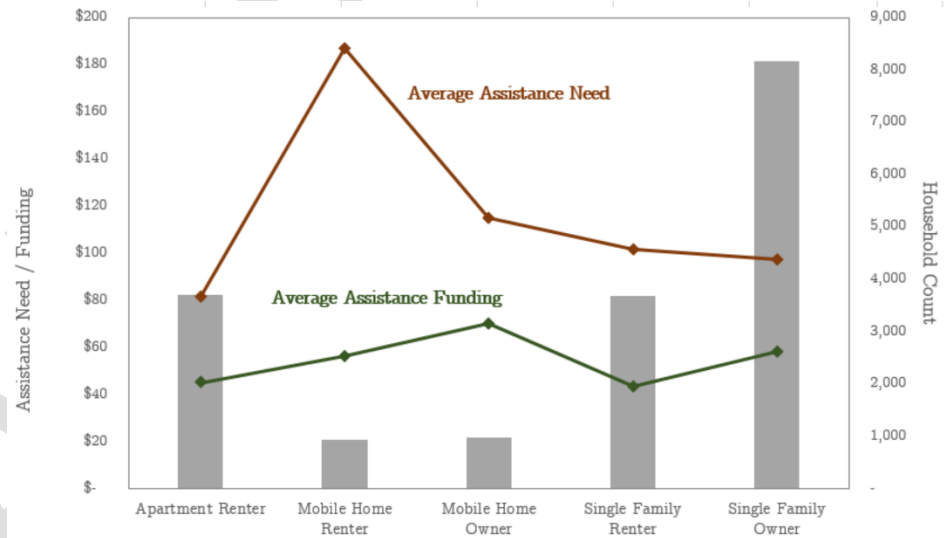
RECOMMENDATIONS: UCANCAP already has a satellite office in Grants Pass that accepts and processes program applicants. Targeted marketing campaigns to these block groups as well as trust building through local partnerships will be essential to reach this customer segment.



3.8 MOBILE HOME RENTERS

PROFILE: The figure to the right shows the energy assistance need and average energy assistance funding for all low-income customers in Avista’s Oregon service area, categorized by housing type and homeownership. In general, it appears that apartment dwellers are relatively well-served by existing programs as the gap between average need and average funding is very small. On the other hand, the least well-served segment appears to be renters living in mobile homes.

RECOMMENDATIONS: Mobile home dwellers can be best reached through outreach to trailer park managers. In addition to building partnerships with local schools, churches and community organizations, it is recommended to develop targeted energy assistance marketing campaigns (direct mail and email) for these customers through the dataset developed in this assessment. Onerous program application requirements are also a big barrier to participation for this customer segment.



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