

A RESOLUTION Supporting The Federal Columbia River Power System, Recognizing Its Role in Environmental Stewardship and Opposing the Removal of the Lower Snake River Dams

WHEREAS, customers of Public Utility District No. 1 of Clallam County, Washington (the District) receive approximately 87 percent of their electricity from the Federal Columbia River Power System (FCRPS); and

WHEREAS, the Federal Columbia River Power System has been, is, and will continue to be a critical component of life and economy in the Pacific Northwest; and

WHEREAS, the dams on the Columbia and Snake Rivers are described by the Army Corps of Engineers as “multiple use facilities that provide navigation, hydropower, recreation and fish and wildlife conservation benefits” to the Pacific Northwest; and

WHEREAS, the Bonneville Power Administration (BPA) has identified the Lower Snake River Dams as critical components of the FCRPS mission of supporting peak power generation; and

WHEREAS, the four Lower Snake River Dams, including Ice Harbor, Lower Monumental, Little Goose and Lower Granite; annually produce approximately 1,000 average Megawatts of carbon-free power, enough to serve nearly half a million Northwest businesses, industries and households; and

WHEREAS, removing over 3,000 megawatts of short-term peaking winter capacity of the Lower Snake River Dams will negatively impact Northwest resource adequacy; and

WHEREAS, the Lower Snake River Dams are among lower cost non-carbon sources of power supply available with sufficient flexibility to substantially shape generation to match 24 hour load variability; and

WHEREAS, the Lower Snake River Dams include a gauged normal operating range storage capacity of up to 33,000 MWH; and

WHEREAS, the State of Washington has passed legislation requiring 100% of all retail energy sales be provided by carbon-free resources by 2045; and

WHEREAS, the State of Washington includes existing hydropower as an eligible resource for utilities seeking compliance with the 100% Clean Energy Transformation Act (CETA) requirements; and

WHEREAS, The 2020 Columbia River System Operations (CRSO) Environmental Impact Statement (EIS) recommended a “Preferred Alternative” that retains the four Lower Snake River Dams of the Columbia River System (CRS); and

WHEREAS, the Preferred Alternative “balances managing the system for all authorized purposes while providing additional benefits to fish”; and

WHEREAS, “the Preferred Alternative endeavors to provide the most balanced way to fulfill all of the CRS projects’ congressionally authorized purposes, meets a majority of the CRSO EIS objectives, minimizes and avoids adverse impacts to the environment, benefits tribal interests and treaty resources, and provides additional improvements for ESA-listed species.”; now, therefore, be it

RESOLVED, That the Board of Commissioners of the District support the continued operation of the entire Federal Columbia River Power System.

2. That removal of elements of the FCRPS, including the Lower Snake River Dams, without firm capacity replacement, would negatively affect the District's ability to provide reliable, efficient, clean and affordable power to its customers.

3. That the District supports retaining the four Lower Snake River Dams for the low carbon equivalent, renewable, reliable, low-cost energy they provide, making them an important component of a clean energy future.

4. That the District opposes the removal or breaching of the four Lower Snake River dams given uncertainty and the potential negative impact to long-term regional resource adequacy, as well as the loss of other benefits, as referenced in the EIS.

PASSED by the Board of Commissioners of Public Utility District No. 1 of Clallam County, Washington. this 22nd day of March, 2021.

President

ATTEST:

Vice President

Secretary

A RESOLUTION Authorizing the Disposal of Surplus Property

WHEREAS, in accordance with RCW 54.16.180, the District property and equipment described on the attached lists, has been determined to be no longer necessary or useful in the operation of the District's system; and

WHEREAS, removal, storage, and accounting for such surplus equipment is wasteful; now, therefore, be it

RESOLVED, That the General Manager is hereby authorized to dispose of the material described on the attached list as determined to be in the District's best interest.

PASSED, by the Board of Commissioners of Public Utility District No. 1 of Clallam County, Washington, this 22nd day of March, 2021.

President

ATTEST:

Vice President

Secretary





MEMORANDUM

Date: March 22 , 2021
To: Doug Nass, General Manager
From: John Purvis, Assistant General Manager
Bill Decker, Project Manager
Re: POLE INSPECTING, TREATING, AND REPORTING
ELECTRICAL TRANSMISSION AND DISTRIBUTION
WOOD POLES IN CLALLAM AND JEFFERSON COUNTIES
BID NUMBER 211003

It is recommended that the District solicit quotations for a contractor to inspect, treat, and report on an unspecified number of electrical transmission and distribution wood poles. The number of wood poles is undetermined at this time. The location of the work is Clallam County.

This project will have an estimated not-to-exceed amount of \$129,368.00 (not including WSST).

JP:BD:jk



John Purvis, Assistant General Manager

Date: 3/12/2021



Bill Decker, Project Manager

Date: 3-12-2021

Acknowledged and Agree:

Doug Nass, General Manager

Date: _____

**SECTION I
NOTICE AND INSTRUCTIONS TO BIDDERS
BID NUMBER 211003**

1. CALL FOR BIDS

Proposals for distribution and transmission wood pole inspection, treating, and reporting will be received by PUBLIC UTILITY DISTRICT NO. 1 OF CLALLAM COUNTY, on or before Tuesday, April 20, 2021 by 2:00 p.m., Pacific Time, either by standard mail Attn: Contracts, P.O. Box 1000, Carlsborg, WA 98324, or by overnight mail or expedited mail, Attn: Contracts, 100 Hooker Rd., Sequim WA 98382. Please note, due to COVID our offices are closed to the public at this time.

2. SCOPE OF WORK

The project will consist of wood pole inspection, treating, and reporting of an unspecified number of electrical transmission and distribution wood poles in Clallam County. The number of wood poles to be inspected, treated, and reported will be determined by the Contractor's unit cost proposal.

The District is also interested in receiving cost proposals for the installation of District plant unit numbers on the wood poles and guy guards that are included within the above-defined scope.

This project will have an estimated not-to-exceed amount of \$129,368.00 (not including WSST).

3. STARTING / COMPLETION DATES

The work shall commence upon issuance of the Notice-to-Proceed or as soon thereafter as weather permits. The Project must be completed on or before November 5, 2021.

4. AVAILABILITY OF CONTRACT DOCUMENTS

Specifications are on file and copies are available at no cost on our website <https://clallampud.net/contractorsprojects/> or please telephone 360.565.3212 or Bill Decker at 360.565.3461 to assist you as our offices are closed to the public at this time.

5. EXAMINATION OF SITE AND CONDITIONS

Prior to the submission of the bidder's proposal, the bidder shall make and shall be deemed to have made a careful examination of all contract documents on file with the District, and shall become informed as to the location and nature of the proposed inspection, treating, and reporting, the transportation facilities, the kind of facilities required before and during the course of the project, general local conditions, and all other matters that may affect the cost and the time of completion of the project. An inspection tour of the areas to be inspected, treated, and/or reported is not scheduled; however, if the Contractor wishes to view a representative area or needs further information, the Contractor should contact Bill Decker, Operations Superintendent, at 360.565.3461.

6. BIDDER PREQUALIFICATION

Per RCW 54.04.080; RCW 54.04.085;

- Contractors must currently be prequalified to work on the District's electrical facilities prior to being considered a responsible bidder to our call for bids.

7. SUPPLEMENTAL BIDDER RESPONSIBILITY

The Contractor shall employ a "Treating Foreman" who must be an experienced wood pole inspector with a minimum of 12 weeks training. **A written list of the foreman's qualifications must be submitted with bid.**

8. INSURANCE

The Contractor shall, at its own expense and cost, carry insurance from an insurance company or companies and under policies of insurance acceptable to and approved by the District, the following insurance with limits not less than shown on the respective items:

a. Worker's Compensation

To the limit required by the laws of the State of Washington.

b. Commercial General Liability and Property Damage Insurance

Minimum Coverage Limits:

Bodily Injury	\$1,000,000 each person
Property Damage	\$1,000,000 each occurrence \$2,000,000 aggregate
Umbrella Coverage	\$2,000,000

Any policy shall have no Self Insured Retained Limits or deductible.

c. All policies of insurance providing coverages required under paragraph "b" above shall name Public Utility District No. 1 of Clallam County as additional insured with a cross liability clause and provide that no cancellation or material changes in the policies shall become effective unless thirty (30) days prior notice of such cancellation or change shall be furnished the District by certified mail. The District shall be named in the policy as an additional insured without reservation or qualification. Blanket Additionally Insured is not acceptable.

Prior to commencement of any work hereunder, the Contractor shall provide the District with evidence of Worker's Compensation Insurance and with a Certificate of Insurance showing the District named as additional insured.

9. **CONTRACTOR**

The project, as detailed under Item 2 of this Notice and Instructions to Bidders, shall be performed by one general contractor. The bidder may not elect to bid on only a portion of the project, but may use necessary subcontractors to complete the work. All subcontractors must be listed in Section II, Proposal. **Any subcontractor not listed shall be barred from performing any of the work described herein.**

10. **SUBMISSION OF PROPOSAL**

Proposals may be submitted via USPS addressed to the PUD No. 1 of Clallam County, Attention: Contracts Coordinator, P.O. Box 1000, Carlsborg, Washington 98324. If submitting via express delivery (i.e. FedEx, UPS), please deliver the bid Attention: Contracts Coordinator, PUD No. 1 of Clallam County at 100 Hooker Road Sequim, WA 98382. The name and address of the bidder and bid number must appear on the envelope in which the Proposal is submitted. Proposals must be filled out in ink or typewritten. No alterations or interlineations will be permitted, unless made before submission, initialed, and dated.

11. **EMPLOYER'S IDENTIFICATION NUMBER**

The bidder must furnish with the bid the firm's Federal Employer Identification Number.

12. **SALES TAXES**

Any county, city, or metropolitan municipal sales taxes that may be applicable to this transaction will be considered by the Board in evaluation of bids. In the event that a county, city, or metropolitan municipal sales tax is applicable to the proposed purchase, the Board will award the contract to the lowest bidder, on the basis of the relative amount of the stated bid price plus the amount of any county, city, or metropolitan municipal sales and use tax.

13. **PAYMENT OF PREVAILING WAGES**

The Contractor will be required to pay prevailing wages on this project. It shall be the Contractor's responsibility to verify current rates of all occupations used on the project. See the Prevailing Wage section, attached as "Exhibit A" herein.

14. BID SECURITY

Each proposal shall be accompanied by a Certified Check or Cashier's Check payable to the order of the District for a sum not less than five percent (5%) of the amount of the bid, or accompanied by a Bid Bond in an amount not less than five percent (5%) of the total bid with a Corporate Surety licensed to do business in the State of Washington, conditioned that the Bidder will pay to the District as liquidated damages the total amount specified in the Bond unless entering into a contract in accordance with the bid and furnishing a Performance and Payment Bond(s) for not less than One Hundred percent (100%) of the contract price within ten (10) days of being notified as being the successful bidder, as required by Section 54.04.080 R.W.C.

If a proposal is not accepted, the Certified Check, Cashier's Check, or Bid Bond will be returned within 90 days to the Bidder furnishing same, except that of the successful Bidder shall be retained until a contract is entered into and a Performance and Payment Bond(s) furnished as mentioned above.

If the Bidder fails to enter into a contract and furnish the Bond(s) within ten (10) days of the date of being notified as being the successful Bidder, the check or Bid Bond and the amount thereof shall be forfeited to the District. No Bidder shall be permitted to withdraw a bid within a period of 45 days after the actual date on which the bids were opened.

15. PROPOSAL IRREGULARITIES OR ERRORS

The District reserves the right to waive non-material irregularities or minor errors in any proposal.

16. REJECTION OF PROPOSAL

The District reserves the right to reject all proposals and re-issue the request for proposals.

17. SUSPENSION/DEBARMENT

All bidders must have a current Washington Unified Business Identifier (UBI) number. If applicable they must have Industrial Insurance (worker' compensation) coverage for the bidder's employees working in Washington, as required in Title 51 RCW. They must also have a Washington Department of Revenue state excise tax registration number, as required in Title 82 RCW. The bidder must not be in a suspended or debarment status or be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065(3).

**PUBLIC UTILITY DISTRICT NO. 1
OF CLALLAM COUNTY**

By: 
John Purvis, Assistant General Manager

PUD #1 of Clallam County

CETA

**Energy Assistance for Low-Income
Households**

March 22, 2021



Presenters:

- PUD
 - John Purvis – Assistant General Manager
 - Sean Worthington – Finance Manager/Treasurer
- FCS
 - Sergey Tarasov – Senior Project Manager
 - Matt Hobson – Project Manager



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What is RCW: 19.405.120

- Intent of Legislature is to make progress toward making energy assistance funds available to low-income households.
- All WA Electric Utilities must make programs and funding available for energy assistance to low income households by July 31, 2021.
- Priority must be given to low-income households with a higher energy burden.
- Programs can include direct monetary assistance or conservation measures to reduce energy burden.



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Energy Burden / Energy Assistance Need

- **Energy Burden**
 - The percentage of household income that goes toward household energy costs.
- **Energy Assistance Need**
 - The amount of assistance needed over and above 6% Energy Burden.
- **Example**
 - Household Income = \$36,000
 - Annual household energy costs of \$2,880.
 - Energy Burden = $2,880/36,000 = 8\%$
 - Energy Assistance Need = $(0.08-0.06) * \$36,000 = \$720/\text{year}$



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Department of Commerce

- **Must collect and aggregate data estimating energy burden and energy assistance need for each utility. Updated biennial.**
- **Publish Data with estimated number and demographic characteristics for each utility**
- **Provide the estimated level of energy burden and energy assistance need.**
- **Provide Housing characteristics including housing type and energy efficiency potential.**



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Utility Responsibilities

- Biennially each utility must submit an assessment of the following:
 - Programs and Mechanisms used to reduce energy burden and the effectiveness of those programs.
 - Outreach strategies used to encourage participation of eligible households.
 - Cumulative Assessment of previous funding levels for energy assistance compared to the funding levels needed to meet:
 - Sixty Percent of the current energy assistance need;
 - Increasing energy assistance by 15% over the amount provided in 2018 (whichever is greater) by 2030
 - 90% of the current energy assistance need by 2050
 - A plan to improve the effectiveness of the assessed mechanisms and strategies toward meeting energy assistance need.



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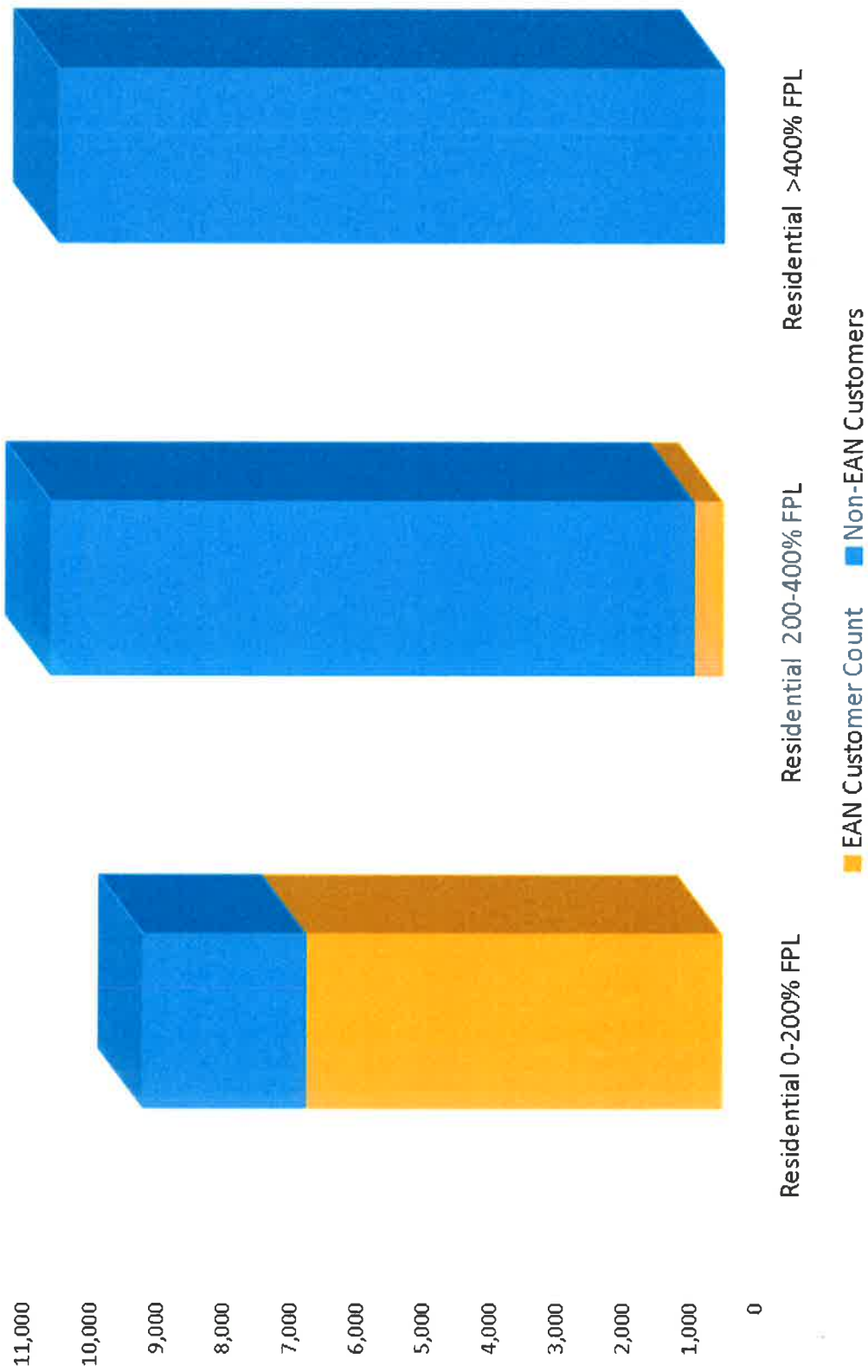
Energy Assistance Need Analysis

- Energy Assistance Need or EAN was presented in our CETA Presentation from October of last year.
- Provided in your packet is a copy of the District's analysis of RCW 19.405.120 dated 4/23/20 and based on 2019 data.
- This presentation incorporates subsequent information and a corroborative analysis conducted by the FCS Group.
- The two analysis have very similar outcomes utilizing independent and differing methodologies.
- At the conclusion of CETA Section 12 rule making, critical questions remained unanswered.
 - Utilities are obligated to demonstrate progress towards meeting EAN goals through biennially reporting.
 - There is no objective definition of "progress towards".
 - The State is not expected to provided utilities the data needed to make program assessments before July 31, 2021, we must proceed without the information.

Summary of the PUD EAN Analysis

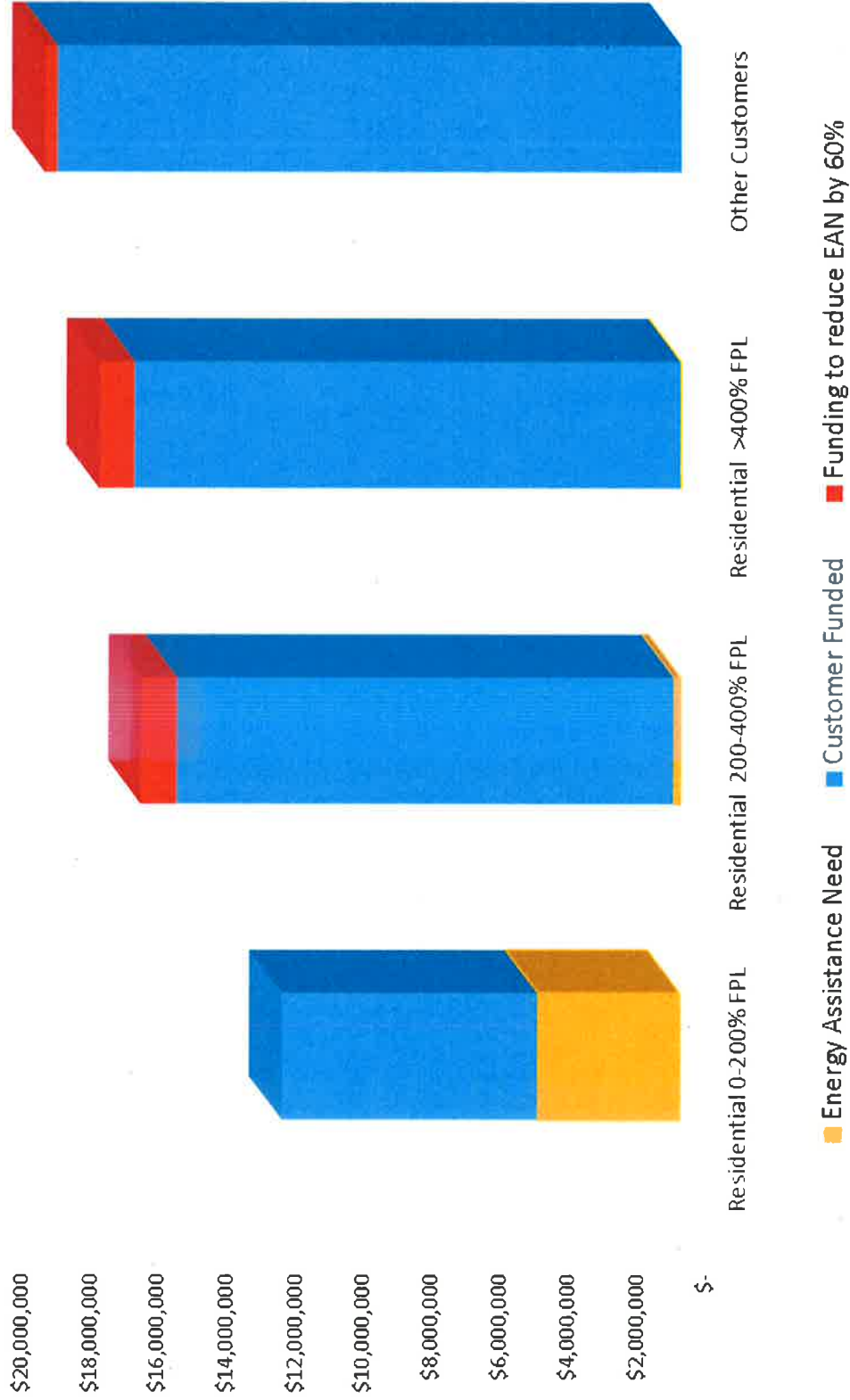
- Approximately 8,700 of 28,800 residential customers have household income below 200% of the Federal Poverty Level(FPL).
- About 6,250 customers have EAN.
- 35.4% of total electric billings for customer below 200% of the FPL is EAN.
- Total EAN is about \$4,129,000, or close to 6.7% of PUD revenue
 - 2030 EAN Target = \$2,477,000
 - 2050 EAN Target = \$3,716,000
- In 2020 PUD low-income assistance programs provided almost \$378,000 in assistance to 1122 customers.
- Perhaps as many as 1,800 customers currently received up to \$450,000 from OlyCAP and all other State, Federal and Tribal programs.

72% of customers below 200% FPL have EAN



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More than 35% of Billings to Customers Below 200% FPL is EAN
 To Eliminate 60% EAN within the Local Jurisdiction Could Mean 7% Increase for Some



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PUD EAN Analysis

- The EAN Analysis is conducted such that our utility can make decisions necessary to implement CETA Section 12
 - Development and implementation of compliant low-income programs.
 - It is unclear if CETA Section 12 will be a State mechanism to evaluate EAN, or if it will actually be used to mandate reduction in EAN through resources available to local jurisdictions using the legislative targets.
 - The 2% annual cap associated with the general CETA legislation does not apply to Section 12.
- In rule making comments, WPUDA working group discourse, and in direct discussions with the Department of Commerce PUD staff has emphasized:
 - CETA Section 12 attempts to address an income inequality issue.
 - As a matter of fundamental fairness, the primary funding sources to meet Section 12 objectives should not be pushed to small jurisdictions such as PUDs.
 - Poverty rates and affluence of the local jurisdictions vary widely and large EAN needs should not be remedied by a disproportionately small non-low income ratepayer base.

FCS Presentation

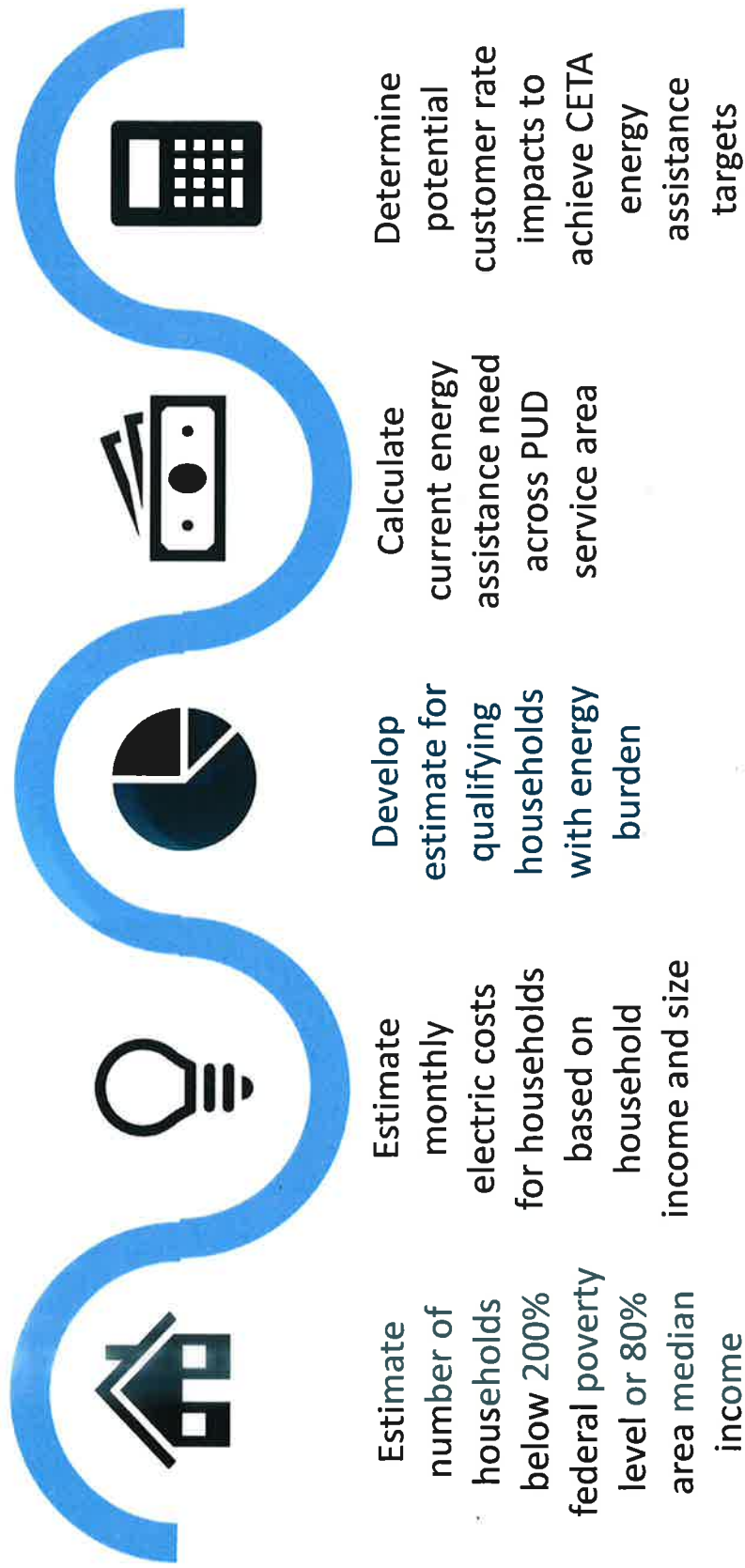


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Scope of Work

- PUD contracted FCS Group in 2020 to provide third-party review of internal analysis and estimates for energy burden and energy assistance need.
- Developed independent analysis of energy burden and energy need assistance estimates with data from:
 - Low-Income Energy Affordability Data (LEAD)
 - US Census American Community Survey
 - 2019 Clallam County PUD customer billing data
 - CETA legislation (RCW 19.405)
 - CETA draft guidelines from Department of Commerce
- Contacted other utility districts to gather comparative information on low-income programs and strategies to respond to CETA requirements.

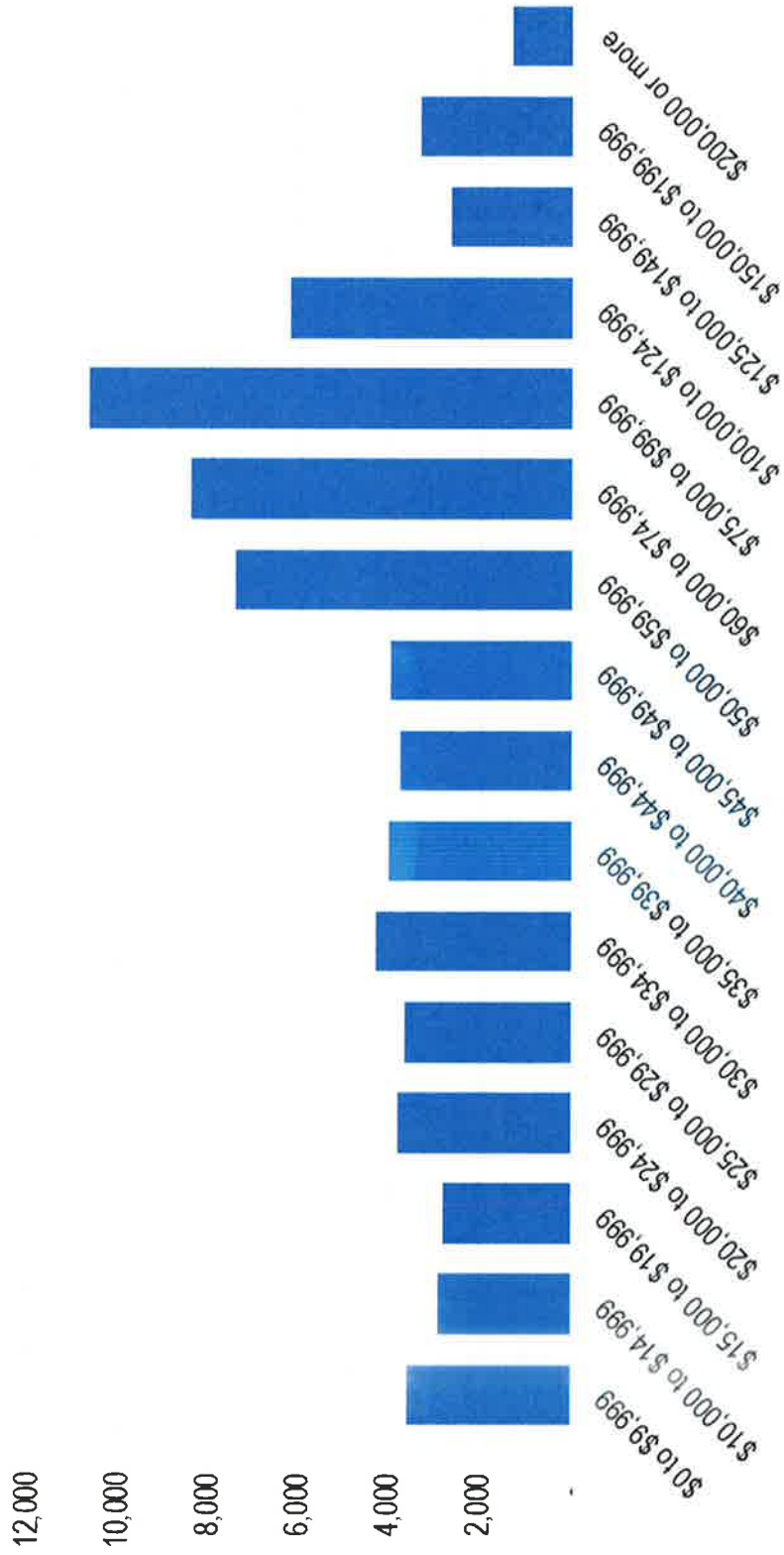
Methodology



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Household Income Estimate

Clallam County Population by Annual Household Income



Source: Estimate developed using American Community Survey, US Census Bureau, 2016 5-Year Estimate



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Household Income Estimate



38% of Households at or below 80% Area Median Income



30% of Households at or below 200% Federal Poverty Level

Source: Low-income energy affordability data (LEAD), Department of Energy



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Qualifying Households Based on Income

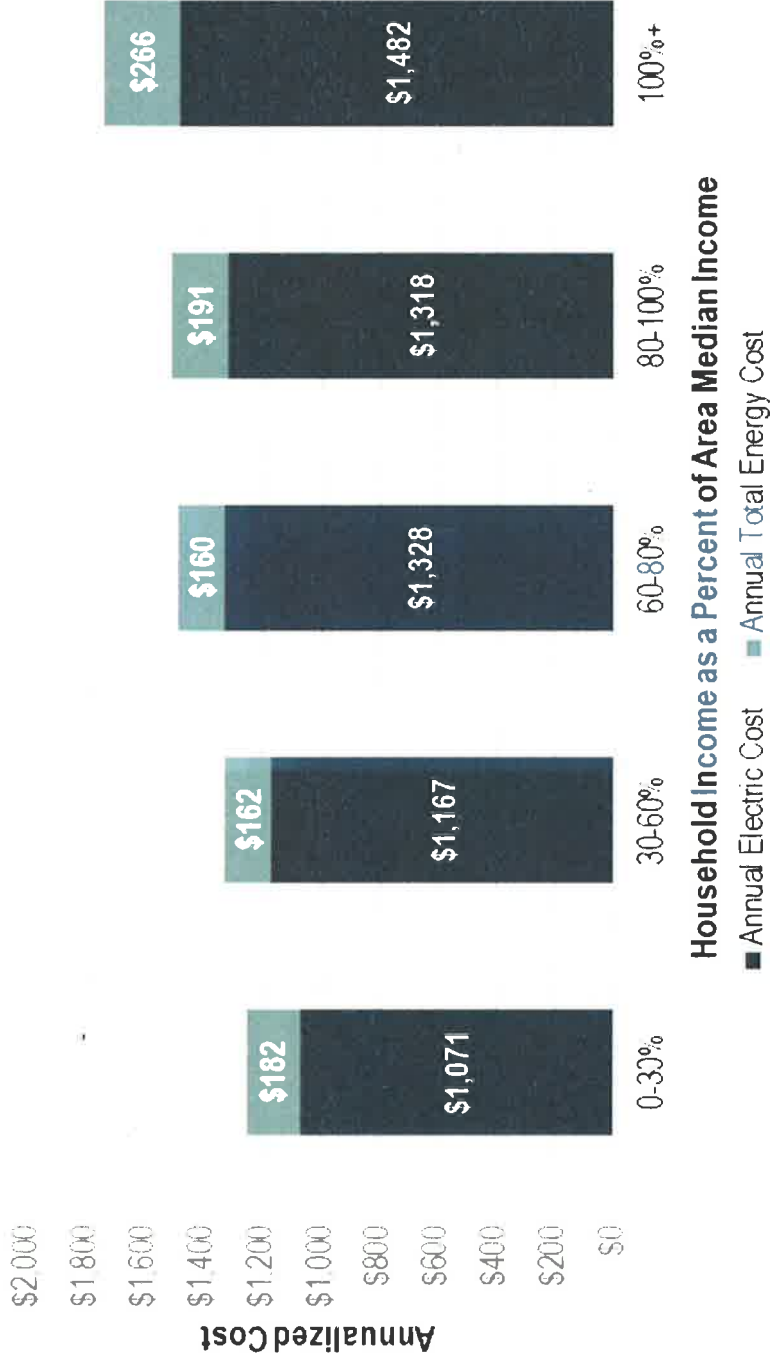


11,600 to 12,000 residential customer accounts estimated to have annual household income below 80 percent of area median income

2019 Residential Accounts	28,958
Estimated Accounts Below 80% Area Median Income	11,600 to 12,000
Estimated Account Above 80% Area Median Income	16,958 to 17,358



Household Electric Costs



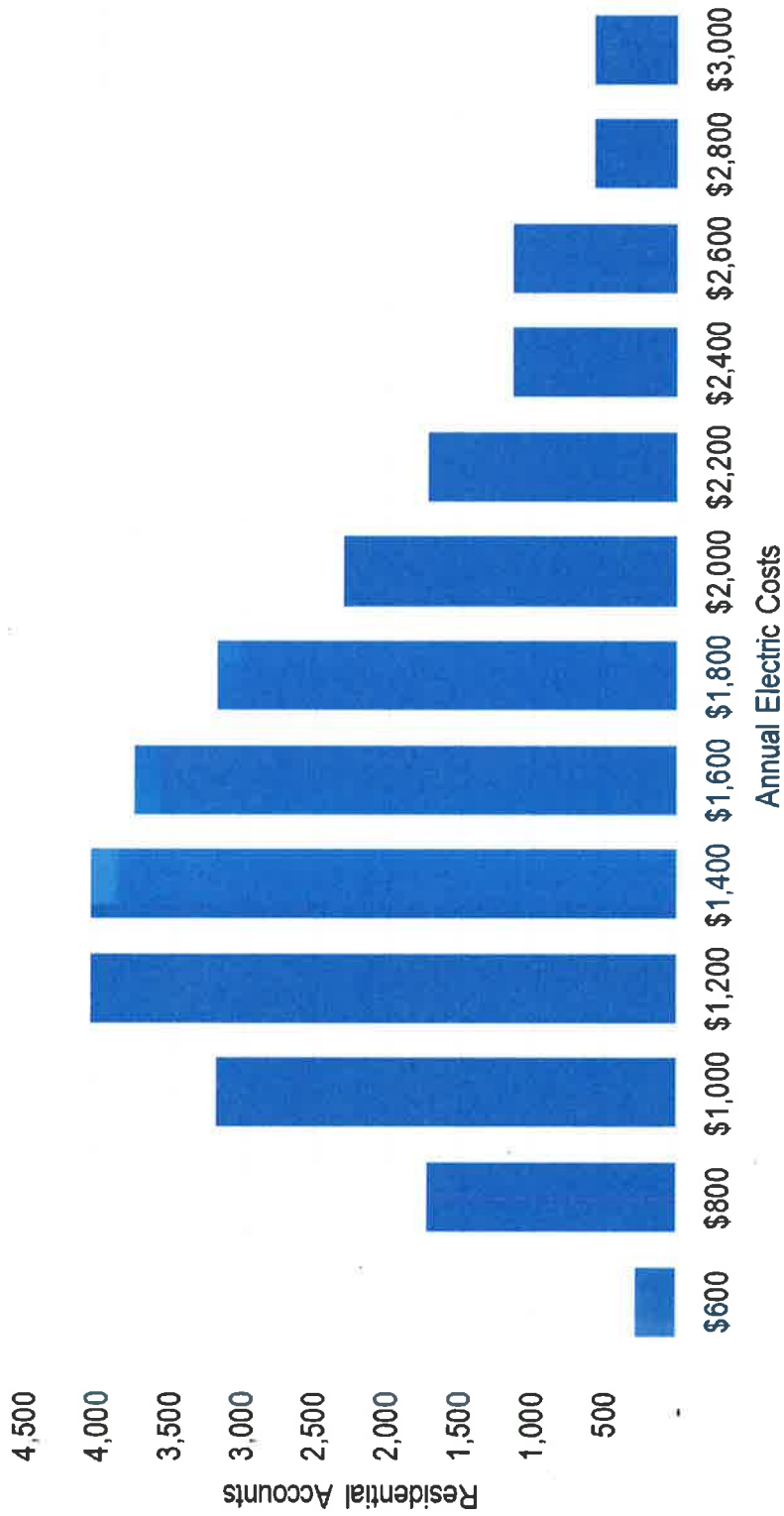
Source: Low-income energy affordability data (LEAD), Department of Energy



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Household Electric Costs

Distribution of 2019 Annual Residential Electric Costs



Source: Clallam County PUD



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Energy Burden

Energy Burden is measured by percentage of household income that goes toward household energy costs

Of the three examples below, Account B would likely qualify for assistance, while Account A and Account C may not qualify.

Account A

Low Household Income
& Low Energy Costs



Account B

Low Household Income
& High Energy Costs



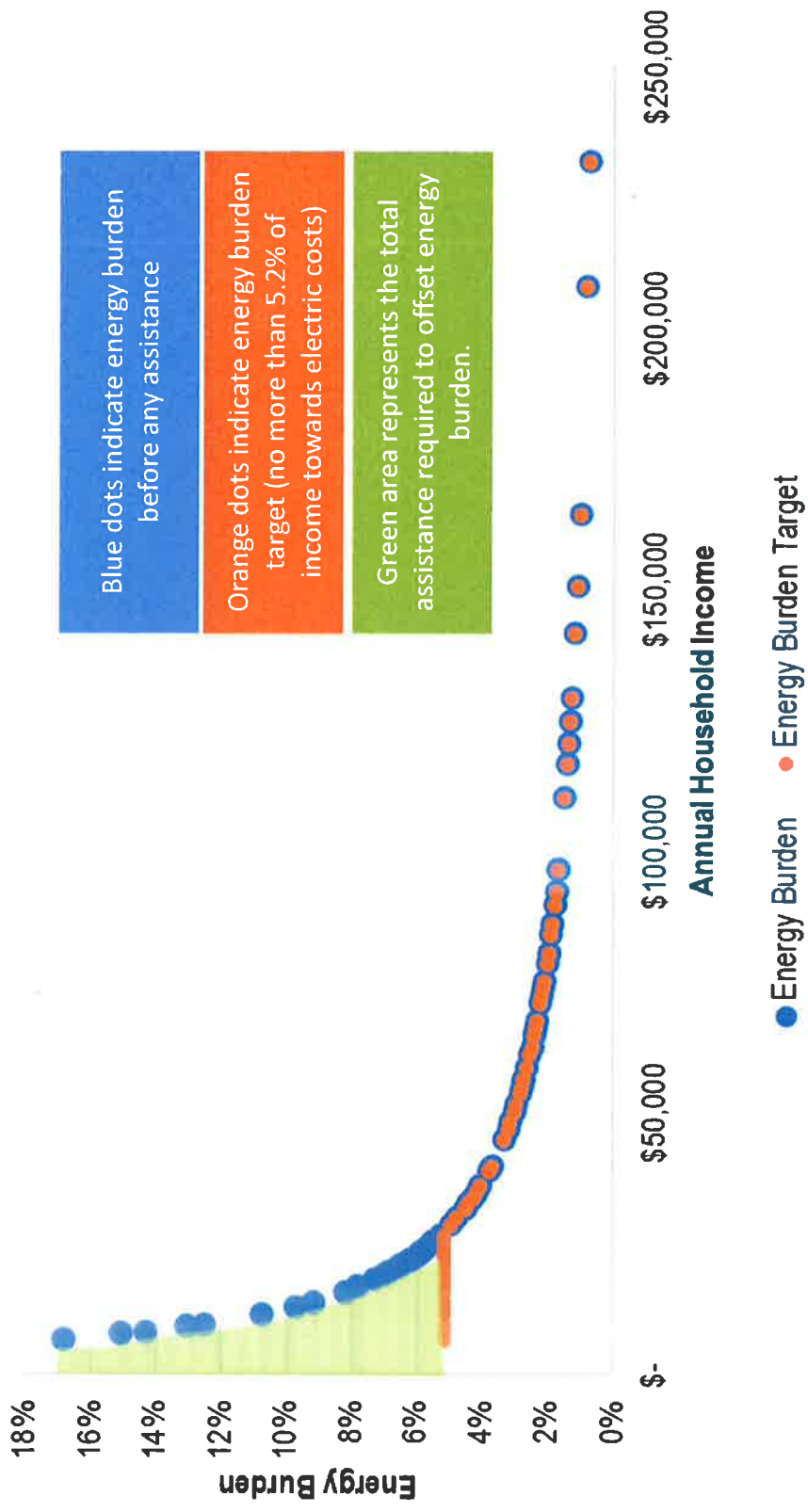
Account C

High Household Income
& High Energy Costs



Energy Burden Curve

Energy Burden Curve for Sample 100 Households



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Energy Burden Estimate

Service Area	Residential Accounts	Percent of Residential Accounts
	28,958	100%
80% of Area Median Income or Less with Energy Burden \geq 5.2%	8,300 to 8,500	29%
80% of Area Median Income or Less with Energy Burden $<$ 5.2%	3,300 to 3,500	12%
All Other Households	16,958 to 17,358	59%



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Energy Assistance Need

Service Area	Residential Electric Costs	Target Annual Residential Electric Costs	Annual Energy Assistance Need
80% of Area Median Income or Less with Energy Burden \geq 5.2%	\$44.5M	\$40.5M	\$4.0M
80% of Area Median Income or Less with Energy Burden \geq 5.2%	\$11.1M - \$11.3M	\$7.1M - \$7.3M	\$4.0M
80% of Area Median Income or Less with Energy Burden $<$ 5.2%	\$4.9M - \$5.1M	\$4.9M - \$5.1M	\$0.0M
All Other Households	\$28.3M - \$28.5M	\$28.3M - \$28.5M	\$0.0M



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CETA Funding Targets

Current Energy Assistance Need

Approximately \$4.0 Million

2030 Funding Target

60% of Current Energy Assistance Need
Proportional Fund Method: \$2.4M
Neediest Household Method: \$3.2M

2050 Funding Target

90% of Current Energy Assistance Need
Proportional Fund Method: \$3.6M
Neediest Household Method: \$3.9M

Estimated Rate Impacts

For the PUD to meet
CETA low income assistance funding targets

2030 Funding
Target

Annual rate increases of 0.5% to 0.7% each year through 2030

2050 Funding
Target

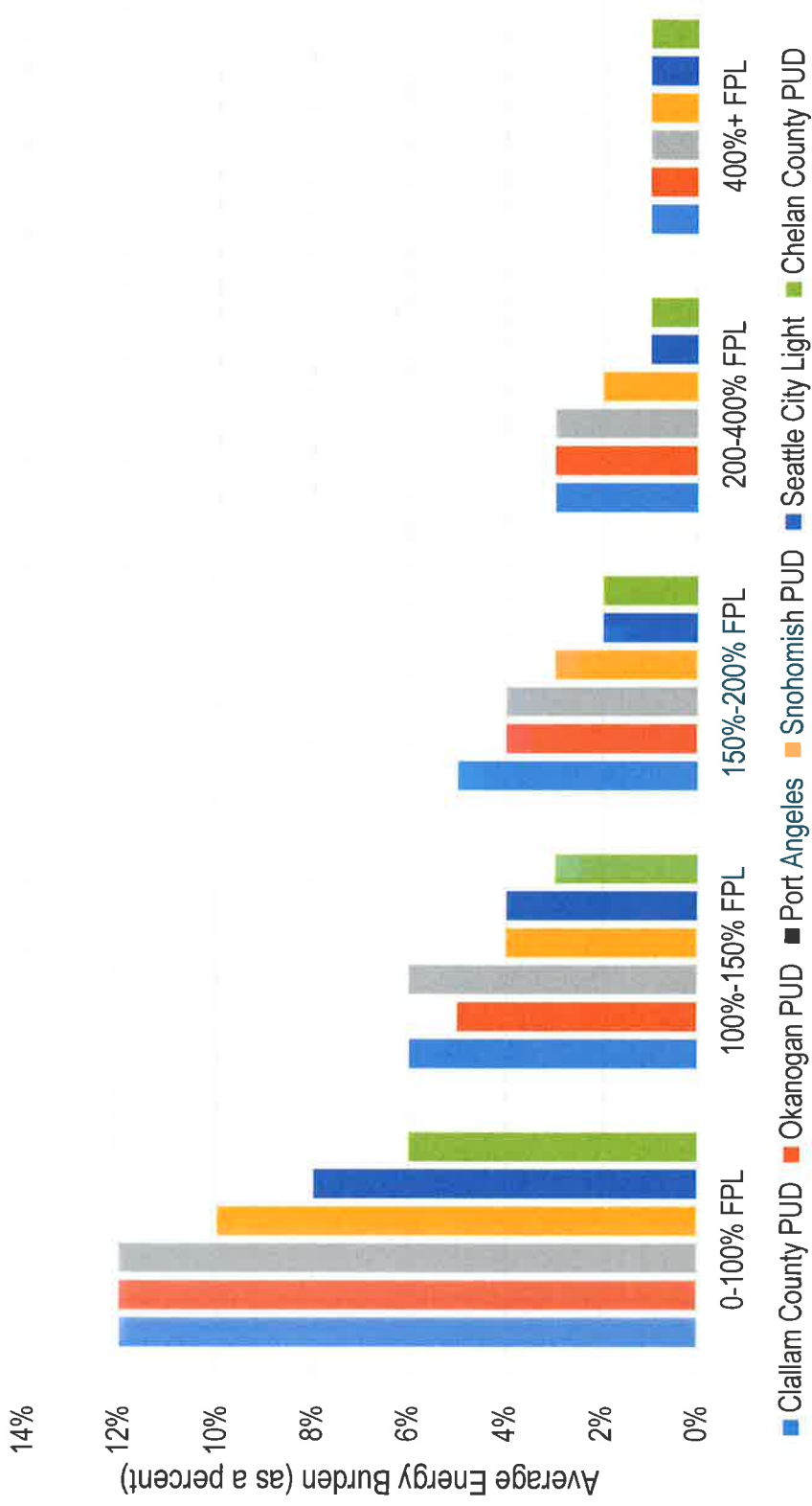
Annual rate increases of 0.2% to 0.3% each year through 2050



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Comparative Survey

Estimated Energy Burden by Federal Poverty Status



Source: Low-income energy affordability data (LEAD), Department of Energy



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Staff Recommended Program



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Existing Program

- Clallam's existing program is only eligible to the following customers:
 - Senior Low Income
 - Disabled Low Income
- Does not meet requirements of RCW 19.405.120 as it is limited in scope and not available to all low income customers.
- Effective August 1, 2021 phase out existing program
 - Some overlap between notification, applying and phase out
 - Notify customers via first class mail in April
 - Give ample time to apply for new program



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New Program

- RCW 19.405.120 specifically authorizes consumer owned utilities to partner with a CAP agency.
 - OlyCAP has resources and technology to accurately assess income levels and ascertain energy burden and energy assistance need.
 - OlyCAP would determine assistance levels required and communicate to the District the form of assistance (monetary or conservation)
 - Provide OlyCAP with 15% above our 2018 assistance for the time period 8/1/2021 thru 12/31/2022 (\$460,000).
 - Provide OlyCAP with \$40,000 to assist with agency overhead and administration of the new compliant program.
 - OlyCAP would track disbursements of awards and conservation measures and report.
 - OlyCAP would provide EAN and % Poverty data to utility.
 - OlyCAP would assist utility in reporting requirements.



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New Program

- **Financial Impact**
 - To mitigate rate impacts, staff proposes a line item assessment for non-low income accounts. "**CETA LOW-INCOME COMPLIANCE**"
 - Initial estimates suggest the monthly assessment will be approximately \$1.40/mo.
 - Low-income customers who qualify through OlyCAP will have this charge waived.
 - All tribal accounts on tribal lands that are exempt from PUT and Privilege tax will automatically be exempt from the monthly assessment.
 - Cannot incorporate into rates: Vulnerable Populations and Low-Income are not to pay. Eliminates compounding effect.
 - In order to meet 90% energy assistance need by 2050 the monthly assessment will need to be adjusted yearly.



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Questions and Discussion

Final Analysis
CETA Section 12
Clallam County PUD
4/23/20

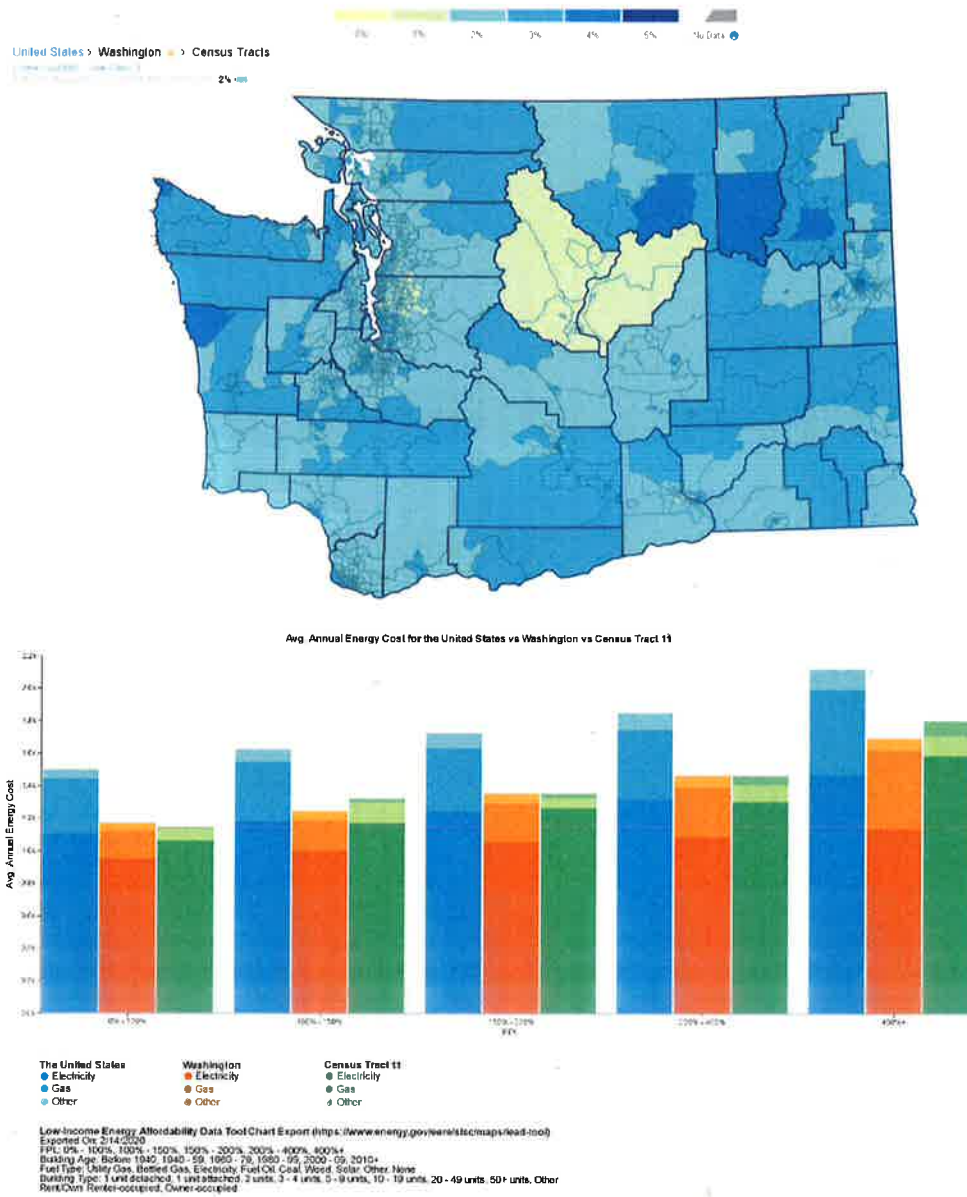
General Energy Use and Poverty Characteristics for Clallam PUD Area

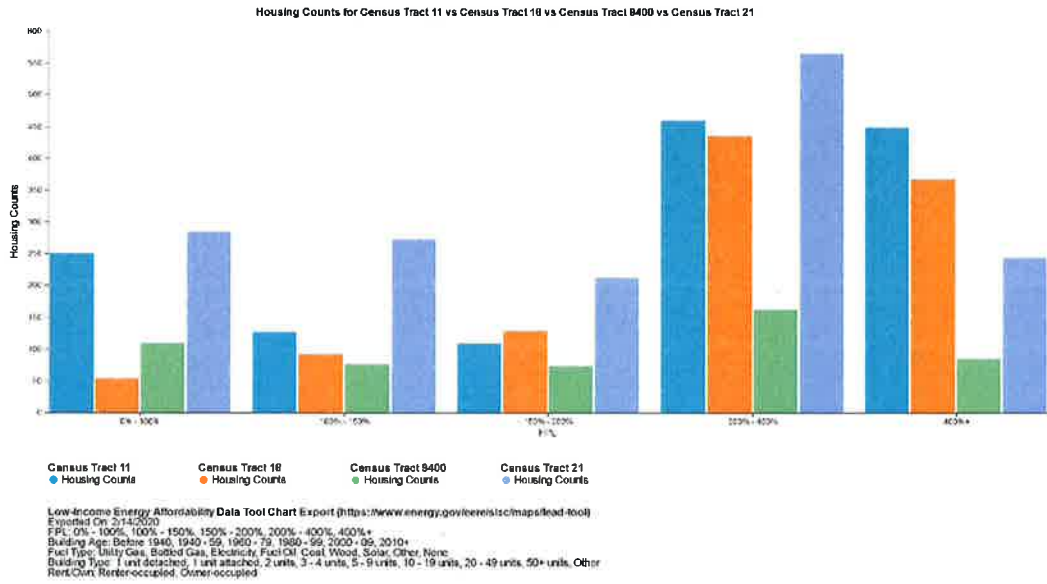
The US Department of Energy compiles extensive information at the census tract level, including:

- Household energy consumption and characteristics.
- Income and Poverty
- Energy Burden

The Department also maintains a publicly available tool to retrieve, present and evaluate the compiled information. The WA Department of Commerce and numerous utilities to evaluate Section 1200 of the Clean Energy Transformation Act utilize the “Low-Income Energy Affordability Data” or LEAD tool.

Examples include:





The following information is available using the LEAD Tool (Exported 2/6/2020):

Name	Federal Poverty Level	Avg. Annual Energy Cost (Electricity)	Avg. Annual Energy Cost (Gas)	Avg. Annual Energy Cost (Other)	Avg. Annual Energy Cost (Total)	Housing Counts
Washington	0% - 100%	947	173	51	1171	280931
Washington	100% - 150%	1001	186	56	1243	202293
Washington	150% - 200%	1055	234	64	1353	209261
Washington	200% - 400%	1085	307	72	1464	773385
Washington	400%+	1132	486	76	1694	1230736
Clallam County	0% - 100%	1074	51	117	1242	3858
Clallam County	100% - 150%	1191	45	114	1350	3170
Clallam County	150% - 200%	1332	65	89	1486	3157
Clallam County	200% - 400%	1339	97	101	1537	10854
Clallam County	400%+	1460	154	110	1724	10397
Port Angeles	0% - 100%	1052	40	97	1189	1328
Port Angeles	100% - 150%	1068	38	113	1219	1015
Port Angeles	150% - 200%	1252	54	71	1377	887
Port Angeles	200% - 400%	1221	65	86	1372	2769
Port Angeles	400%+	1440	125	104	1669	2391

Information applicable for the Clallam PUD service territory is derived by taking Clallam County characteristics and subtracting Port Angeles characteristics. This data excludes about 200 Clallam PUD households in west Jefferson County, but it is assumed the 0.6% of Clallam PUD customers in Jefferson have similar traits to other PUD customers.

LEAD Tool information applicable to Clallam PUD:

Name	Federal Poverty Level	Avg. Annual Energy Cost (Electricity)	Avg. Annual Energy Cost (Gas)	Avg. Annual Energy Cost (Other)	Avg. Annual Energy Cost (Total)	Housing Counts	%Electric Energy Burden
Clallam PUD	0% - 100%	1086	57	127	1270	2530	85.49%
Clallam PUD	100% - 150%	1249	48	114	1412	2155	88.47%
Clallam PUD	150% - 200%	1363	69	96	1529	2270	89.18%
Clallam PUD	200% - 400%	1379	108	106	1594	8085	86.56%
Clallam PUD	400%+	1466	163	112	1740	8006	84.23%
Clallam PUD	All Customers	1363	112	110	1586	23046	85.99%

If energy assistance need (EAN) is established at 6% of all energy burden, it is assumed the electric energy assistance need is proportional to the electric energy burden. The need begins at a burden of 6% times the % Electric Energy Burden for each of the above poverty level ranges in the above table.

Based on housing counts and average annual energy cost the information in the LEAD Tool is dated and somewhat incomplete. Even so, the proportions derived from the Tool can be applied to a more current year of metering data, without introducing large errors.

Name	Federal Poverty Level	% of Median Electric Bill	% of Households
Clallam PUD	0% - 100%	79.62%	10.98%
Clallam PUD	100% - 150%	91.60%	9.35%
Clallam PUD	150% - 200%	99.99%	9.85%
Clallam PUD	200% - 400%	101.17%	35.08%
Clallam PUD	400%+	107.52%	34.74%

The LEAD Tool presents information in rather large increments based on the percentage of Federal Poverty Level (FPL). Unfortunately, the LEAD Tool raw database data is not formatted in a way conducive to additional granularity. To conduct a more useful and accurate analysis it is necessary to estimate a continuous probability density function(PDF) of the data that is mathematically consistent with information provided by the LEAD Tool under the following conditions:

- The integral of the PDF for households between 0-100% FPL must equal that of the LEAD Tool for households between 0-100%
- The integral of the PDF for households between 100-150% FPL must equal that of the LEAD Tool for households between 100-150%
- The integral of the PDF for households between 150-200% FPL must equal that of the LEAD Tool for households between 150-200%
- A fourth elective shaping parameter is used to set the PDF function to zero at 0% FPL.

A fourth order polynomial that meets the above criteria in the form of:

- Cumulative Distribution Function, $CDF(x) = Ax^4+Bx^3+Cx^2+Dx+E$
- Probability Distribution Function, $PDF(x) = 4Ax^3+3Bx^2+2Cx+D$
- $A = 0.009051944$
- $B = -0.06148934$
- $C = 0.162217835$
- $D = E = 0$

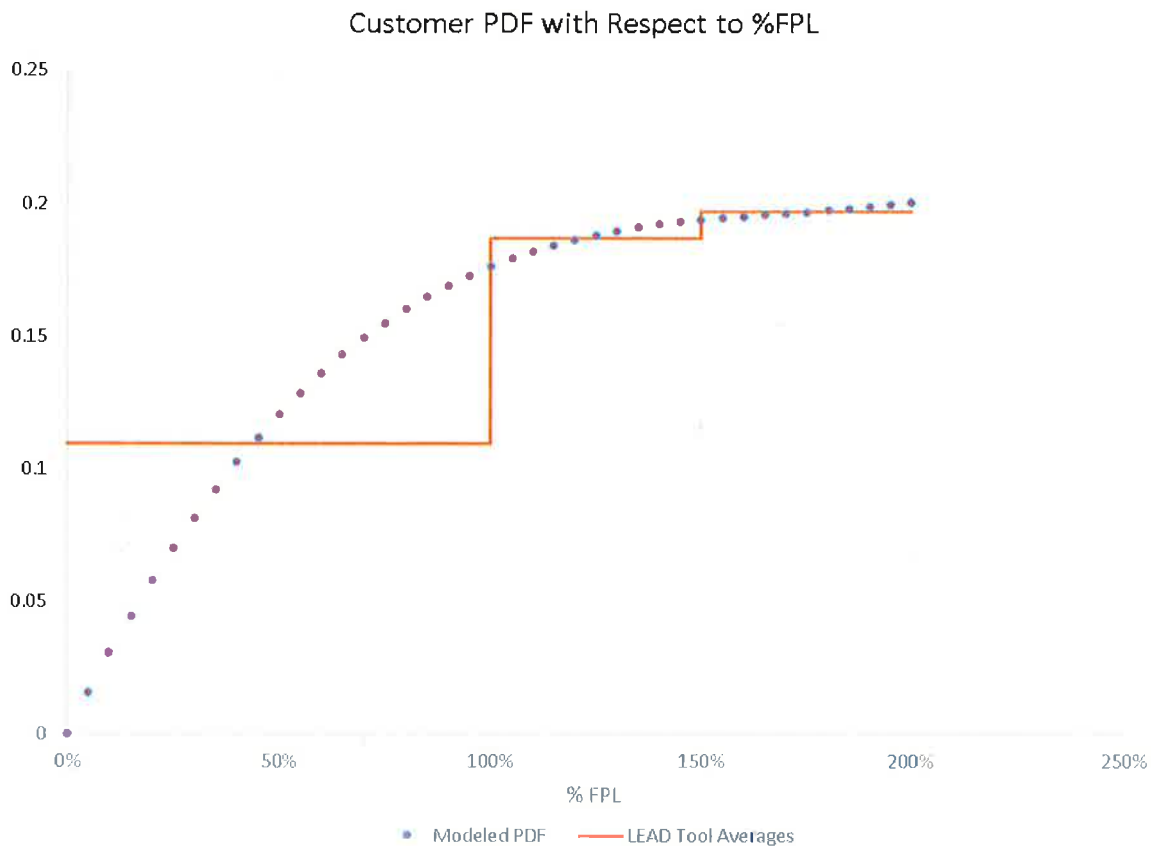
x %FPL	CDF(x)	Lead Tool	Error
0	0	0	0.000%
100%	0.10978044	0.10978044	0.000%
150%	0.20328907	0.20328907	0.000%
200%	0.30178773	0.30178773	0.000%

$PDF(0) = D = 0$

Cumulative Distribution Function (CDF):



The resulting Probability Density Function (PDF):



Similarly, it is desirable to develop a continuous function of utility bills as a % of the average bill with respect to % FPL, and weighted by the previously derived PDF. The requirements are:

- The integral average of this function between 0 and 100% FPL must = 79.62% of the average electric bill of all customers to match LEAD data
- The integral average of this function between 100 and 150% FPL must = 91.60% of the average electric bill for all customers to match LEAD data
- The integral average of this function between 150 and 200% FPL must = 99.99% of the average electric bill for all customers to match LEADs data
- Two additional shaping parameters are required for the fourth order polynomial
 - The value of the function is selected to equal the geometric mean of average bill for 150% to 200% and 200% to 400% LEAD data $(0.999961868 * 1.01172241325958)^{1/2}$
 - The slope of the function at $FPL\%(0) = 0$

A fourth order polynomial weighted with the previously modeled PDF for %FPL produces the desired result:

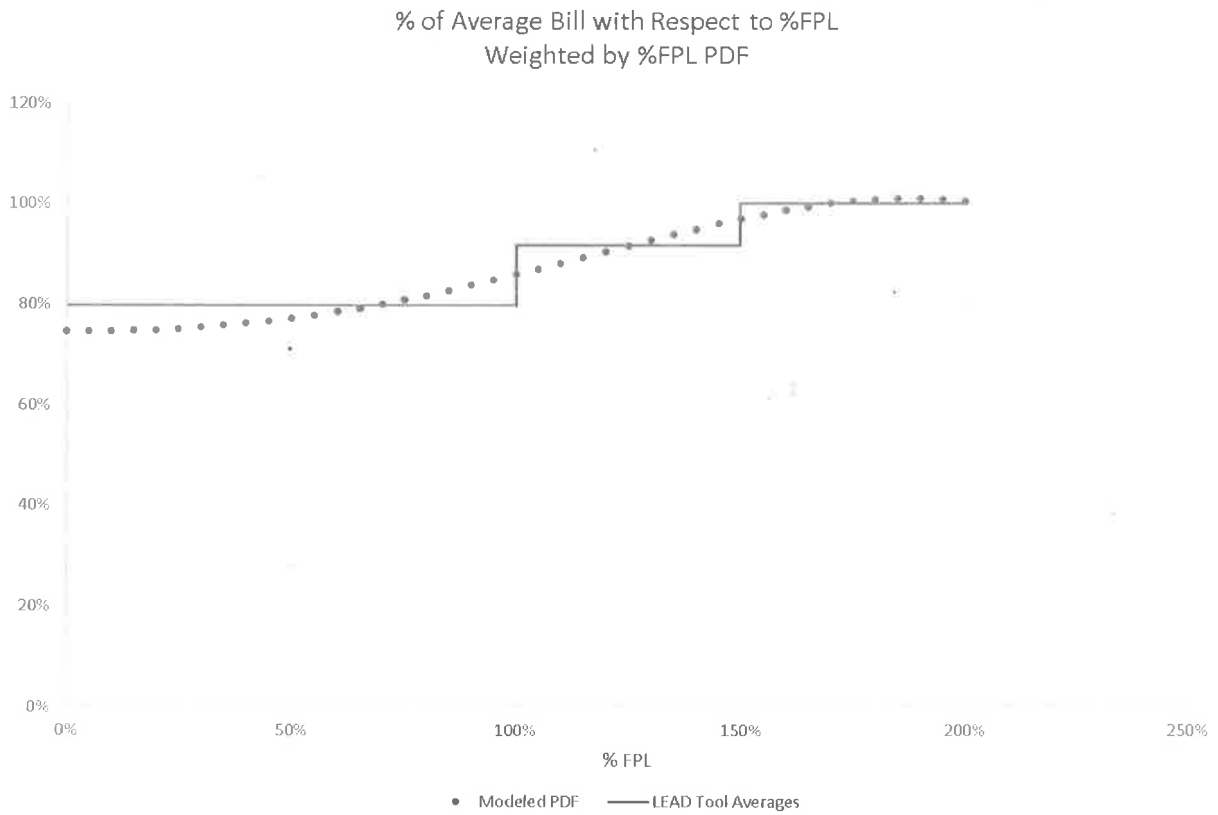
$$\int (4Ax^3+3Bx^2+Cx+D) \cdot (ax^4+bx^3+2cx^2+dx+e)dx / \int (4Ax^3+3Bx^2+Cx+D)$$

- Weighting Function $F(x) = ax^4+bx^3+cx^2+dx+e$
- $a = -0.04235185$
- $b = 0.079110545$
- $c = 0.076287044$
- $d = 0$
- $e = 0.74537825$

x %FPL	$\int PDF(x) \cdot F(x) / \int PDF(x)$	Lead Tool	Error
100%	0.7961885	0.7961885	0.000%
150%	0.9160222	0.9160222	0.000%
200%	0.9998748	0.9998748	0.000%

$$dF(x) / dx = d = 0$$

$$F(2) = (0.999961868 \cdot 1.01172241325958)^{1/2}$$



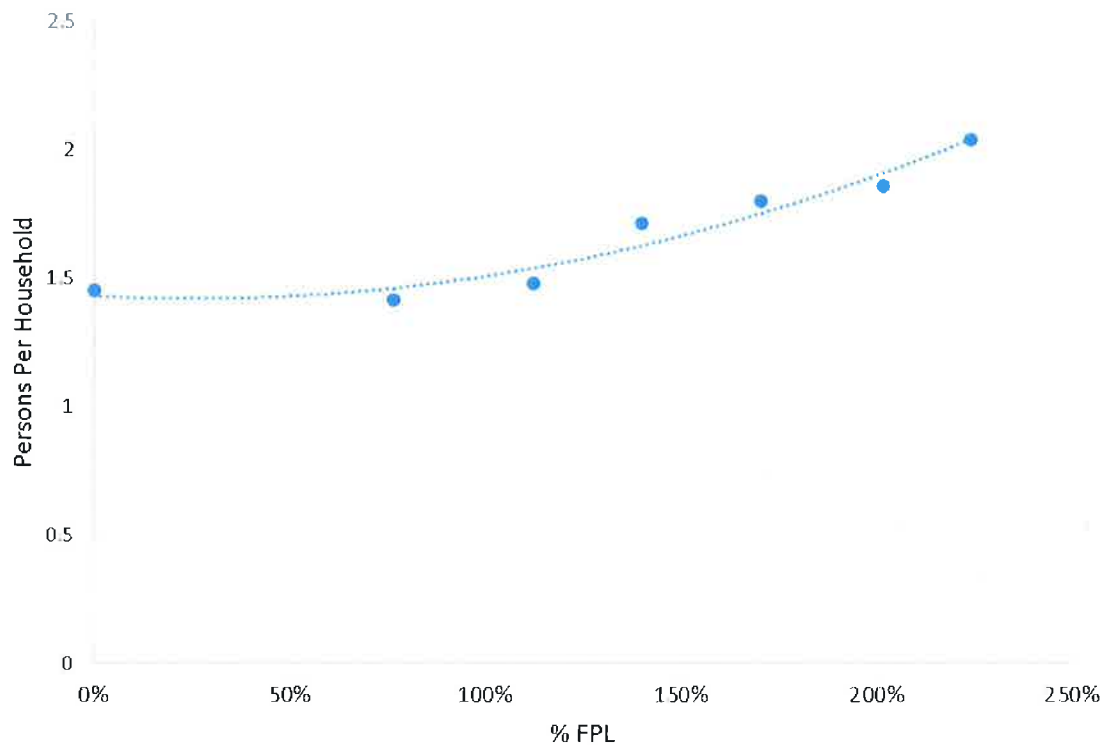
If weighted by the household PDF based on Federal Poverty Level (FPL), the assumed percentage of median customer bill meets all conditions, and one can presume is a considerable improvement over the stepped Lead Tool presentation of data.

The number of persons per household has a significant impact on the EAN calculation through the %FPL parameter. FCS Group obtained 2016 ACS survey responses for Clallam and Jefferson Counties that indicate lower household income ranges based on %FPL have substantially fewer persons per household than the County average:

Household Income		Average Household Size
\$0	to \$9,999	1.45
\$10,000	to \$14,999	1.38
\$15,000	to \$19,999	1.58
\$20,000	to \$24,999	1.85
\$25,000	to \$29,999	1.75
\$30,000	to \$34,999	1.97
\$35,000	to \$39,999	2.11

If we assume a 3% annual wage growth rate and utilize 2019 FPL data, we can approximate a continuous function to model average household income for all percentage of poverty levels. For 2019, 100% FPL one-person household = \$12,490, plus \$4,420 for each additional person per household.

Household Count Versus FPL%

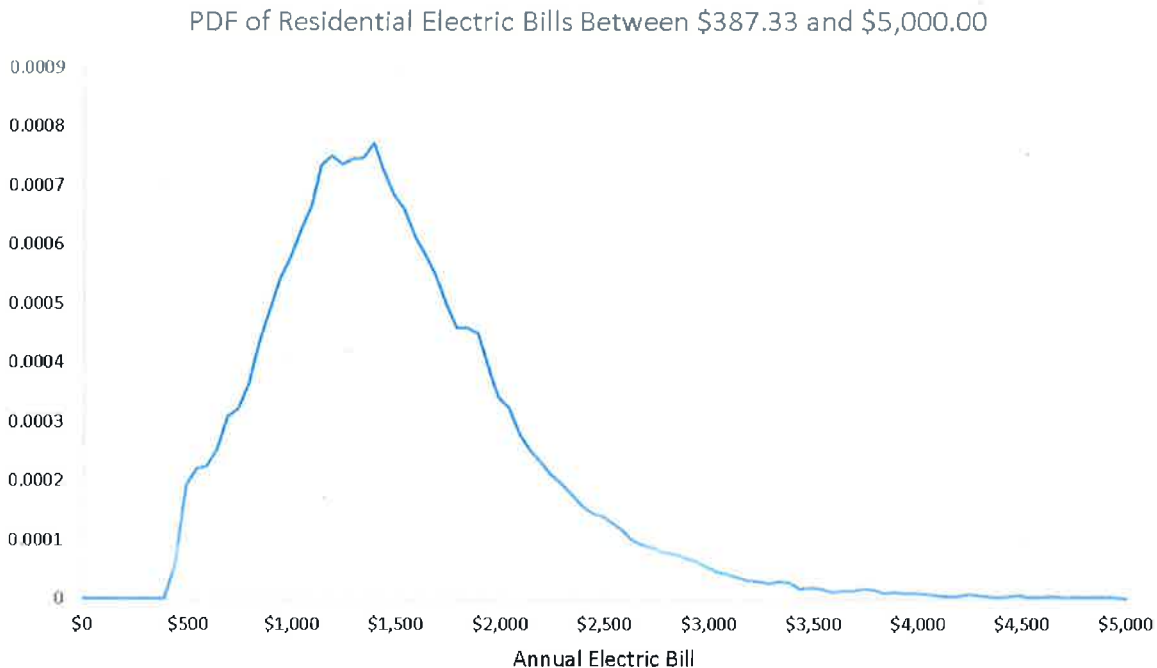


With an model approximation of persons per household in the form of $= Ax^2+Bx+C$

- A = 0.158321
- B = -0.080921
- C = 1.430230

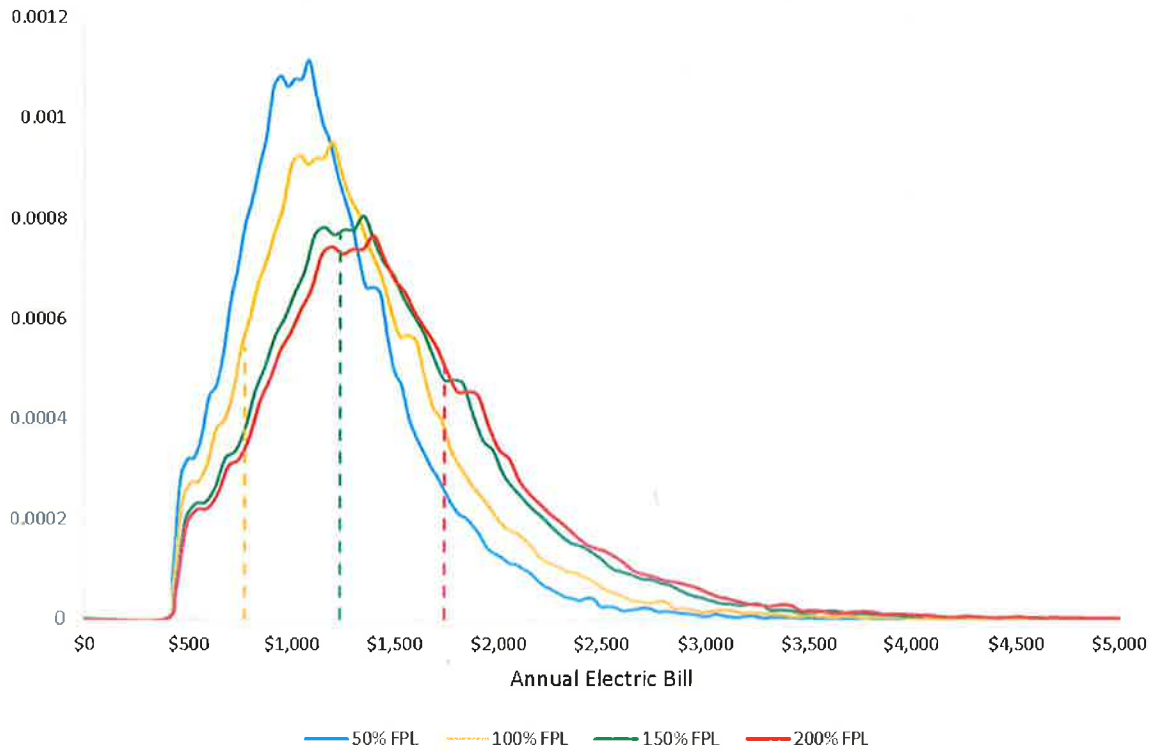
It is important to note that the above assumption in household count will result in a simplification when computing EAN based on % FPL. Actual household count will be based on 1, 2, 3, or more persons, as opposed to an non-integer average household count. Therefore, there will be some households at some % of FPL that maybe evaluated as having an EAN, but do not, and a similar number of households evaluated as not having an EAN, but do. This will result in some errors with respect to total customer counts with EAN at a given % FPL range. These errors will generally cancel one another except for customers that fall between 0 and 50% of FPL. The combined effect of this simplification for total EAN dollar amounts and customer counts will be negligible for all % FPL and all % FPL ranges. Another mitigation to this simplification is that households with larger household counts generally utilize more energy and have greater energy burden than does a single person household.

The last full year of residential metering data available is for 2019. For inclusion, an account had to exist of the beginning of 2019 and remain in service for the entire year. There are 28,958 such residential accounts for Clallam PUD. Some of the accounts have extraordinarily high-energy consumption typical of data mining, indoor growing operations, farm operations and/or other commercial-like activities. For this reason, 53 accounts with that have electric bills in excess of \$5,000 are not included. Similarly, 97 accounts that showed no KWH usage are excluded; leaving 28,808 accounts represented the following Probability Density Function (PDF):



Although this PDF represents a combination of all household incomes, we can shape the distribution to match the **Percentage of Median Electric Bills Versus FPL** distribution for individual data points corresponding to percentage of federal poverty level. This can be approximated by fixing the minimum annual electric bill and compressing or expanding values on the x-axis to represent a PDF with the mean corresponding to any % FPL based average annual electric bill. Any number of % FPL data points can be derived for further analysis as illustrated in the following graph:

PDF of Residential Electric Bills for Customers at Select % FPL
Dashed Lines Show Acceptable Energy Burden, if Applicable



Note that the mean of each of the above distribution will match the corresponding value of the function previously derived for average electric bill versus % FPL.

It should be noted that calendar year 2019 was slightly cooler than average year, which resulted in slightly more KWH usage than would an average year. For the base analysis, KWH charges are scaled downward by 1%.

The following tables, charts and distributions illustrate the integration of the individual FPL based data points as well as the calculation of expected or median EAN for the FPL ranges, and the number of affected customers based on LEAD Tool data and previously outlined assumptions.

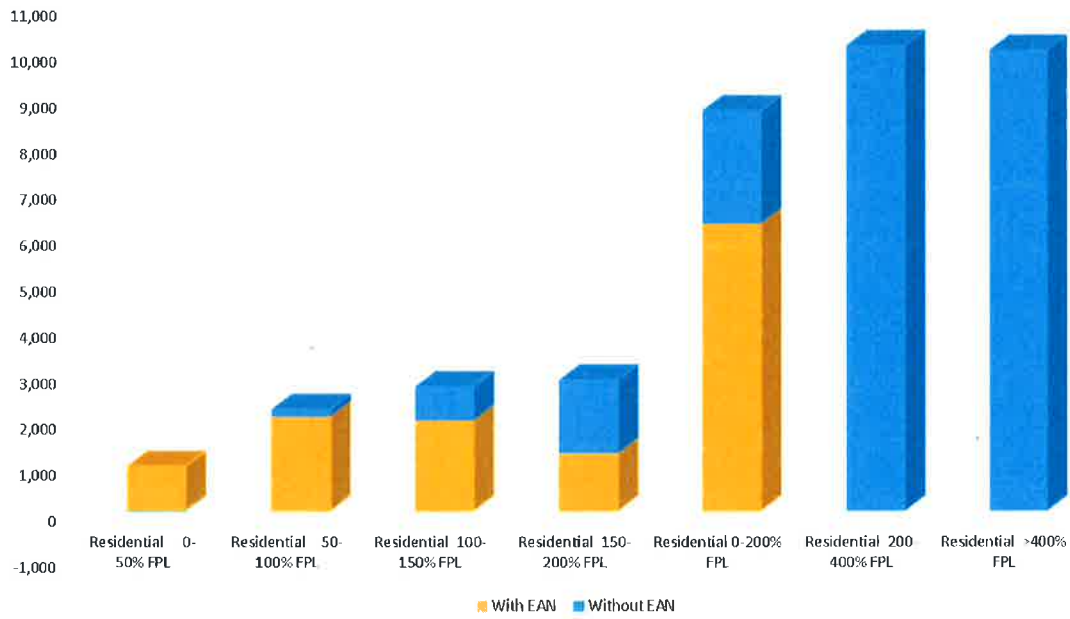
	All Residential Customers	Residential 0-50% FPL	Residential 50-100% FPL	Residential 100-150% FPL	Residential 150-200% FPL	Residential 0-200% FPL
Total Number of Customers	28,808	963	2,199	2,694	2,838	8,694
Number of Customers with EAN	6,256	963	2,059	1,978	1,256	6,256
Number of Customers without EAN	22,552	0	141	716	1,581	2,438
Average Annual Bill (0-200% FPL)	\$1,488.42	\$1,127.40	\$1,210.31	\$1,363.42	\$1,494.58	\$1,341.35
Average Annual EAN	\$143.32	\$887.99	\$690.39	\$584.35	\$554.44	\$659.99
Total EAN	\$4,128,906	\$855,359	\$1,421,326	\$1,155,605	\$696,616	\$4,128,906
Total Non-EAN	\$38,749,377	\$230,520	\$1,240,609	\$2,517,177	\$3,544,327	\$7,532,633
EAN as % of Bills	9.63%	78.77%	53.39%	31.46%	16.43%	35.41%
EAN as % of Customers	21.72%	100.01%	93.60%	73.41%	44.28%	71.96%

In summary:

- Total number of residential customers = 28,808
- 8,694 residential customers are below 200% FPL
- 6,256 residential customers below 200% FPL have an EAN,
- 71.96% of customers with household income between 0-200% have an EAN
- The average EAN is \$659.99 per year
- The combined EAN without any aid is \$4,128,906
- 21.72% of all residential customers have an EAN

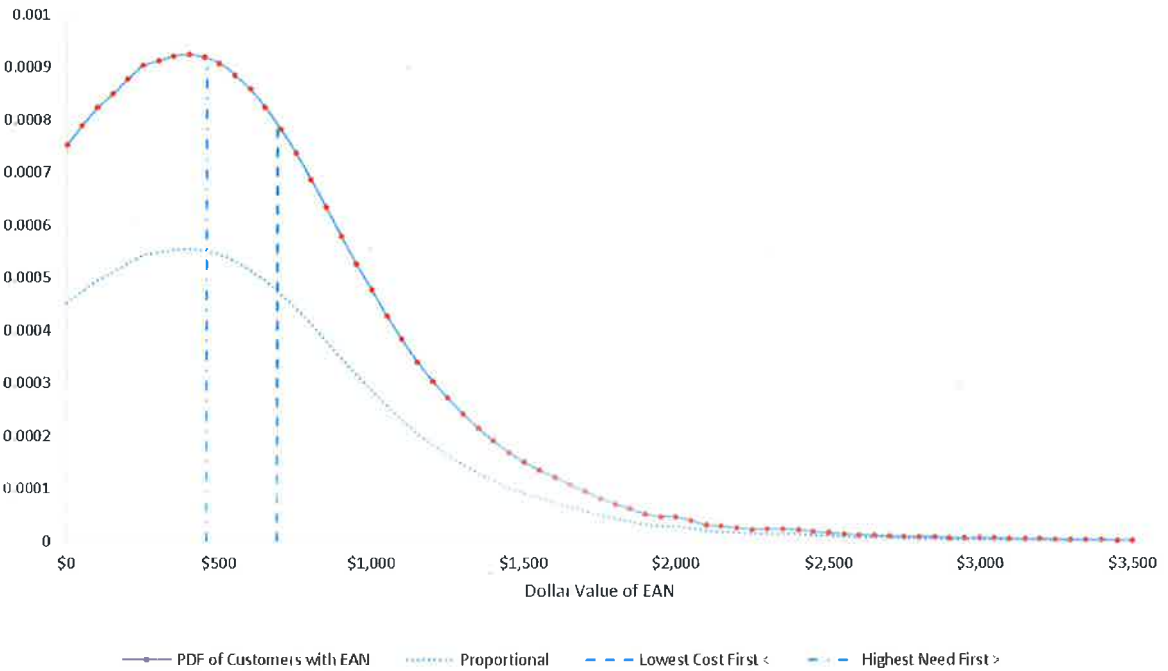
Note in the table that all 963 households between 0-50 % FPL have an EAN because of the simplifying assumption that all households have the average household count. As previously mentioned, there may be a number of households with more than the average household count (2, 3 or more) such that the household has a higher income (and energy burden threshold) corresponding to the same % FPL as would a one household count customer. On the other hand, one would expect households with more than one household member would have a comparatively higher electric bill with respect to that distribution function.

71.96% of Residential Customers Between 0-200% FPL Have EAN



Base on previously mentioned approximations and assumptions it is also possible to develop a PDF that represents all customers with an EAN and the amount of EAN.

PDF to Reduce Energy Assistance Need for 0-200% FPL by 60% EAN



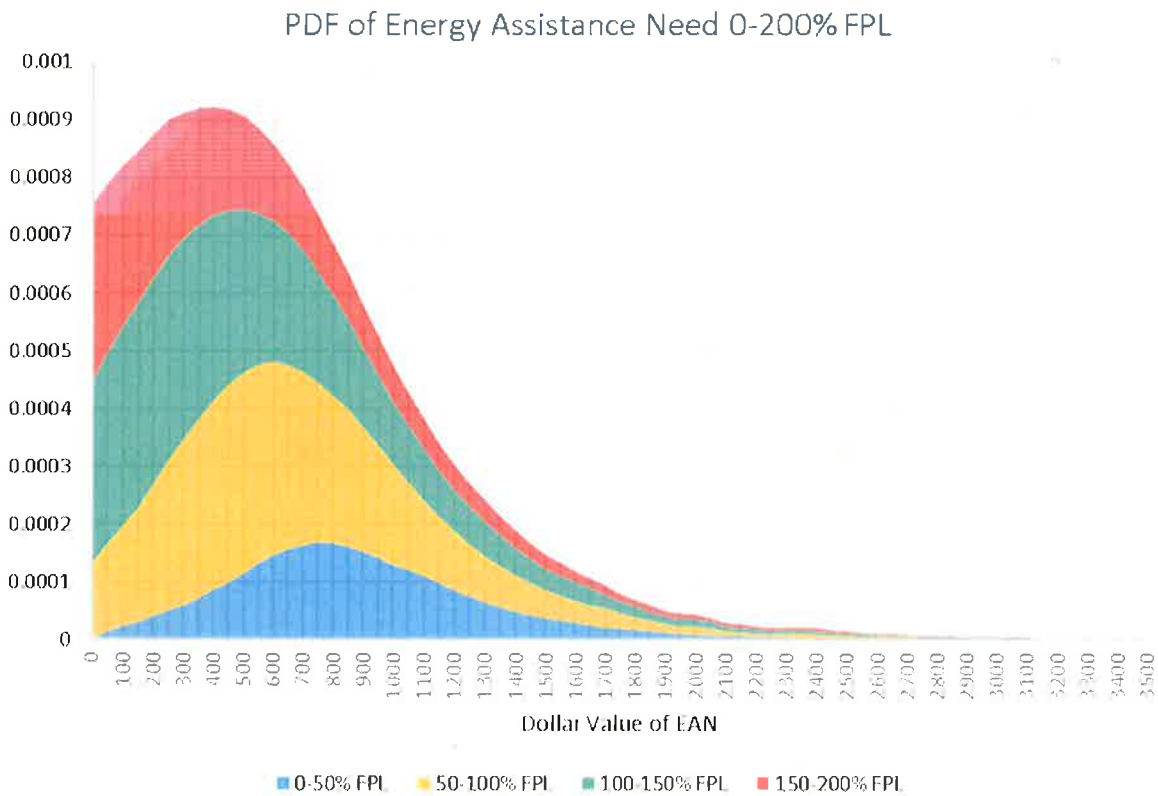
This function can be used to estimate the financial resources necessary to achieve a lower EAN through direct assistance and potentially through comparable conservation methods. CETA Section 12 references funding needed to mitigate 60% EAN for residential customers between 0-200% FPL by 2030, and 90% of EAN for such customers by 2050, and that the State will prioritize households with higher EAN.

The above PDF graphically illustrate these cost in that all such EAN customers are represented by the area under the PDF curve. The different dashed lines show three different cases to achieve a reduction of 60% in EAN by customer count.

- The Proportional line assumes EAN mitigation without prioritization.
- The Lowest Cost First line eliminates EAN for customers at the lowest cost, basically aliveate EAN only for customers that have an EAN less than \$690.
- The Highest Need First line eliminates EAN for customers with the highest EAN, in this case for customers with an EAN exceeding \$459.

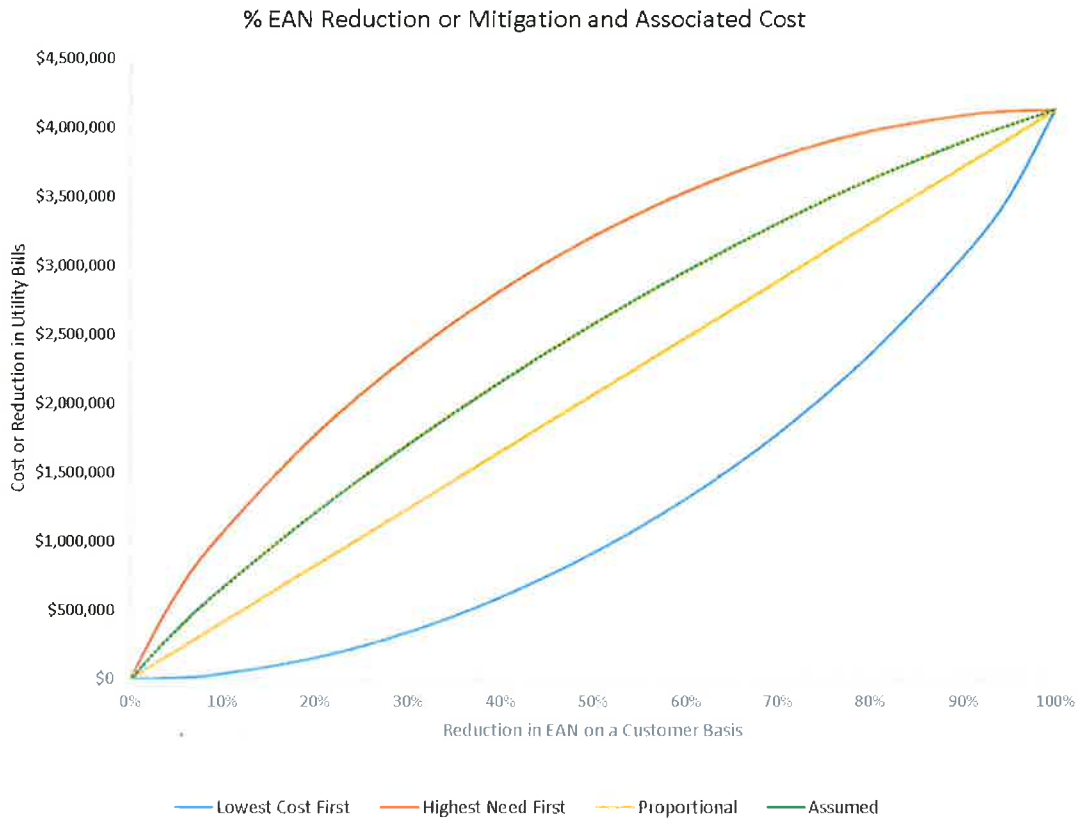
The above cases are idealized and the following analysis assumes EAN mitigation will be targeted towards higher EAN and effectively accomplished at roughly the geometric mean of Proportionately and the Highest Need First.

The following PDF graphically shows the contribution of FPL subset ranges with respect to the overall distribution.



Analysis for reduction in EAN based on EAN customer count, as opposed to actual EAN dollars

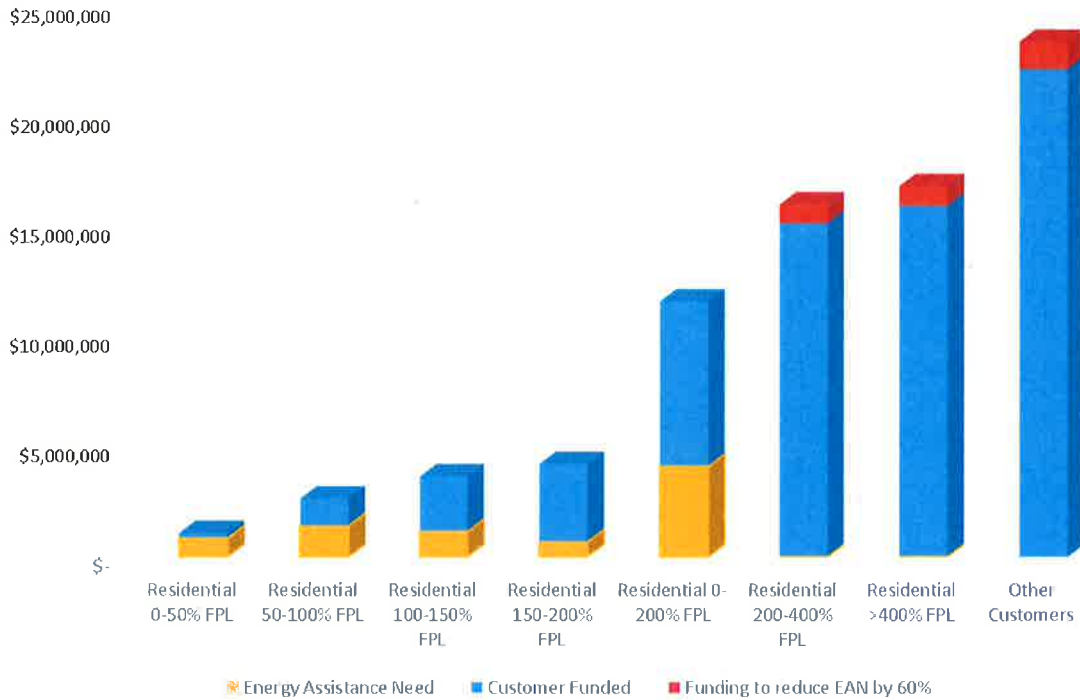
This section outlines analysis results assuming a percentage reduction in EAN is based on household or customer counts, as opposed to a percentage reduction in EAN dollars



To achieve a 60% reduction in EAN based on customer count:

	Residential 0-50% FPL	Residential 50-100% FPL	Residential 100-150% FPL	Residential 150-200% FPL	Residential 0-200% FPL
EAN as % of Customers					
Funding to reduce EAN by 60%	\$613,116	\$1,018,797	\$828,330	\$499,330	\$2,959,573
Customers alleviated of EAN	578	1235	1187	754	3754
Average Mitigation / Customer	\$1,060.84	\$824.78	\$698.10	\$662.36	\$788.46

EAN = 35.41% of all Utility Costs for Customers 0-200% FPL with Potential 5.54% Rate Increase for Other Customers to Achieve 60% Reduction in EAN

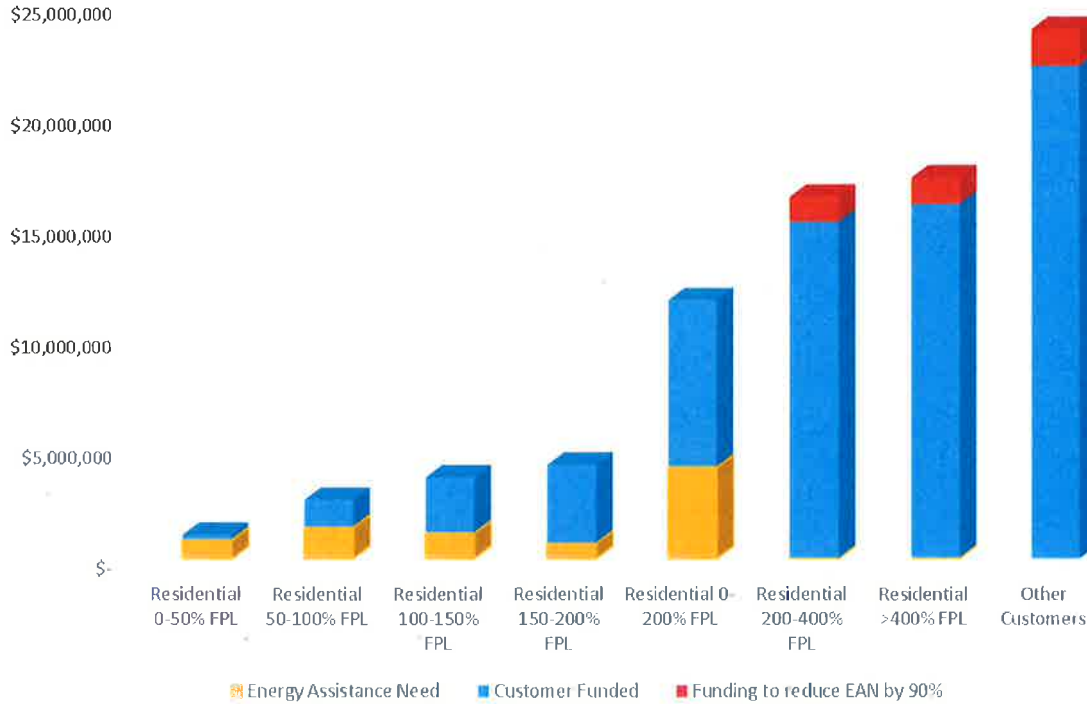


If funding is derived from non-EAN residential customers above 200% FPL and non-residential customers, the effective average rate increase will be 5.54% to achieve a 60% reduction in EAN.

To achieve a 90% reduction in EAN based on customer count:

	Residential 0-50% FPL	Residential 50-100% FPL	Residential 100-150% FPL	Residential 150-200% FPL	Residential 0-200% FPL
EAN as % of Customers					
Funding to reduce EAN by 90%	\$807,577	\$1,341,927	\$1,091,050	\$657,701	\$3,898,256
Customers alleviated of EAN	867	1853	1780	1131	5630
Average Mitigation / Customer	\$931.54	\$724.25	\$613.01	\$581.63	\$692.36

EAN = 35.41% of all Utility Costs for Customers 0-200% FPL with Potential 7.29% Rate Increase for Other Customers to Achieve 90% Reduction in EAN



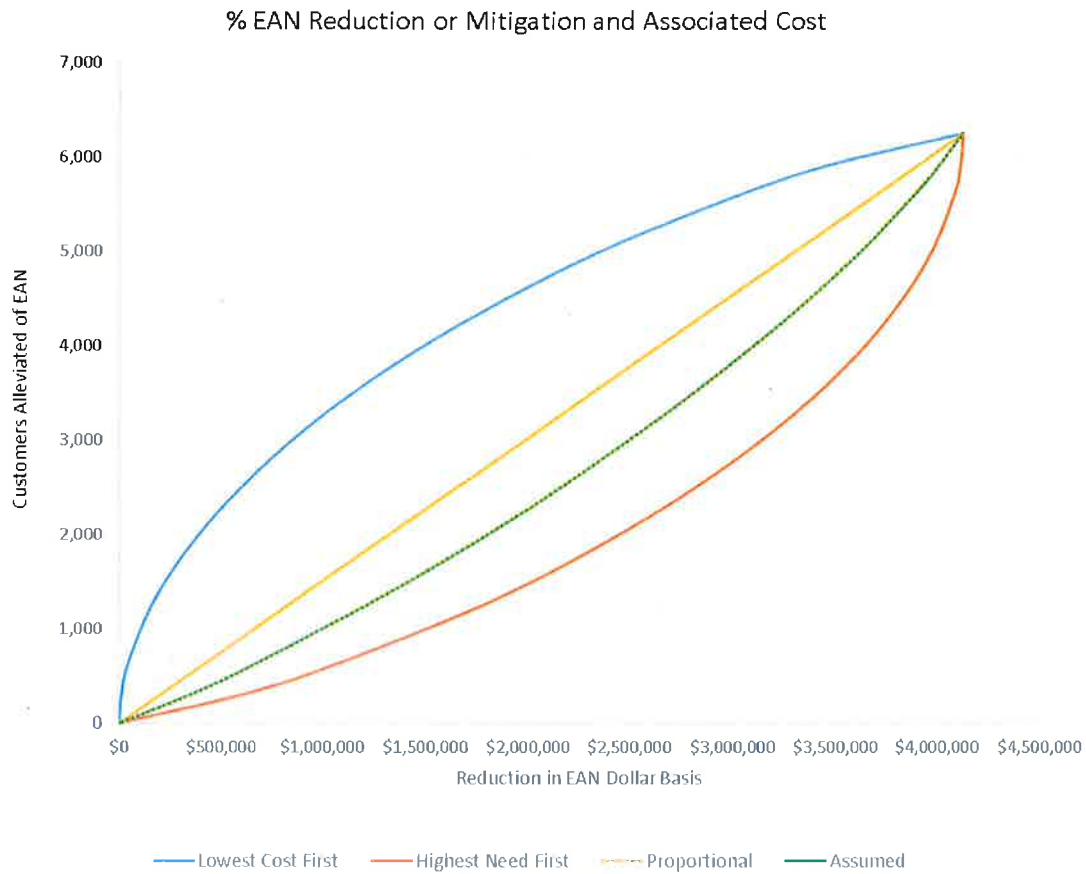
If funding is derived from non-EAN residential customers above 200% FPL and non-residential customers, the effective average rate increase will be 7.29% to achieve a 90% reduction in EAN.

Analysis for reduction in EAN based on actual EAN dollars, as opposed to actual EAN customer count

An analysis based a percentage of EAN is relatively simple, and can be summarized and illustrated in the following table and graph:

EAN % Alleviated	EAN \$ Alleviated	Lowest Cost First	Highest Need First	Proportional	Assumed	Rate Impact
0%	\$0	0	0	0	0	0.00%
10%	\$412,891	2,039	191	626	366	0.77%
20%	\$825,781	2,983	449	1,251	805	1.54%
30%	\$1,238,672	3,672	765	1,877	1,284	2.32%
40%	\$1,651,563	4,204	1,132	2,502	1,811	3.09%
50%	\$2,064,453	4,671	1,585	3,128	2,369	3.86%
60%	\$2,477,344	5,124	2,052	3,754	2,972	4.63%
70%	\$2,890,234	5,491	2,583	4,379	3,636	5.41%
80%	\$3,303,125	5,807	3,273	5,005	4,372	6.18%
90%	\$3,716,016	6,065	4,217	5,630	5,208	6.95%
100%	\$4,128,906	6,256	6,256	6,256	6,256	7.72%

*Rate impact assumes funding through non-low income and non-residential ratepayers



Current Low-Income Funding

In 2019 Clallam PUD, provided direct assistance to 1007 customers in the amount of \$330,245 and the District believes as many as 1,800 customers receive as much as \$440,021 through OlyCap, and all other Federal, State and Tribal assistance organizations for application to electric bills. There is some overlap such that customers may receive multiple assistance funding streams so the actual number of assisted customers may be as low as 2,000.

Current assistance does not specifically address energy burden and much of the aid simply reduces EAN as opposed to eliminating EAN for a customer. If current assistance incorporated a specific requirement to eliminate EAN at 100% effectiveness, the reduction in District EAN on a customer basis would be about 11.9% at 2019 funding. Increasing funding by 15% will increase the EAN reduction by 2% or 13.9%. On simply a dollar basis, current EAN funding is 18.6% and a 15% increase would 21.4%.

Policy Considerations

- The CETA EAN targets are not mandatory per legislation – see attached General Counsel Analysis.
 - However, the subjective term “demonstrate progress” could ultimately be utilized as a mechanism to meet Energy Assistance Need targets of 60% by 2030 and 90% by 2050.
 - Mandatory reports to the Legislature that show targets will not be met could lead to additional legislative action to meet targets.
- Clallam PUD has two characteristics that makes it particularly vulnerable to adverse consequences associated with CETA Section 12:
 - A relatively high poverty level and proportion of customers with household income below 200% of the FPL
 - An electric utility customer base in which Residential customers contribute more 73% of all electric revenue.
- The State does not identify the funding mechanism needed to meet objectives but at high confidence, it will require \$2.96 million dollars in annual assistance for Clallam PUD to actually meet the 2030 target based on customer count, and \$3.90 million/year to meet the 2050 objective, assuming direct financial assistance to offset electric bill costs. Note \$2.96 million annual assistance would substantially exceed the 2% of annual revenue cost cap for the legislation even if only half was used in the form of conservation.
 - Mitigating EAN based on customer count only through resources within the Districts authority will have an eventual 5.54% rate impact for most customers to achieve a 60% reduction EAN by 2030, and a 7.29% rate impact to achieve a 90% reduction in EAN by 2050.
 - Mitigating EAN based on EAN dollars results would result in rate impact of 4.63% to achieve a 60% reduction and 6.95% to achieve a 100% reduction.
 - As a matter of fairness, PUD staff believes State and/or Federal funding is needed to effectively mitigate EAN and other income equality issues.
 - While many Washington electric utilities will have an EAN of 60% to 70% for customers falling with 0-200% FPL, there will be substation disparity in the proportion of customers who are above and below 200% FPL.
 - For Clallam an EAN for 21.72% of all residential customers below 200% FPL may receive funding derived from 70% of residential customers above 200% FPL, and a relatively small number of non-residential accounts.
 - For a utility with half the Clallam poverty rate, a higher proportion of customers, including more numerous commercial customers, could fund a much smaller percentage of customers with EAN.
- Legislation indicates that the State will prioritize mitigation of EAN to those with the highest energy burdens, and if so, the EAN will be considerably higher than the average EAN of \$660 per customer.
- Present low-income assistance does not consider CETA Energy Assistance Need and is in the form of financial assistance for low-income customers in amount no more than the fixed monthly charge on utility bill.
 - To provide additional monetary assistance to KWh used undermines conservation.

- The current fixed monthly charge for residential customer in 2020 will be \$426.48, considerably less than the average EAN.
 - Any future low-income assistance program should incorporate EAN as a condition of assistance
- Low-income assistance can take the form of either direct assistance to offset utility bills or activities to promote conservation, including weatherization programs.
 - Mitigation of EAN that is higher than fixed monthly charges should be given consideration for weatherization or some other form of conservation.
 - Mitigation of EAN that is in the form of conservation or other weatherization would be included in the general CETA cost cap of 2% of retail sales.
- Direct financial assistance is usually cheapest means of compliance and undermines any incentive to assist in conservation/weatherization programs. This will ultimately cost the utility more in the end and could migrate away from the intent of the legislation.
- CETA approves working with CAP agencies in the legislation by way of a partnership. A utility will be spending money on administrative burden to cover the overheads at the CAP agency to administer the utility low-income program. If handled at the state level this could be done at a much lower per unit cost based on economies of scale, and paid for through the public utility tax or privilege tax.
- Consideration should be given to how taxes are handled. Tribal members on tribal land are exempt from public utility tax and privilege tax. These taxes are 6% of the electrical charges and should not be counted toward energy burden.
- Electric vehicle fuel switching should not be included in household energy burden. A mechanism to ensure that transportation electrification does not hinder utilities from showing progress toward the 60% and 90% EAN reduction goals.
- To ensure vulnerable and low income persons do not see a higher energy burden and energy assistance need, all additional cost incurred by CETA compliance will be assessed by separate bill line item from which the low income and vulnerable customers are exempt. This will avoid compounding the 2% of revenue sales cost cap, as would otherwise be the case if CETA compliance cost were rolled into general rate schedules.