

## **THE IMPLICATIONS OF MINIMUM AND MAXIMUM BENEFITS IN WASHINGTON STATE'S LIHEAP PROGRAM**

**By:**

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One issue presented by CTED's proposed formula for distributing LIHEAP benefits is whether there should exist some type of maximum benefit, and if so, where that maximum should be set. The proposal which exists today is to set the maximum at \$600. That proposal should be accepted with modifications.

Two tests should be applied to determine whether the proposed maximum benefit is reasonable or not:

1. Does the maximum benefit only screen out the very extreme cases, or does it cut well into what could be considered "ordinary," even if above-average, usage?
2. Does the maximum benefit treat everyone equally, or does it disadvantage some discrete class or classes more than others?

### **THE MAXIMUM BENEFIT VS. ORDINARY, ALBEIT ABOVE-AVERAGE, USAGE**

To test the limits of the maximum benefit, by definition, you need to look at the extremes. Those are the customers to whom the maximum is directed in any event. I have defined the "extremes" as being the households at 10 percent of Poverty (since those households will receive the highest benefits--92% of the heating bill). I've then tested the maximum benefit in several ways.

Table 1 sets out the extent to which the maximum benefit might be reached and exceeded given reasonably expected variations in average household benefits by county. Note that in this Table, four of Washington's 39 counties have maximum benefits in the "plus

30%" range that exceed a maximum of \$600. In addition, however, nine more counties have benefits in the "plus 30%" range that exceed \$550, meaning that an additional increase in their heating bill of only \$50 would push them over the maximum.

The issue, then, is do household heating bills tend to vary upwards from the average and, if so, is a 30 percent increase within that normal variation? Is it reasonable, in other words, to expect a normal variation around the average such that this type of increase in household heating bills (30 percent or more) might be expected?

Table 2, Part A, sets forth the number of households at different levels of bills for natural gas.<sup>11</sup> Table 2, Part B, converts those numbers into percentages. Note that from 15 to 30 percent of all households had monthly bills that *exceeded* \$50, even though the mean bill in each category (Census Region, National, National Low-Income) was *less* than \$50, sometimes substantially so. Even in the West, where only 13.1 percent of all households had bills in excess of \$50, the mean bill was only \$28 (significantly lower than other Census regions). Nationally, more than one-fifth of all *low-income* households had bills exceeding \$50, even though the mean low-income natural gas bill was only \$33. The \$50 breakpoint is significant in that, given the average natural gas bills reported in this Table, \$50 represents an increase of roughly 50 percent ( $17 / 30 = .50$ ).

Note finally from Table 2, Part B, that roughly 1-in-25 low-income households (3.8 percent) nationally had natural gas bills that were roughly 300 percent greater than the average (more than \$100 when average bill was \$33).

This excess usage over the average, of course, doesn't mean that all of these households have outrageously high natural gas bills. It means simply that the higher consumption households live in bigger homes, have more family members, live in colder regions, and the like.<sup>12</sup>

To illustrate, Table 3 sets out one example of why some households might have higher consumption than average. This Table further

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<sup>11</sup> Natural gas was chosen instead of electricity because it was more likely that differences in electricity bills would be caused due to differences in heating and non-heating usage.

<sup>12</sup> It could reflect the possibility, too, that some households have natural gas hot water heating but not natural gas space heating. That, however, is relatively rare. As a general rule, if a household has natural gas space heating, they have natural gas hot water as well.

shows how this single factor, family size, might push households toward being at or above the maximum benefit, while still being at the average consumption *for that household size*. Table 3 shows, for example, that households with five or more members will see benefits in the range of \$550 or more in five of Washington's 39 counties *with simply an average consumption*. These families (5+ members) would see benefits in the \$500 - \$550 range in an additional nine counties given average consumption.

Table 4 sums this analysis up. Table 4 shows the percentage increase in average bills necessary for different household sizes to have households reach the maximum benefit. A household with five members in Adams County, for example, would need to have consumption only 15.4 percent above the average consumption for a household of five to be pushed over the \$600 maximum. A five member household in Grant County would need to have a bill 50.6 percent more than the average bill for a household of five to be pushed over the \$600 limit. A similar analysis can be developed for the other household sizes.<sup>131</sup>

As can be seen, the maximum benefit thus appears to be too low to meet our first test articulated above: that it be sufficiently high to avoid screening out what could be considered "ordinary," even if above-average, usage.

#### **EQUAL TREATMENT--UNEQUAL DISADVANTAGE**

The second test to apply against the proposed \$600 maximum benefit is whether the maximum benefit tends to disadvantage some discrete groups of households more than others. The most obvious place to apply this test is to households who use different primary home heating fuels (and thus incur different primary home heating costs). Two fuels are considered below: natural gas and electricity. These two fuels were chosen because, as Table 5 shows, they represent the primary heating fuels in virtually every county in Washington State.

Tables 6 and 7 convert the maximum LIHEAP benefit into the number of fuel units which that benefit would purchase for Washington's low-income households. A maximum benefit of \$600, in other words, would purchase 13,460 kWh of heating or 1,240 therms of natural gas or 594 gallons of No. 2 fuel oil.

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<sup>131</sup> Note, again, that it is not *usage* that must be higher, but bills. Bills can be higher due to higher usage, or due to more expensive fuels, or due to a more expensive fuel supplier, and the like.

Table 8 then makes the comparison of relative disadvantage. This Table shows the percentage of the maximum covered energy amount used by different categories of households in the Pacific Census Division of the Western Census Region. Data specific to Washington State is not available. The comparison is based on the observation that the greater the proportion that average consumption is of covered consumption, the more likely it is that *some* households within the category experiencing that higher proportion will have consumption which is not paid by the LIHEAP benefit.

A further explanation might help. We know that there is a natural variation in household energy consumption around the average. We know, also, that it is likely that the number of households who are substantially *above* average will be more than the number of households who are below average. We know that it is households who are above average who cause us concern, since they are the folks who will more likely have difficulty in paying their energy bills. We know finally that it is folks who are substantially above average who will lose benefits as a result of a maximum benefit.

The question thus becomes, how much "wobble room" is there between the average bill and the point at which households begin to lose their benefits. If the average bill is only 50 percent of the maximum benefit, in other words, a household can double its bill and still have that entire bill covered by the LIHEAP benefit. If, however, the average bill is 90 percent of the maximum benefit, even the slightest increase will push the household over the maximum and the household will lose benefits.

Since different fuels have both different per unit costs and different levels of efficiency, it might be expected that the average bills for some fuels (since they are higher) will come closer to the maximum benefit than the average bills for other fuels. If this is so, then there is less "wobble room" for those fuels with the higher average bill.

Accordingly, since there is only one flat rate maximum benefit, the households who heat with the fuels who have the higher average bills will be more likely to lose benefits while staying within the normal distribution of consumption around the average.

As Table 8 shows, the Washington maximum benefit systematically harms households using electricity as their primary space heating fuel. Except for the entirely unexplained high usage reported for natural gas homes in a climate region with more than 5,000 Heating Degree Days (HDDs), the average electric consumption for households with a variety of characteristics represent a greater proportion of the covered consumption than natural gas households with those same characteristics.

- o For example, while households living in units built before 1949 and using electricity as their primary space heating would, on average, use 66.1 percent of the allowable maximum benefit, households living in units built before 1949 and using natural gas as their primary space heating source would use only 31.3 percent of their maximum benefit.<sup>41</sup>
- o For example, while households living in households with the head of household aged 60 or older and using electricity as their primary space heating fuel would, on average, use 43.4 percent of the allowable maximum benefit, households living in households with the head of household aged 60 or older and using natural gas as their primary space heating fuel would, on average, use 29.9 percent.

The point of this analysis is not the percentage of coverage *within* any given fuel. That topic has been covered above. The point here is the difference in treatment as between fuels. What we find here, in other words, is that it is much more likely that the natural variation in consumption around the average, as discussed in detail above, will harm an electric consumer than it will harm a natural gas user.

In sum, the maximum benefit proposed by CTED for LIHEAP benefits fails our second test as set forth above. The maximum benefit fails to treat everyone equally. Instead, it significantly disadvantages some categories of customers more than others.

## RECOMMENDATIONS

It would be impolitic to argue that there should be no cap on the benefits provided by LIHEAP to low-income energy users. Such an argument would seem to fly in the face of accepted public policy that there be no incentive for households to indiscriminately use energy. Moreover, it would fly in the face of a belief that everyone must accept some responsibility for budget tightening in Congress. The question is, therefore, what type of maximum should be adopted.

We make four recommendations:

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<sup>41</sup> So, therefore, while electric households who have consumption only fifty percent above the average will lose benefits due to the fact that they have reached the maximum benefit, similarly situated gas customers would need to have consumption more than triple average gas consumption before they would reach the maximum and thus lose benefits.

- o The maximum benefit should be available, but used rarely. It should truly treat only the extreme outliers. It should not adversely affect households who have above average consumption, but not consumption that is extraordinary. As has been shown in a number of ways above, there is a natural variation around average consumption of home heating fuels. The maximum should take in all but the most extreme outliers in that natural variation. To set the maximum, therefore, the State must have some idea of the distribution of consumption. It could then set a maximum that accounts for 90 (or 95 percent) of that distribution.
- o The maximum benefit should not be a flat amount. As has been shown above, a flat amount works to the particular disadvantage of households who use electricity for their space heating needs. As Table 5 shows, a significant number of low-income Washington State residents use electricity for space heating. The variation in the flat rate should be framed to deliver equivalent amounts of energy to users of different types of fuel. The equivalency scales set forth in the Washington State Energy Office's *Washington State Energy Use Profile: 1960 - 1990* (Appendix C)<sup>151</sup> could be used in developing such an equivalency scale.
- o Consistent with the first recommendation, a proposed benefit of \$600 is insufficient to appropriately cover home heating consumption. If budgets do not permit a maximum benefit of greater than \$600, the LIHEAP office should develop an AFDC-type of adjustment mechanism. This would entail developing a home heating "standard of need," and then explicitly paying only a portion of that "standard of need." A \$700 maximum (adjusted as in Recommendation #2) might be set as 100 percent of need. If budget constraints force the maximum downward, CTED should explicitly acknowledge that it is paying at some percentage of need less than 100 percent.
- o CTED should create some type of "opt-out" mechanism for the maximum LIHEAP benefit. While recognizing the need to retain some level of administrative simplicity for such a mechanism, there should be three "opt-out" situations:
  1. An opt-out that is valid for a discrete period of time, acknowledging some special, but temporary, circumstances that require higher energy consumption.

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<sup>151</sup> If a more recent edition is available that contains the same information, that edition should be used.

2. An opt-out that is specific to a particular household. This would state that due to circumstances unique to the household, so long as this particular household receives benefits, the opt-out will be permitted. and
3. An opt-out that is specific to a particular dwelling unit. This would state that due to circumstances unique to the unit, so long as a LIHEAP recipient lives in that particular unit, the opt-out will be permitted.

The opt-out may include either a waiver of the maximum benefit altogether, or a specified dollar increase in the allowable maximum benefit.



Table 1: County-by-County LIHEAP Benefit  
Using CTED Proposal Formula  
at Different Levels of Heating Consumption

County	Avg		Plus 10 Percent		Plus 20 Percent		Plus 30 Percent	
	Htg Bill	Benefit (92%)	Htg Bill	Benefit (92%)	Htg Bill	Benefit (92%)	Htg Bill	Benefit (92%)
Adams	\$470	\$432	\$517	\$476	\$564	\$438	\$611	\$562
Asotin	\$384	\$353	\$422	\$388	\$461	\$357	\$499	\$459
Benton	\$454	\$418	\$499	\$459	\$545	\$422	\$590	\$543
Chelan	\$358	\$329	\$394	\$362	\$430	\$333	\$465	\$428
Clallam	\$461	\$424	\$507	\$466	\$553	\$429	\$599	\$551
Clark	\$441	\$406	\$485	\$446	\$529	\$410	\$573	\$527
Columbia	\$387	\$356	\$426	\$392	\$464	\$361	\$503	\$463
Cowlitz	\$347	\$319	\$382	\$351	\$416	\$323	\$451	\$415
Douglas	\$367	\$338	\$404	\$372	\$440	\$342	\$477	\$439
Ferry	\$454	\$418	\$499	\$459	\$545	\$422	\$590	\$543
Franklin	\$432	\$397	\$475	\$437	\$518	\$402	\$562	\$517
Garfield	\$429	\$395	\$472	\$434	\$515	\$399	\$558	\$513
Grant	\$354	\$326	\$389	\$358	\$425	\$329	\$460	\$423
Grays Harbor	\$398	\$366	\$438	\$403	\$478	\$371	\$517	\$476
Island	\$500	\$460	\$550	\$506	\$600	\$466	\$650	\$598
Jefferson	\$427	\$393	\$470	\$432	\$512	\$397	\$555	\$511
King	\$519	\$477	\$571	\$525	\$623	\$483	\$675	\$621
Kitsap	\$467	\$430	\$514	\$473	\$560	\$435	\$607	\$558

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	Htg Bill	Benefit (92%)	Htg Bill	Benefit (92%)	Htg Bill	Benefit (92%)	Htg Bill	Benefit (92%)
Kittitas	\$511	\$470	\$562	\$517	\$613	\$476	\$664	\$611
Klickitat	\$455	\$419	\$501	\$461	\$546	\$424	\$592	\$545
Lewis	\$381	\$351	\$419	\$385	\$457	\$354	\$495	\$455
Lincoln	\$470	\$432	\$517	\$476	\$564	\$438	\$611	\$562
Mason	\$445	\$409	\$490	\$451	\$534	\$415	\$579	\$533
Okanogan	\$368	\$339	\$405	\$373	\$442	\$343	\$478	\$440
Pacific	\$401	\$369	\$441	\$406	\$481	\$374	\$521	\$479
Pend Oreille	\$388	\$357	\$427	\$393	\$466	\$362	\$504	\$464
Pierce	\$479	\$441	\$527	\$485	\$575	\$446	\$623	\$573
San Juan	\$415	\$382	\$457	\$420	\$498	\$386	\$540	\$497
Skagit	\$459	\$422	\$505	\$465	\$551	\$428	\$597	\$549
Skamania	\$445	\$409	\$490	\$451	\$534	\$415	\$579	\$533
Snohomish	\$482	\$443	\$530	\$488	\$578	\$449	\$627	\$577
Spokane	\$472	\$434	\$519	\$477	\$566	\$439	\$614	\$565
Stevens	\$439	\$404	\$483	\$444	\$527	\$408	\$571	\$525
Thurston	\$504	\$464	\$554	\$510	\$605	\$469	\$655	\$603
Wahkiakum	\$439	\$404	\$483	\$444	\$527	\$408	\$571	\$525
Walla Walla	\$401	\$369	\$441	\$406	\$481	\$374	\$521	\$479

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	Htg Bill	Benefit (92%)	Htg Bill	Benefit (92%)	Htg Bill	Benefit (92%)	Htg Bill	Benefit (92%)
Whatcom	\$479	\$441	\$527	\$485	\$575	\$446	\$623	\$573
Whitman	\$504	\$464	\$554	\$510	\$605	\$469	\$655	\$603
Yakima	\$435	\$400	\$479	\$441	\$522	\$406	\$566	\$521



Table 2, Part A: Numbers of Households at Differing Levels of Natural Gas Bills

Natural Gas Bill	Numbers of Households					
	Nation	Northeast	Midwest	South	West	<100% Poverty
Below \$25	14,461	2,645	2,324	4,435	5,057	2,172
\$25-49	19,322	2,322	6,626	5,789	4,586	2,278
\$50-74	8,743	2,038	3,857	1,849	999	839
\$75-99	3,002	1,079	1,089	546	288	255
\$100-149	1,460	690	488	191	92	154
\$150-199	396	198	112	54	32	41
\$200 and more	229	79	81	32	37	28
Total	47,617	9,055	14,581	12,900	11,095	5,871
Average bill	\$37	\$45	44	\$34	\$28	\$33



Table 2, Part B, Percentage of Households at Different Levels of Natural Gas Bills

	Percentage of Households at Different Levels of Natural Gas Bills					
	Nation	Northeast	Midwest	South	West	<100% Pov
Above \$50	29.0%	45.1%	38.6%	20.7%	13.1%	22.4%
Above \$100	4.4%	10.7%	4.7%	2.1%	1.5%	3.8%
Above \$150	1.3%	3.1%	1.3%	0.7%	0.6%	1.2%
Above \$200	0.5%	0.9%	0.6%	0.2%	0.3%	0.5%
Total	47,617	9,055	14,581	12,900	11,095	5,871
Mean Bill	\$37	\$45	\$44	\$34	\$28	\$33



Table 3: County-by-County LIHEAP Benefit  
 Using CTED Proposal Formula  
 at Different Household Sizes and Average Consumption  
 (10 Pct of Poverty)

County	Avg HH Size		HH of 4		HH of 5+	
	Htg Bill	Benefit (92%)	Htg Bill	Benefit (92%)	Htg Bill	Benefit (92%)
Adams	\$470	\$432	\$503	\$463	\$559	\$514
Asotin	\$384	\$353	\$411	\$378	\$457	\$420
Benton	\$454	\$418	\$486	\$447	\$540	\$497
Chelan	\$358	\$329	\$383	\$352	\$426	\$392
Clallam	\$461	\$424	\$493	\$454	\$549	\$505
Clark	\$441	\$406	\$472	\$434	\$525	\$483
Columbia	\$387	\$356	\$414	\$381	\$461	\$424
Cowlitz	\$347	\$319	\$371	\$341	\$413	\$380
Douglas	\$367	\$338	\$393	\$362	\$437	\$402
Ferry	\$454	\$418	\$486	\$447	\$540	\$497
Franklin	\$432	\$397	\$462	\$425	\$514	\$473
Garfield	\$429	\$395	\$459	\$422	\$511	\$470
Grant	\$354	\$326	\$379	\$349	\$421	\$387
Grays Harbor	\$398	\$366	\$426	\$392	\$474	\$436
Island	\$500	\$460	\$535	\$492	\$595	\$547
Jefferson	\$427	\$393	\$457	\$420	\$508	\$467
King	\$519	\$477	\$555	\$511	\$618	\$569
Kitsap	\$467	\$430	\$500	\$460	\$556	\$512

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(10 Pct of Poverty)

County	Avg HH Size		HH of 4		HH of 5+	
	Htg Bill	Benefit (92%)	Htg Bill	Benefit (92%)	Htg Bill	Benefit (92%)
Kittitas	\$511	\$470	\$547	\$503	\$608	\$559
Klickitat	\$455	\$419	\$487	\$448	\$541	\$498
Lewis	\$381	\$351	\$408	\$375	\$453	\$417
Lincoln	\$470	\$432	\$503	\$463	\$559	\$514
Mason	\$445	\$409	\$476	\$438	\$530	\$488
Okanogan	\$368	\$339	\$394	\$362	\$438	\$403
Pacific	\$401	\$369	\$429	\$395	\$477	\$439
Pend Oreille	\$388	\$357	\$415	\$382	\$462	\$425
Pierce	\$479	\$441	\$513	\$472	\$570	\$524
San Juan	\$415	\$382	\$444	\$408	\$494	\$454
Skagit	\$459	\$422	\$491	\$452	\$546	\$502
Skamania	\$445	\$409	\$476	\$438	\$530	\$488
Snohomish	\$482	\$443	\$516	\$475	\$574	\$528
Spokane	\$472	\$434	\$505	\$465	\$562	\$517
Stevens	\$439	\$404	\$470	\$432	\$522	\$480
Thurston	\$504	\$464	\$539	\$496	\$600	\$552
Wahkiakum	\$439	\$404	\$470	\$432	\$522	\$480
Walla Walla	\$401	\$369	\$429	\$395	\$477	\$439

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 (10 Pct of Poverty)

County	Avg HH Size		HH of 4		HH of 5+	
	Htg Bill	Benefit (92%)	Htg Bill	Benefit (92%)	Htg Bill	Benefit (92%)
Whatcom	\$479	\$441	\$513	\$472	\$570	\$524
Whitman	\$504	\$464	\$539	\$496	\$600	\$552
Yakima	\$435	\$400	\$465	\$428	\$518	\$477



Table 4: County-by-County  
Increase in Avg Bill Needed to Generate Maximum Benefit  
At Different Household Sizes  
10 Percent of Poverty

County	Avg HH Size			HH of 4			HH of 5+		
	Avg Bill	Benefit Below Maximum	Bill Increase Needed to Reach Max	Avg Bill	Amt Below Max Benefit	Bill Increase Needed to Reach Max	Avg Bill	Amt Below Max Benefit	Bill Increase Needed to Reach Max
Adams	\$470	\$268	0.570	\$547	\$197	0.360	\$559	\$186	0.333
Asotin	\$384	\$347	0.904	\$487	\$252	0.518	\$457	\$280	0.613
Benton	\$454	\$282	0.621	\$408	\$325	0.797	\$540	\$203	0.376
Chelan	\$358	\$371	1.036	\$503	\$237	0.471	\$426	\$308	0.723
Clallam	\$461	\$276	0.599	\$476	\$262	0.550	\$549	\$195	0.355
Clark	\$441	\$294	0.667	\$394	\$338	0.858	\$525	\$217	0.413
Columbia	\$387	\$344	0.889	\$429	\$305	0.711	\$461	\$276	0.599
Cowlitz	\$347	\$381	1.098	\$415	\$318	0.766	\$413	\$320	0.775
Douglas	\$367	\$362	0.986	\$513	\$228	0.444	\$437	\$298	0.682
Ferry	\$454	\$282	0.621	\$444	\$292	0.658	\$540	\$203	0.376
Franklin	\$432	\$303	0.701	\$491	\$248	0.505	\$514	\$227	0.442
Garfield	\$429	\$305	0.711	\$476	\$262	0.550	\$511	\$230	0.450
Grant	\$354	\$374	1.057	\$516	\$225	0.436	\$421	\$313	0.744
Grays Harbor	\$398	\$334	0.839	\$505	\$235	0.465	\$474	\$264	0.557
Island	\$500	\$240	0.480	\$470	\$268	0.570	\$595	\$153	0.257
Jefferson	\$427	\$307	0.719	\$539	\$204	0.379	\$508	\$233	0.459

Table 4: County-by-County  
Increase in Avg Bill Needed to Generate Maximum Benefit  
At Different Household Sizes  
10 Percent of Poverty

County	Avg HH Size			HH of 4			HH of 5+		
	Avg Bill	Benefit Below Maximum	Bill Increase Needed to Reach Max	Avg Bill	Amt Below Max Benefit	Bill Increase Needed to Reach Max	Avg Bill	Amt Below Max Benefit	Bill Increase Needed to Reach Max
King	\$519	\$223	0.430	\$470	\$268	0.570	\$618	\$131	0.212
Kitsap	\$467	\$270	0.578	\$429	\$305	0.711	\$556	\$188	0.338
Kittitas	\$511	\$230	0.450	\$503	\$237	0.471	\$608	\$141	0.232
Klickitat	\$455	\$281	0.618	\$411	\$322	0.784	\$541	\$202	0.373
Lewis	\$381	\$349	0.916	\$486	\$253	0.521	\$453	\$283	0.625
Lincoln	\$470	\$268	0.570	\$383	\$348	0.909	\$559	\$186	0.333
Mason	\$445	\$291	0.654	\$493	\$246	0.499	\$530	\$212	0.400
Okanogan	\$368	\$361	0.981	\$472	\$266	0.564	\$438	\$297	0.678
Pacific	\$401	\$331	0.825	\$414	\$319	0.771	\$477	\$261	0.547
Pend Oreille	\$388	\$343	0.884	\$371	\$359	0.968	\$462	\$275	0.595
Pierce	\$479	\$259	0.541	\$393	\$338	0.860	\$570	\$176	0.309
San Juan	\$415	\$318	0.766	\$486	\$253	0.521	\$494	\$246	0.498
Skagit	\$459	\$278	0.606	\$462	\$275	0.595	\$546	\$198	0.363
Skamania	\$445	\$291	0.654	\$459	\$278	0.606	\$530	\$212	0.400
Snohomish	\$482	\$257	0.533	\$379	\$351	0.926	\$574	\$172	0.300
Spokane	\$472	\$266	0.564	\$426	\$308	0.723	\$562	\$183	0.326

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 10 Percent of Poverty

County	Avg HH Size			HH of 4			HH of 5+		
	Avg Bill	Benefit Below Maximum	Bill Increase Needed to Reach Max	Avg Bill	Amt Below Max Benefit	Bill Increase Needed to Reach Max	Avg Bill	Amt Below Max Benefit	Bill Increase Needed to Reach Max
Stevens	\$439	\$296	0.674	\$535	\$208	0.389	\$522	\$220	0.422
Thurston	\$504	\$236	0.468	\$457	\$280	0.613	\$600	\$148	0.247
Wahkiakum	\$439	\$296	0.674	\$555	\$189	0.341	\$522	\$220	0.422
Walla Walla	\$401	\$331	0.825	\$500	\$240	0.480	\$477	\$261	0.547
Whatcom	\$479	\$259	0.541	\$513	\$228	0.444	\$570	\$176	0.309
Whitman	\$504	\$236	0.468	\$539	\$204	0.379	\$600	\$148	0.247
Yakima	\$435	\$300	0.690	\$465	\$272	0.585	\$518	\$223	0.431

Table 5:  
Percentage of Low-Income Households Using Different Energy Sources as Primary Heating Fuel

County	Gas	Electricity	Total
Adams	19.2%	67.5%	86.7%
Asotin	35.1%	47.7%	82.8%
Benton	4.6%	87.8%	92.4%
Chelan	5.4%	82.0%	87.4%
Clallam	0.4%	71.0%	71.4%
Clark	8.2%	78.4%	86.6%
Columbia	0.0%	40.0%	40.0%
Cowlitz	2.9%	89.3%	92.2%
Douglas	1.8%	84.8%	86.6%
Ferry	0.0%	21.4%	21.4%
Franklin	5.4%	86.7%	92.1%
Garfield	0.0%	48.7%	48.7%
Grant	3.4%	93.2%	96.6%
Grays Harbor	6.4%	66.9%	73.3%
Island	7.3%	67.7%	75.0%
Jefferson	0.0%	45.9%	45.9%
King	19.7%	65.3%	85.0%
Kitsap	19.2%	56.3%	75.5%
Kittitas	11.1%	63.2%	74.3%

Table 5:  
Percentage of Low-Income Households Using Different Energy Sources as Primary Heating Fuel

County	Gas	Electricity	Total
Klickitat	11.7%	47.8%	59.5%
Lewis	13.2%	52.4%	65.6%
Lincoln	7.1%	51.6%	58.7%
Mason	7.8%	54.2%	62.0%
Okanogan	0.0%	64.1%	64.1%
Pacific	0.4%	61.8%	62.2%
Pend Oreille	0.0%	55.0%	55.0%
Pierce	19.4%	67.7%	87.1%
San Juan	0.6%	32.3%	32.9%
Skagit	22.3%	49.0%	71.3%
Skamania	2.4%	62.4%	64.8%
Snohomish	10.4%	74.7%	85.1%
Spokane	27.0%	54.9%	81.9%
Stevens	7.3%	34.8%	42.1%
Thurston	15.9%	60.3%	76.2%
Wahkiakum	0.0%	45.0%	45.0%
Walla Walla	26.6%	54.7%	81.3%
Whatcom	22.4%	53.6%	76.0%
Whitman	14.0%	73.0%	87.0%
Yakima	19.0%	59.6%	78.6%



Table 6: Units of Energy Purchased by Maximum Benefit  
Given Statewide Fuel Costs in Washington State

Maximum Benefit	Electricity		Natural Gas	
	\$/mmBtu	mmBtu at Max Benefit	\$/mmBtu	mmBtu at Max Benefit
\$600	\$13.07	45.9	\$4.84	124.0



Table 7: Units of Energy by Fuel Source at Maximum LIHEAP Benefit

Primary Home Heating Fuel	mmBtu per Unit of Energy	No. of mmBtu of Energy at Max LIHEAP Benefit	Equivalent Units of Fuel at Max LIHEAP Benefit
Electricity	0.00341 mmBtu/kWh	45.9	13,460 kWh
Natural gas	0.10000 mmBtu/therm	124.0	1,240 therms



Table 8: Relative Disadvantage: Natural Gas Electric Consumption  
Households with Different Characteristics  
Pacific Census Division

	Electricity Space Heating			Natural Gas Space Heating		
	Covered Use (kWh)	Avg Use	Pct Covered	Covered Use (therms)	Avg Use	Pct Covered
More than 5000 HDD	13,460	8342	0.620	1,240	1088	0.877
1-family	13,460	6497	0.483	1,240	420	0.339
Unit built 1949 and earlier	13,460	8900	0.661	1,240	388	0.313
Age 60 and older	13,460	5841	0.434	1,240	371	0.299
HHs size 5+ persons	13,460	5286	0.393	1,240	273	0.220