INSTITUTE FOR PUBLIC POLICY AND ECONOMIC ANALYSIS

Analysis of Low-Income Heating Assistance Programs Administered by Cascade Natural Gas in its Washington State Service Area

By:
Brian Kennedy, MS
D. Patrick Jones, Ph.D.
Holly Miller, B.A. 2018

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Analysis of Low-Income Heating Assistance Programs Administered by Cascade Natural Gas in its Washington State Service Area: Based on the 150% Federal Poverty Level (FPL) with Revisions to the 125% FPL

By:

Brian Kennedy, M.S.

D. Patrick Jones, Ph.D.

Holly Miller, B.A. *2018*

Eastern Washington University

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Executive Summary

This study was conducted as a revision to a prior one undertaken by the Institute of Public Policy & Economic Analysis (the Institute) in May, 2017. In both, Cascade Natural Gas (CNG) asked the Institute to pursue the same objectives. First, it wanted an accurate number of households in their service area in Washington State that could potentially qualify for natural gas subsidies, covering those households at or below the 125% Federal Poverty Level (FPL) income threshold and in this version, the 150% FPL threshold as well. Second, CNG wanted to uncover what has been dubbed the penetration ratio, or the share of households enrolled in natural gas heat subsidies compared to the total number of potential households qualifying for subsidies. These shares, too, were estimated at the 125% and 150% FPL thresholds in this version.

The third objective was to determine how large of a percentage of a CNG consumer's household income goes toward spending on natural gas heat (the burden). The study conducted in May contained inaccurate data about the amount that subsidized (those receiving heating assistance) households spent on heating. In particular, the earlier study represented the amount billed to households and did not factor in the subsidies, resulting in net heating expenditures that were too high, and consequently over estimating the true heating burden. This study accounts for this misstep by incorporating net spending, or the amount billed minus the subsidies granted, of the subsidized households.

All CNG data came from the years of 2013 to 2015 and all were coded at the census tract level by the company. Additionally, the dataset was disaggregated by service district. Census tracts are a key unit of measure for the U.S. Census, numbering typically 4,000-5,000 people, but with a range of 1,200-8,000 people. All Census data, specifically from the American Community Survey (ACS), came from the most recent five year estimates, taken over the years 2011-2015.

The first outcome variable estimated in the revision were the potential households qualifying for natural gas heat subsidies in the CNG service area of the state. There were 28,024 households qualifying at the 125% FPL and 34,814 households qualifying at the 150% FPL, after taking into account households that currently use natural gas as a primary heating source. Over 75% of the households that qualify at the 150% FPL fall into just four service districts: Bellingham, Bremerton, Mount Vernon, and Yakima. These represent the districts primed for potential expansion of these low income programs.

Expanding on the first outcome, the Institute research team calculated the penetration ratio across the CNG service area. This was defined as the ratio of the number of households receiving heating assistance compared to the number that could receive it (after considering only those households currently using natural gas as a primary heating source). This first part of this analysis was done as a revision to study's analysis at the 125% FPL income threshold; the second, as a completely new estimate for the 150% FPL income threshold. The revision for the 125% FPL threshold was due to a slightly different data set of CNG residential customers from the prior study.

The revised penetration ratio at the 125% FPL threshold for the entire CNG service area was 10.4%; at the 150% FPL threshold, it was 8.4%. As in the last study, Wenatchee ranked the highest of all districts with a penetration ration of 15.3% at the 125% FPL and 11.9% at the 150% FPL. This result was 4.9 and 3.6 percentage points higher, respectively, than the CNG service area average.

Conversely, the districts of Longview (2.3%) and Kennewick (5.2%) showed substantially lower penetration of these programs compared to the other districts. While Longview has a relatively low number of household eligible for subsidies, Kennewick on the other hand has over 3,000 households and could be the district with the greatest expansion potential.

The penetration percentages represent the lower bound of estimates. Why? In lieu of detailed information about natural gas distribution by income levels, the Institute team assumed that those living at or below the two FPL thresholds heated with natural gas in the same proportion as the overall population. This is likely not the case, as lower income neighborhoods do not enjoy equal access to this heating source as average or higher income ones do. As a result, the denominators used in the construction of the ratio are higher than they really are, leading to penetration ratios that are lower than the true values. But it is difficult to say how large a difference this is.

The last outcome measure addressed in this study was the heating burden facing both subsidized and unsubsidized households in the CNG service area. The burden is simply the share of household income spent on natural gas heating. Since the Institute did not have access to income and heating expenditure by household, values of household income central values – means and medians – were taken from the ACS for each census tract. They then formed the denominator of a ratio, by census tract, in which CNG expenditure data formed the numerator.

The results from this portion of the project are vastly different than those from the May analysis. This is due to an adjustment in the household spending dataset provided to our research team from CNG.

This iteration of the dataset accurately addresses the net spending of the subsidized households after assistance program dollars have been applied to their billed amount.

The Institute provides estimates based on both the median and average spending and income for both subsidized and unsubsidized households. There was little variation between the average and median estimates. Average spending on heat for the unsubsidized households for the CNG service area was $518, averaged across 2013-2015. This was $426 higher than the subsidized household average of just $92. These equated to a heating burden of 0.8% (unsubsidized) and 0.5% (subsidized). These results conform to national results for natural gas heat from the U.S. Bureau of Labor in its Consumer Expenditure Survey.

In this analysis, there were only marginal differences among the unsubsidized households, with the Aberdeen, Bremerton, Walla Walla, and Yakima all at an average burden at 0.9%, while the Kennewick district showed the lowest average burden at just 0.7%. The average burden, statewide for CNG's service districts was 0.8%.

Slightly more variation for the subsidized households was found, due to the Longview district having a substantially higher average heating burden of 1.2%. However, Longview represented a very small share of the overall CNG service area and removing it from the sample resulted in all districts falling within 0.2 percentage point range from the CNG service area average. This average was 0.5%.

The true burden for these households is likely higher, although the difference from 0.5% cannot be computed. This is because the denominator of the ratio used for this customer class is the 125% FPL. It is impossible to know for sure the true mean or median of this group of households, but it is undoubtedly lower. In lieu of this unknown