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COMPANY NAME: Cascade Natural Gas Corporation

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Cascade Natural Gas, CAT, Conservation Achievement Tariff, Low Income Weatherization, Energy Efficiency

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October 21, 2015

Public Utility Commission of Oregon  
Attn: Filing Center  
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Salem OR 97308-1088

**RE: RG-7, Oregon Low-Income Energy Conservation  
Conservation Achievement Tariff Program Evaluation**

In accordance with the terms and conditions established in Schedule 33-D, Conservation Achievement Tariff (CAT), Cascade Natural Gas Corporation (Cascade or Company) files the attached Program Evaluation of its CAT Pilot Program, which is an overlay to its Oregon Low-Income Energy Conservation Program and is being piloted for the term January 1, 2014, to December 31, 2015.

If you have questions, please call me at (503)230-9607.

Sincerely,

A handwritten signature in black ink, appearing to read "Jim Abrahamson", written over a horizontal line.

Jim Abrahamson  
Conservation Policy, Manager

Cascade Natural Gas Corporation  
Conservation Achievement Tariff Pilot Report  
October 21, 2015

**I. Overview**

This report contains information and findings about Cascade Natural Gas Corporation's (Cascade's) Oregon Low Income Energy Conservation (OLIEC) and its companion pilot program, Conservation Achievement Tariff (CAT). It also offers recommendations related to CAT as the December 31, 2015 end date of the pilot approaches.

Cascade developed CAT in consultation with our Oregon low-income program advisory group. The OPUC then approved the program as a two-year pilot and a new approach to providing weatherization services to income qualified customers using our existing program administrators, the Community Action Agency (CAA, CAP, or Agencies). The ultimate goal of CAT was to use the existing pool of dedicated customer dollars to provide whole home weatherization to as many Cascade Natural Gas low-income Oregon residential customers as possible.<sup>1</sup> Program delivery for CAT and OLIEC is the same: Agencies administer the program; qualify customers; oversee trusted, local contractors who install the measures; and finally, agencies perform evaluations, diagnostic testing and final inspection.

The CAT pilot program is best described as a 'social overlay' to an existing natural gas utility low-income weatherization program. This pilot essentially provides additional program funds to agencies to make up the difference between OLIEC program rebates on projects and the actual dollar cost of installing measures. Together, the combined OLIEC and CAT payments cover 100 percent of the contractor's direct costs for installing qualified measures and an additional \$225 reimbursement to the agency for administrative costs. Any additional project costs need to be covered by supplemental leveraged funds available to each agency and are discussed in more detail later in this report.

While an initial slow uptake in the number of low-income homes weatherized through OLIEC/CAT was anticipated as agencies adjusted to the new program, by around August 2014 it became apparent something was amiss with either the program(s) or some other aspect of the agencies' program delivery. Cascade began to notice the number of natural gas homes weatherized under the program(s) were actually *declining* over time even with the generous funding available through the CAT pilot.

Cascade proactively addressed this situation by generating focused discussions at a meeting of the Oregon Energy Coordinator's Association and by conducting additional research

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<sup>1</sup> 'Whole home' weatherization is the name of an approach to energy efficiency that evaluates each structure as an energy consuming system. Each structure is individually tested and evaluated. Only those energy conservation measures that pass a pre-determined cost-effectiveness test (as measured by a 'savings to investment ratio' for individual measures or groups of measures) are installed. In some structures this might mean installing the full slate of insulation measures (ceiling, wall, floor, etc.) and various other energy savings measures such as duct sealing, air sealing, and the installation of energy efficient air and water heating systems. In other structures, a 'whole home' solution might only require the installation of a single measure.

and discussion. As a result, Cascade was able to identify the primary source of this counterintuitive phenomenon.

While there have always been temporary and/or structural reasons why an agency may not weatherize as many natural gas homes as they otherwise might (which are discussed in more detail later in this report) something dramatic had clearly taken place. Our primary finding is:

*Changes to the Department of Energy's Weatherization Assistance Program (DOE WAP) weatherization waiting list prioritization rules make it extremely difficult for a gas-heated low-income household to be placed on an agency waiting list and to remain on this waiting list until served. In addition, other DOE WAP rules such as daily test-out requirements for natural gas (described later) have made it increasingly expensive for agencies to weatherize natural gas homes. Oregon agencies are required to rigorously apply all DOE WAP rules and procedures to every project where Department of Energy funds are used for any purpose. As a consequence, the number of natural gas weatherization completions declined.*

Cascade and the Agencies then developed a set of workarounds applicable to the CAT pilot that enabled the Agencies to provide whole home weatherization to Cascade low-income customers without the use of DOE funds and accompanying rules. Cascade then began providing additional administrative funds to the Agencies to pay for the dwelling's full diagnostic testing (\$550) as well as the final inspection and approval of the work (\$300) while maintaining the integrity, safety protocol, and overall quality of services for low-income households.

Taken together, the identification of a major, hidden, program obstacle and the provision of the testing and inspection funds have enabled the Agencies to achieve the anticipated increase in the number of homes served and the fuller utilization of available program funds. With just a few months left to go in the CAT Pilot period, Agencies are on track to record a year of accomplishments in 2015 to rival their accomplishments during the time when large amounts of American Recovery and Reinvestment Act (ARRA) funds were available.

## **II. CAT Pilot Results**

After an initial period of time where the Agencies were not performing as anticipated, the CAT Pilot finally took hold and began yielding the hoped for increase in the number of low income homes receiving weatherization. Together, Cascade and the Agencies worked to address the remaining barriers to program success including those that existed prior to the development of the CAT Pilot, and other barriers that were "hidden" and needed to be discovered, and subsequently addressed as outlined in this report. <sup>2</sup>

By addressing final program barriers, the Agencies stepped up and have produced results in line with original expectations.

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<sup>2</sup> The primary barrier to low-income natural gas weatherization has traditionally been the limitation of federal leveraged funds. The 'hidden' barrier was the impact of the recent changes to the DOE-WAP waiting list prioritization criteria that made Agencies focus less attention on homes heated with natural gas.

Table 1 displays Homes Served, Measures Installed, Therm Savings and Program Expenditures for each OLIEC program year. Also displayed are the data for the 2014-2015 program year (as of August 31, 2015) which shows the impact of the CAT Pilot after the final program delivery modifications were put into place.

The year-to-date program metrics for the 2014-2015 program year show that agency activity is beginning to approach the achievements recorded during the height of the ARRA program funding. Like the ARRA period, there is a significant uptick in the installation of new, high-efficiency natural gas furnaces and water heaters (replacing older, inefficient, units) in addition to the installation of major weatherization measures.

An apparent anomaly appears in the Duct Seal category of the 2014-15 program numbers where a negative \$1,435 dollars appears in the CAT category. This is caused by the adjustment of expenditures on four jobs where the potential OLIEC rebate for duct sealing exceeded the actual installed cost of the measure.

Chart 1 displays the increase in the number of homes served from 24 homes served in program year 2013-14 to 70 homes served (to date) during the 2014-15 program year. This increased number compares favorably to the record 113 homes served during the height of the ARRA funding in 2010-11, and is nearing the 100 homes per year anticipated for the CAT Pilot. This metric will show even more improvement as additional homes are served during the final months of the CAT Pilot.

**Chart 1**  
**Cascade Natural Gas Corporation**  
**Oregon Low Income Energy Conservation and Conservation Achievement Tariff Programs**  
**Number of Homes Served, 2006-2015**

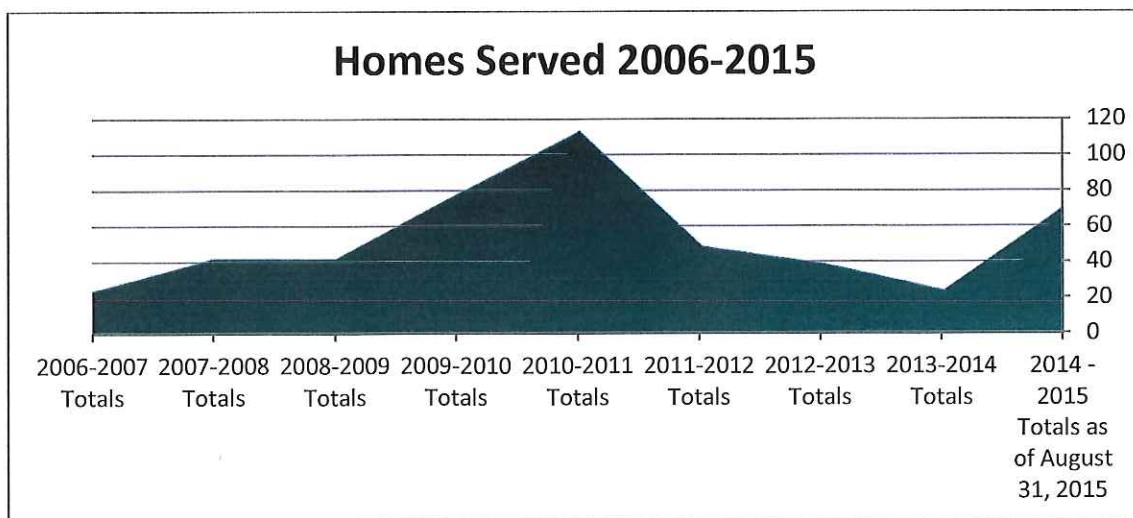


Chart 2 displays the total number of measure installed over the history of the OLIEC program. The number of measures installed mirrors the number of homes served with the CAT Pilot with the number of measures installed beginning to approach the accomplishment achieved during the ARRA period. As with the total number of homes served, the number of installed measures will continue to increase throughout the conclusion of the CAT Pilot.

**Chart 2**  
**Cascade Natural Gas Corporation**  
**Oregon Low Income Energy Conservation and Conservation Achievement Tariff Programs**  
**Number of Measures Installed, 2006-2015**

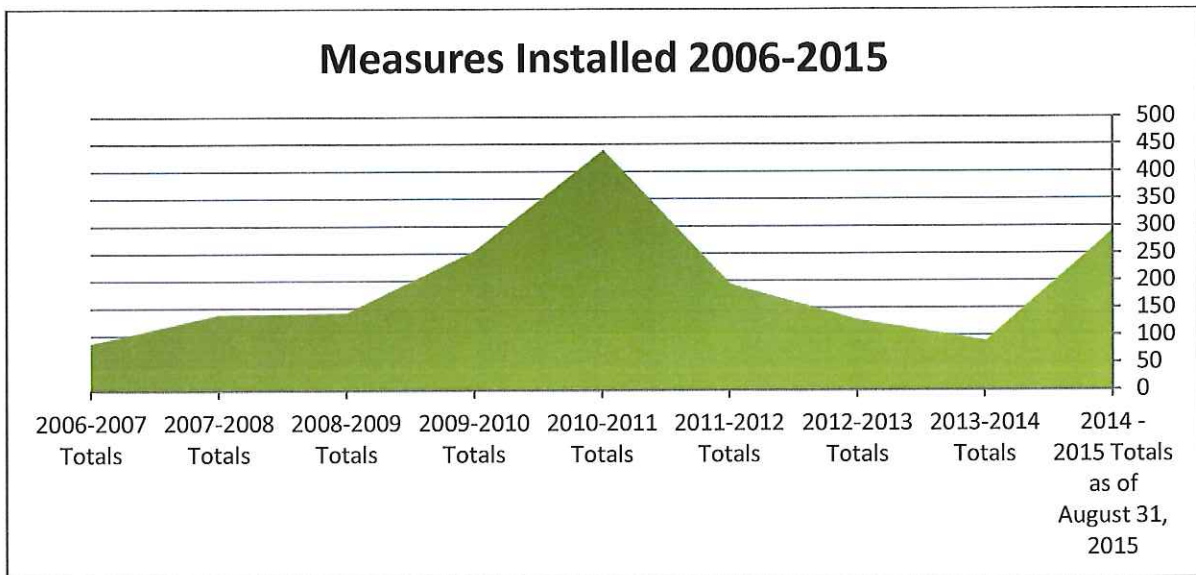


Chart 3 displays the OLIEC and CAT rebates to agencies, per-home, without agency administration payments for the years 2006-2015. The most important dynamic of this chart is the dramatic increase in per-home rebates in the past two years. This is due directly to the influence of the CAT Pilot which was designed to overcome the primary obstacle to weatherizing natural gas homes through traditional utility rebate programs. Traditional natural gas utility rebate programs typically cover 30 to 40 percent of the cost of installing measures, whereas electric utility programs often covered a much larger percentage of costs. Due to this dynamic agencies would need to allocate relatively more scarce federal dollars to natural gas projects.

**Chart 3**  
**Cascade Natural Gas Corporation**  
**Oregon Low Income Energy Conservation and Conservation Achievement Tariff Programs**  
**Average Rebate per Home Excluding Agency Administration, 2006-2015**

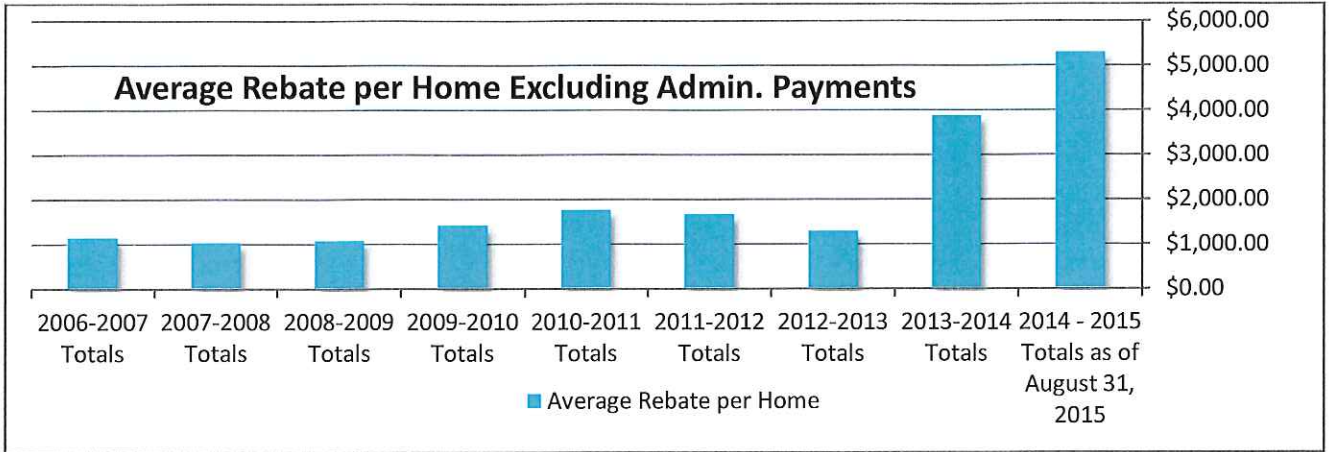


Chart 4 displays the OLIEC and CAT rebates to agencies, per home, with agency administration payments. This chart displays the dollar impact of the increased CAT-related administration payments associated with the pre-work diagnostic testing and the post-work final inspections implemented during the 2014-15 program year. This final program modification resulting from Cascades proactive investigation freed the Agencies from needing to utilize DOE-WAP funding on natural gas projects, thereby removing the final program barrier caused by the DOE-WAP waiting list prioritization rules.

**Chart 4**  
**Cascade Natural Gas Corporation**  
**Oregon Low Income Energy Conservation and Conservation Achievement Tariff Programs**  
**Average Rebate per Home Including Agency Administration, 2006-2015**

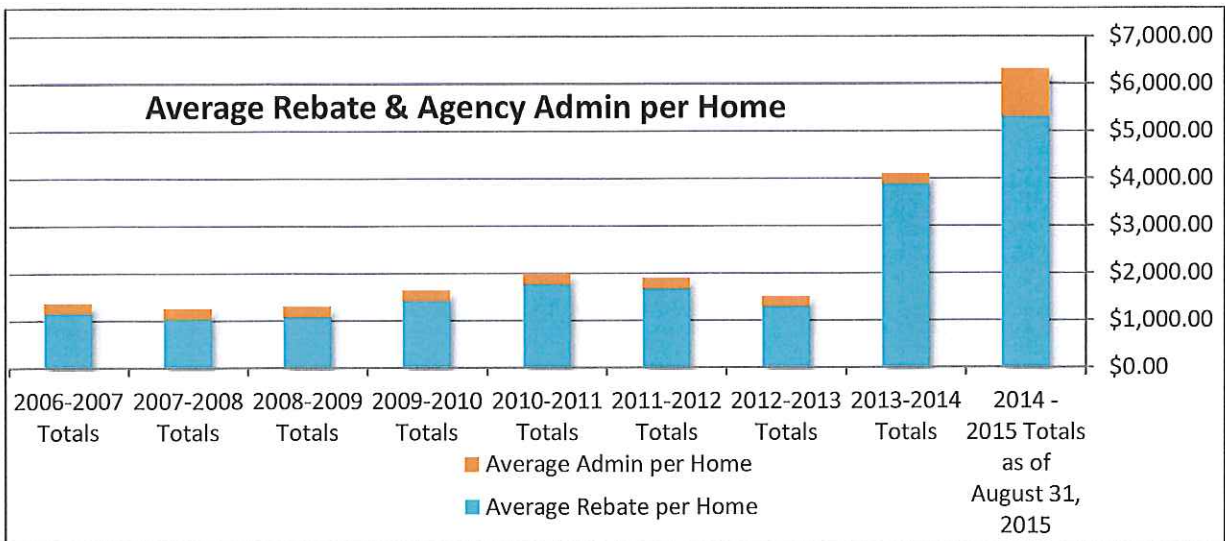


Chart 5 displays the total number of first-year therms saved through the OLIEC and CAT programs. This current year number compares favorably to the record number of therms saved during the height of the ARRA funding in 2010-11. This metric will show even more improvement as additional homes are served during the final months of the CAT Pilot.

**Chart 5**  
**Cascade Natural Gas Corporation**  
**Oregon Low Income Energy and Conservation Achievement Tariff Programs**  
**Total First-Year Therms Saved – 2006-2015**

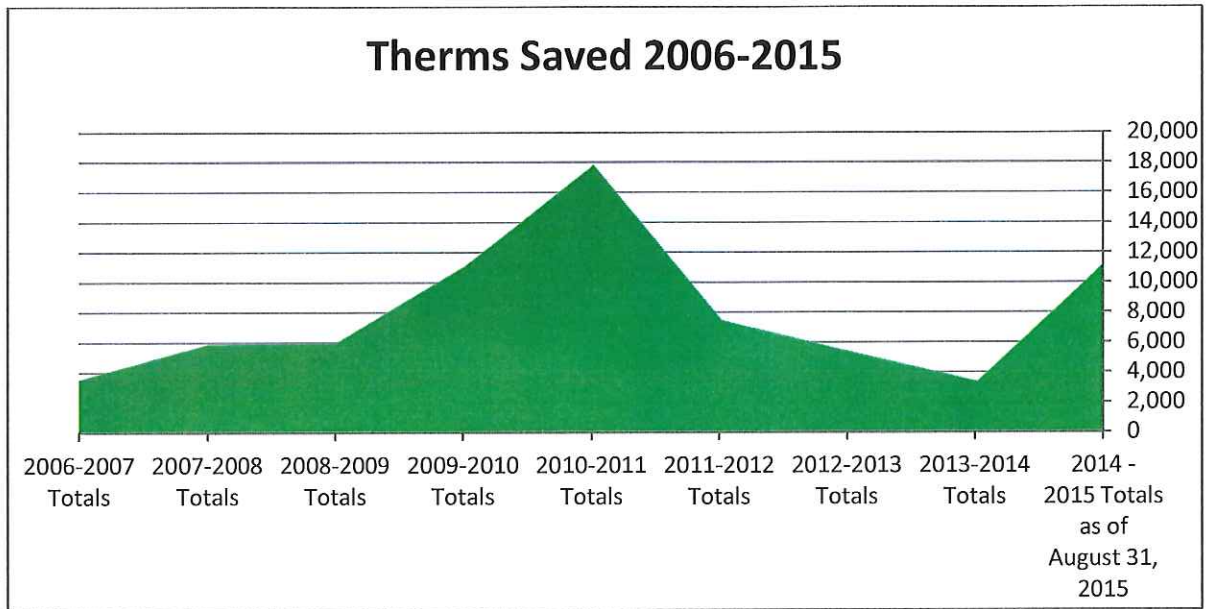


Table 1 displays the average installed cost for each of the ten measures covered by the OLIEC/CAT program over the life of the program. This table is significant in that it shows the average installed cost of each weatherization measure under the CAT Pilot remains generally in-line with installed measure cost through the OLIEC program before CAT. With CAT paying 100 percent of the installed cost of the measures there was a possibility installed measure costs may begin to drift upwards. The Agencies have done an excellent job of insuring that did not happen. It should be noted that installed cost per measure in any given year can be skewed by a relatively small number of measure installations that proved to be individually expensive. An excellent example of this is the installed cost of a high-efficiency water heater of \$3,688.30 recorded in program year 2011-12. That difficult, and expensive, installation was the only H/E water heater included in the program that year. Had additional H/E water heaters been installed that year at more standard cost the annual average would be much lower.



**Table 1**  
**Cascade Natural Gas Corporation**  
**Oregon Low Income Energy and Conservation Achievement Tariff Programs**  
**Average Installed Cost by Measure – 2006-2015**

Avg. Installed Cost	OLIEC Only (Pre-CAT)							OLIEC + CAT	
	2007	2008	2009	2010	2011	2012	2013	2014	2015
Ceiling Insulation	\$2,190.72	\$1,252.74	\$1,603.31	\$1,477.41	\$1,093.55	\$1,268.80	\$1,681.69	\$1,562.56	\$1,808.89
Floor Insulation	\$1,910.22	\$2,284.36	\$1,612.45	\$2,114.69	\$1,845.18	\$1,876.30	\$1,949.23	\$1,937.86	\$2,822.44
Wall Insulation	\$ 751.35	\$1,621.66	\$1,129.41	\$1,574.69	\$1,420.97	\$1,414.56	\$2,173.96	\$1,743.49	\$2,125.91
Duct Insulation	\$ 96.87	\$ 303.17	\$ 307.89	\$ 394.93	\$ 490.14	\$ 808.65	\$ 491.51	\$ 310.78	\$ 439.23
Duct Sealing	\$ 325.76	\$ 411.89	\$ 428.02	\$ 488.79	\$ 789.44	\$ 613.36	\$ 343.94	\$ 410.11	\$ 243.65
Air Sealing	\$ 165.63	\$ 178.86	\$ 225.20	\$ 275.89	\$ 182.48	\$ 310.18	\$ 335.52	\$ 417.87	\$ 439.70
Furnace Replace	\$3,166.83	\$1,360.33	\$2,463.50	\$4,308.54	\$4,372.74	\$4,016.46	\$3,905.30	\$3,512.58	\$3,568.15
Furnace Tune-up	\$ 134.95	\$ 137.87	\$ 141.34	\$ 722.61	\$ 109.20	\$ 302.03	\$ 625.25	\$ 158.00	\$ 205.34
D-V Space Heat	\$1,533.59	\$2,025.00	\$2,230.00	\$1,822.17	\$2,579.50	\$2,630.38			\$3,815.30
H/E Water Heater				\$ 746.00	\$ 983.68	\$3,688.03			\$1,381.74

### Going Forward

The success of the CAT Pilot shows the way to resolving most of the traditional barriers associated with natural gas utility low-income weatherization programs. By paying 100 percent of the cost of installing cost-effective weatherization measures, as well as agency testing and inspecting costs associated with each job, makes these utility natural gas programs free-standing and not reliant upon outside funding or obstructive rules and procedures. Cascade intends to put a proposal before the Oregon Commission for a continuation of the CAT-Pilot framework past its current expiration date of December 31, 2015.

### III. Description of the Oregon Low-Income Energy Conservation Program

The OLIEC program began as a partnership between the Low Income Community Action Agencies and Cascade Natural Gas Corporation in 2006. The catalyst for this coordinated effort was the adoption and implementation of Cascade's Conservation Alliance Plan which was developed as part of the Decoupling Mechanism in OPUC Docket No. UG 167.

The OLIEC program is designed to increase energy efficiency in low-income households within Cascade's Oregon service area by providing rebates for the installation of approved weatherization and conservation measures following the completion of a home energy evaluation performed by a qualifying low-income, 501c3 organization, or a Community Action Agency. The rebates are determined on the basis of the first year dollar value of the conserved natural gas as reflected by our avoided cost of natural gas. Currently, the OLIEC program provides incentives for ten specific energy conservation measures plus an additional incentive for construction or retrofit of a home to Energy Star standards by a qualified low-income 501c3 entity. In addition to the OLIEC rebates, Agencies receive an additional \$225 for administrative and direct program costs.

Under the OLIEC Program, Community Action Agencies installing qualifying energy efficiency measures for Cascade's low income customers are reimbursed from the Oregon Low-

Income Weatherization (OLIW) fund (the name of the internal Cascade funding account) according to a schedule of incentive payments based on Cascade's OPUC-approved avoided costs.<sup>3</sup> Cascade's participating agencies are as follows:

- NeighborImpact, Bend/Redmond/Prineville Area
- Community Action Program East Central Oregon (CAPECO), Pendleton/Umatilla Area
- Community Connection of NE Oregon (CCNO), Baker City
- Community in Action (CinA), Malheur County.
- Oregon Human Development Corporation (OHDC) and Klamath/Lake Community Action Services, vying to serve Cascade customers in Northern Klamath County.

The OLIEC program provides additional funds for measures with greater therm savings. OLIEC rebates were not intended to entirely meet the Agency's cost of installing approved energy efficiency measures, but rather to supplement other agency funds to increase the number of customers served. The sources of these additional leveraged funds are DOE WAP funds, Low Income Home Energy Assistance Program (LIHEAP) weatherization funds and, in years past, American Recovery and Reinvestment Act funds.

The OLIEC program grew in the first three years into a program that was weatherizing 42 low-income homes and installing about 140 energy efficiency measures per year. Cascade worked through the Oregon Low-Income Programs Advisory Group (Advisory Group)<sup>4</sup> to identify program barriers that were keeping the Agencies from weatherizing more homes. The primary program barrier to weatherizing more homes revolved around the OLIEC program relying too heavily upon scarce federal leveraged funds.

With the advent of ARRA funding, Agencies found themselves with a significant amount of federal weatherization money that could cover the remainder of each gas project's costs not reimbursed through the OLIEC program. These additional federal dollars enabled the Agencies to nearly double the number of homes treated. Over the next three program-years the Agencies weatherized an average of 80 homes, installing nearly 300 measures per year.

The following program year (2012-2013) the number of homes weatherized fell to 39 with the installation of 129 measures. Discussions with the Advisory Group concerning program barriers and solutions continued. These discussions were paralleled by the development of a 3<sup>rd</sup> party evaluation of Cascade's low income programs titled "Effectiveness of Cascade's Oregon Residential Low-Income and Billing Assistance Programs" (Dr. Peach's Report).<sup>5</sup>

According to this evaluation the primary barriers to the expansion of the OLIEC program (or any similar natural gas rebate-based low income weatherization programs) were determined to be the limited amount of federal weatherization funds available to cover the

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<sup>3</sup> Cascade accounts separately for OLIEC and CAT funds.

<sup>4</sup> The Advisory Group, which meets four times per year, is comprised of representatives of Cascade Natural Gas, each participating Agency, Community Action Partnership of Oregon, and OPUC staff.

<sup>5</sup> A copy Dr. Peach's Report is available on the Oregon Public Utility Commission website.  
<http://edocs.puc.state.or.us/efdocs/HAA/rg62haa92153.pdf>

majority of each project cost and, that in general, natural gas homes are expensive to weatherize given the presence of combustion appliances.

Taking the advice and recommendations of the Advisory Group and the program evaluation, Cascade developed the Conservation Achievement Tariff which was approved as a two-year pilot beginning on January 1, 2014.<sup>6</sup> The CAT pilot overlay provides a separate mechanism by which the rebate for installing measures can increase to cover 100 percent of the cost of each measure as billed to the Agency by contractors. In total, during the CAT pilot program, Agencies can receive rebates up to 100 percent of the cost of installing OLIEC-qualified measures plus an additional \$225 for their associated administrative and direct program costs. The OPUC approved the two-year CAT pilot effective January 1, 2014.

#### **IV. Background and Creation of the Conservation Achievement Tariff**

As of September 2013, the Company's OLIEC program had a surplus dollar amount of \$454,681.35 plus an additional \$38,796.78 of unassigned interest. The funds used for the weatherization of low income natural gas dwellings for the previous full program year (2011-12) were \$93,174 with 49 homes served. The diminishing program penetration made the Company realize a new approach was required to ensure qualifying customers received access to the weatherization services intended for them.

Recommendations from Dr. Peach's Report pointed the way toward a modified approach to low-income weatherization. The Agencies expressed significant interest in potential program modifications to help them more fully utilize available program funding. The report also noted barriers to participation in programs like OLIEC need to be overcome before more natural gas households may be served.

The identified barriers were:

- Limited number of allowable uses of OLIEC dollars, paired with limited discretionary monies to fill in the gaps in project funding;
- Rebate levels not covering the full cost of installing measures, notably leaving gaps in project funding;
- Lack of funding for health and safety as well as other major repairs that required completion before work could be performed.

The Company acknowledged the value of weatherization to low income customers, and agreed it was important to consider alternative avenues of support to supplement the traditional OLIEC program. The Company believed the most appropriate avenue moving forward was to maintain the current iteration of OLIEC and support it with a supplemental program that would meet the public purpose criteria set forth in the first two program challenges listed above. The intent of the pilot effort would be to facilitate greater

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<sup>6</sup> The CAT program's description and rollout are discussed in more detail in the Section 3.

participation by the Agencies to serve more clients in natural gas heated homes. This increase would lead directly to more Cascade Natural Gas homes receiving comprehensive, whole home weatherization.

The separate Oregon tariff would re-route \$400,000 of available OLIEC funds and direct them towards a separate discretionary account for purposes of facilitating more complete coverage of weatherization expenses. Should the program be successful in weatherizing homes and spending down the original pilot balance the Company, after advising the Agencies, can direct additional, available, OLIEC program funds to CAT. This funding would fill the gaps between what is allowable under the OLIEC, and what is necessary to adequately cover the costs of installing qualified natural gas weatherization measures.

In short, Agencies submitting a Cascade Natural Gas weatherization project complete the standard one-page OLIEC reimbursement form which would yield their OLIEC reimbursement (including the agency \$225 administration reimbursement). Subsequently the Agency then completes the companion CAT reimbursement form which calculates the difference between the installed cost of the qualified measure and the OLIEC reimbursement for that measure. The sum of the OLIEC and CAT reimbursements for each qualified measure should equal the actual installed cost of the measure. An additional key element of the CAT pilot is the establishment of an expedited payment process to transfer funds to the agencies so they can pay the contractor's project invoices in a timely manner.

Through ARRA, the Agencies demonstrated their capability to weatherize substantially more homes when sufficient resources are available to them. In the two OLIEC program years prior to ARRA, the Agencies completed 42 Cascade homes per year. In the first year of ARRA funds availability the completions number increased by 86 percent to 78 homes. In the following year the number of completions increased by an additional 45 percent to 113 homes. With the conclusion of the ARRA program, the number of completions returned to 49 homes and dropped to 39 in the most recent year.<sup>7</sup> The Company was (and remains) convinced the Agencies have the capability to increase the number of Cascade completions.

The CAT mechanism is a two-year pilot program. At the conclusion of the pilot period the Company will propose whether or not to modify and/or request a continuation of the program. Keep in mind the OLIEC program, as set forth under Oregon Schedule 33, remains static as a separate program. The CAT pilot is an overlay of, and operates in conjunction with, the OLIEC program.

The goal of the CAT was to achieve an average of 100 homes completed each of the 2 piloted years. When CAT was initiated, it was determined that if the goal were achieved, the Company may not have enough funding beyond the pilot to sustain CAT—in which case, it might consider modifying Oregon Schedule 31 (Public Purpose Charge) to provide the funding for weatherization efforts.

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<sup>7</sup> See Cascade Natural Gas Corporation Low-Income Energy Conservation (OLIEC) Program Annual Report to the OPUC for the program year October 1, 2011 through September 30, 2012, November 30, 2012.

A meeting of the Advisory Group was held on October 21, 2013 where Cascade outlined, in detail, the CAT program before the OPUC for its consideration. Agencies were also provided with working interactive spreadsheets that contained the new combination OLIEC and CAT reimbursement forms.

Follow-up discussions with the Advisory Group took place to help alleviate any start-up issues that might have emerged. In addition, a presentation was made to the entire low-income state network at a meeting of the Oregon Energy Coordinator's Association (OECA) meeting on March 19, 2014, that outlined the CAT pilot and the high hopes the Company had that CAT would prove the solution to traditional natural gas utility weatherization program barriers.

## **V. Cascade's Experience and Achievements to date with the CAT Pilot**

### Initial Results

By mid-year 2014 it was becoming clear to Cascade that the anticipated uptick in natural gas weatherization completions was not taking place. In fact, the number of projects completed was trending downward to an historic program low: a highly counterintuitive result. Conversations with NW Natural and Avista revealed these results were not isolated to Cascade alone. They too, especially NW Natural, were experiencing a significant unexplained drop-off in program activity. Something was happening in the area of natural gas weatherization that was not immediately apparent to the gas utilities, the OPUC or to the Citizens' Utility Board of Oregon (CUB).

By September, 2014 it was even more apparent something unexpected and not readily apparent was standing in the way of agencies increasing natural gas weatherization completions *even with* the CAT program overlay. The historic, primary obstacle to natural gas weatherization completions – limitations on utility funding that covered only a portion of the cost of installing a weatherization measure – was presumably overcome with the CAT pilot. In addition, the agencies had previously proven their ability to weatherize a substantial number of natural gas homes when they had adequate funding available through ARRA. This was not a problem isolated only to Cascade, or just to Oregon, as Cascade was experiencing a similar unexplained decline in low-income completions in Washington State.

### "Hidden" Barriers Uncovered

Discussions at the Advisory Group level in early to mid-2014 did not prove insightful in discovering the "hidden" barriers leading to these results. On September 10, 2014 Cascade delivered a presentation and plea during the Weatherization Roundtable session of the OECA general membership meeting in Cottage Grove, Oregon. Cascade was accompanied by Dr. Gil Peach whose firm authored Cascade's 3<sup>rd</sup> party program evaluation and was instrumental in the thought process that led to the creation of the CAT pilot.<sup>8</sup> Weatherization program representatives from Oregon Housing and Community Services (OHCS) were in attendance during this presentation.

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<sup>8</sup> Dr. Peach volunteered his own time to participate in this meeting and did so at his own expense.

The focus of this presentation was the counter-intuitive results the program was undergoing, and a plea to Agency and OHCS program experts for an explanation around the substantial decline in program completions experienced by Cascade and NW Natural. Further, Dr. Peach informed the group the 'social overlay' of an existing program model was being touted nationally as a breakthrough model in utility weatherization program design. He reiterated that the current lack of implementation of the CAT pilot was highly problematic and could be a pathway to failure.

Collectively, the group's response to the presentation was one of concern and confusion but offered no real insights to the perceived barriers. An agency representative made a brief follow-up presentation near the end of the discussion (with the help of data from OHCS) about the recent decline of available federal weatherization resources.<sup>9</sup> This was a situation that the CAT pilot sought to get around. Something else was at work.

Fortunately, each of Cascade's partner CAP agencies came away from this presentation recognizing that an emergency Advisory Group meeting needed to take place. This meeting was held on October 14, 2014 at the NeighborImpact office in Redmond and is described in the following 'Call to Action' section.

In the meantime, between the September 10th OECA presentation and the October 14<sup>th</sup> special Advisory Group meeting, Cascade continued its investigation into program barriers. It became apparent the cause of the reduction in natural gas home weatherization was an external barrier and not within the control of the utilities providing the funds. Slowly, the picture began to emerge that the primary cause of the multi-year decline in the number of utility natural gas program completions was caused by recent changes to the DOE WAP waiting list prioritization rules. These rules were making it nearly impossible for a low-income household with natural gas space heat to get placed on an agency waiting list. Additionally, other recent adopted DOE WAP rules, displayed below, have made it increasingly expensive for agencies to weatherize natural gas homes when DOE WAP funds are utilized in the project. All Oregon agencies are required through their contracts with OHCS (as are Cascade's Washington agencies with the Department of Commerce in Washington State) to rigorously apply all DOE WAP rules and procedures to every project where DOE WAP funds are used for any purpose.

The mechanics of the current DOE-WAP prioritization rules are as follows:<sup>10</sup>

Agencies are instructed to develop an "actual waiting list" to determine which household is next to receive weatherization services with priority given to:

- Persons 60 years of age or older,
- Persons with disabilities, and
- Families with children six years of age and under,

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<sup>9</sup> A few months later it was revealed the OECA Executive Committee had discussed the decline in natural gas completions the morning of September 10 and had concluded the reason for the decline was due to the shrinkage in federal weatherization funding.

<sup>10</sup> The following link is to the 2015-2016 USDOE State Plan for Oregon,  
[http://www.oregon.gov/ohcs/CRD/SOS/docs/USDOE\\_Oregon\\_State\\_Plan\\_2015-2016\\_FINAL.pdf](http://www.oregon.gov/ohcs/CRD/SOS/docs/USDOE_Oregon_State_Plan_2015-2016_FINAL.pdf)

Priority can<sup>11</sup> also be given to:

- High residential energy users (as measured by total dollars spent annually on base-load and space heat), and
- Households with a high energy burden.

Prioritizing households on the basis of need has been a valuable tool for ensuring the most vulnerable low-income households receive an advantage in receiving services. However, when a jurisdiction adopts the philosophy that the supplemental energy use and energy burden components of prioritization be used along with the traditional priority elements of age, disability and the presence of young children in the household, significant barriers to leveraged low-income weatherization programs can occur.

Agencies that utilize DOE WAP funds are required to employ these five elements in developing their waiting lists. However, using all five elements in the current energy price environment ensures natural gas customers will rarely be served. For example, in Oregon between 2008 and 2013, average residential revenue per customer has increase by 20.9 percent for Pacific Power and 66.2 percent for Idaho Power.<sup>12</sup> During this same period, average residential revenue per customer has *decreased* by 32.9 percent for Cascade Natural Gas. Even if a natural gas customer from a non-prioritized group made it onto an Agency waiting list a new applicant with priority would move ahead of them. In the current energy price environment, natural gas customers will nearly always be disadvantaged regardless of their need and regardless of the existence of leveraged resources available from other ratepayer-funded weatherization programs. As a further illustration of how perversely counterintuitive these outcomes could be, consider an environment where electric prices have fallen and natural gas prices have increased in the proportions noted above. A strict adherence to these DOE-WAP prioritization guidelines would lead to mostly natural gas homes being weatherized and at the expense of electric homes.

Despite the efforts of Cascade Natural Gas and the parties involved in the OLIEC program to develop a pilot program that addresses and overcomes traditional barriers to natural gas weatherization, these innocuous and camouflaged Federal Administrative rules act as a new, nearly impenetrable barrier to natural gas customers accessing needed resources. Since this, and other barriers, were not widely disseminated or discussed outside of the state agency/CAP agency circles they remained relatively hidden from view to utility weatherization program providers.

The case study displayed below reveals how this DOE WAP waiting list issue was silently impacting Cascade's weatherization program completions at the local level. While this case study comes from an agency associated with Cascade's Washington low-income weatherization program the same impact is also felt in Oregon.

#### *Cascade Natural Gas Low-Income Natural Gas Weatherization Case Study*

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<sup>11</sup> Emphasis added

<sup>12</sup> Source: 2013 Oregon Utility Statistics, Oregon Public Utility Commission. Pacific Power and Idaho Power are the two electric investor-owned utilities whose service areas overlap Cascade's in Oregon.

*A Cascade employee has a neighbor who is low income. That neighbor was encouraged to contact the local CAP agency to inquire about weatherization as there were federal funds available and Cascade ran a utility funded WX program in her area. She placed a phone call to the agency on Wednesday, October 29, 2014, to inquire about the expected timeline for assisting a new applicant through the weatherization process.*

*Here is the text of her call to the agency:*

*The person I spoke to said they were not doing any natural gas weatherization projects because it is "not cost-effective" at this time. She said the price of gas is cheap enough that someone would have to have an insanely high natural gas bill - \$1000/month or more, in order to qualify for low income weatherization. Thus they were only concentrating on the electric customers right now.*

*She also explained the process takes about six months to qualify and then another 6-8 months to get the work scheduled and completed. This is due to the many steps the customer has to take to demonstrate need and interest – setting up meetings, applying for energy bill assistance, taking a class (I think she said that – the class is about conservation measures like turning down the heat while out of the home, drapes, etc.). All of that takes place over the first six months. The next six to eight months is scheduling an auditor to go to the property to determine what cost-effective measures can be implemented and then scheduling the work to get done.*

*Upon learning of this exchange the Company inquired directly to the CAP agency and received this reply from the Agency's program director.*

*We will develop a script so all who staff the energy and weatherization phones provide consistent and correct information to gas heated clients calling in for weatherization assistance. Unfortunately the basics of the text you provided are true, we need to figure out a way to say it in a more professional and courteous way and also review the timelines for service.*

*"The State agency..." requires us to prioritize 2 ways in addition to serving the elderly, disabled etc. The first is by Heat Cost Burden which is the % of someone's income dedicated to paying for heat and the 2nd is Energy Cost which is the total amount of dollars being spent annually on base-load and space heat.*

*Since electric utility costs are running 2-3 times higher than gas costs..... the higher energy burden and higher total energy costs are going to be for those families heating with electric so they receive priority. The other driver for prioritization is the electric utilities higher level of funding support for installation of energy efficiency measures which helps our limited federal and state funding go farther and help more households overall.*

*We have budgeted to complete 12-14 non electric weatherization projects in 2015. This translates to just under 10% of our anticipated annual production.*

*In the past we have not maintained a waiting list for those not from a priority group (Elderly, Disabled, Household with young children, Tribal, High Energy Burden or High Energy Use Index) because someone without a priority may never get served through our*



*program because priority households keep coming in ahead of them. The only solution I can imagine revolves around more funding for these programs without additional funding I do not anticipate being able to tackle the large backlog of non-electric homes in need of weatherization services.*

The lesson of this case study is clear. CAP agencies under contract to their respective state agencies to operate low income programs under DOE WAP guidelines will be weatherizing fewer natural gas homes regardless of funds available through a gas utility weatherization program so long as DOE WAP funds are involved in the project.

Compounding the negative impact of the waiting list barrier on natural gas weatherization were additional DOE WAP rules that placed increasingly onerous and, in our opinion, unnecessary restrictions on natural gas projects (where combustion appliances are involved). An example is the following recently adopted DOE WAP program specification (rule 2.0201.1i) that requires agencies to conduct diagnostic testing at the conclusion of each work day of a gas weatherization project.

<u>Test Description</u>	<u>Test Requirement</u>	<u>Test Benefit</u>
<b>Combustion safety testing</b> at completion of retrofitting home	<b>At the conclusion of each work day</b> in which <i>envelope</i> or duct sealing measures have been performed, depressurization and spillage testing will be performed	Ensure work completed in home has not adversely affected the operation of combustion appliances

This rule requires agencies to perform blower door and other diagnostic tests at the end of each work day when any weatherization work has been performed on the building envelope or ductwork on homes that contain combustion appliances. An additional problematic DOE WAP specification is the requirement that agencies install American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) compliant ventilation systems in weatherization projects. This requirement also works against natural gas weatherization by raising the cost of each project.<sup>13</sup> Traditionally, agencies have conducted low-income weatherization on homes heated with natural gas utilizing “test-in” diagnostic procedures at the start of a project and “test out” at the jobs conclusion. Additionally in-home ventilation is evaluated and code-compliant ventilation devices have been installed when appropriate.

Taken together, these changing DOE WAP rules form the primary barriers to utility natural gas weatherization programs such as OLIEC and CAT. Current DOE WAP rules are in effect in both Oregon and Washington through June 30, 2016.

### Call to Action

<sup>13</sup> From 2015-16 Oregon DOE WAP State Plan: ASHRAE 62.2-2013 is required to be met to the fullest extent possible, when performing weatherization activity. The standard applies to spaces intended for human occupancy within single family houses and multi family structures of three stories or fewer above grade, including modular or manufactured houses. The standard does not apply to “park model” manufactured homes under 400 square feet, travel trailers, motor homes or transient housing such as hotels, motels, nursing homes, dormitories, or jails. Implementing ASHRAE 62.2 is not required where acceptable indoor air quality already exists as defined by ASHRAE 62.2. The specifics of ASHRAE 62.2-2013 are addressed in the Oregon Site Built and Manufactured Home field Guide and Standards. All actions related to ASHRAE 62.2-2013, including ancillary requirements are acceptable health & safety expenses.

The October 14, 2014 special meeting of the Advisory Group was a cooperative and open investigation into the challenges facing OLIEC and CAT that generated “work around” solutions. The meeting was attended by each Oregon agency involved in the program, Cascade Natural Gas, OPUC commission Staff and the Community Action Partnership of Oregon (CAPO). All parties were highly concerned about the current program results and said they were committed to working collaboratively to discover and implement changes to the delivery of the CAT pilot.

The group coalesced around the program’s challenges with the DOE WAP rules and guidelines. As it turns out, Oregon Agencies can maintain multiple weatherization waiting lists depending upon which funding source is used, such as the Bonneville Power Administration (BPA) weatherization funds utilized for low-income clients served by customer-owned utilities. Therefore, it is *possible* for natural homes to avoid many of the identified barriers by studiously avoiding the use of *any* US DOE WAP funding in the projects. The only way for this to happen was to expand the allowable CAT program expenses to include reimbursement for the Agency costs associated with pre- and post-project diagnostic testing and final project inspection. Since neither OLIEC nor CAT allowed payments for minor home repairs and health & safety expenses, agencies would need to pay for those costs from their LIHEAP weatherization set-aside funds thereby avoiding the use of DOE WAP funds altogether. The requirement for the installation of expensive ASHRAE 62.2-2013 compliant devices was also avoided in favor of less expensive, but still effective, ventilation substitutes.

As a result, it became incumbent upon Cascade and Staff to agree to the allowance of additional program reimbursements to agencies in addition to the full cost reimbursement of measure installation costs. Cascade altered CAT reimbursements to allow additional program funding to the agencies of \$550 for the cost of pre-and-post project diagnostic testing and an additional \$300 for post work final inspection. We have felt confident doing this under the umbrella of the “pilot” to help gain important insight for the OPUC to consider when deciding what to do when the pilot expires.

## **VI. Issues, Observations and Recommendations Going Forward**

The ‘social overlay’ concept to natural gas low-income weatherization, as framed through CAT, is proving to be successful in increasing the number of low-income homes weatherized by overcoming many of the traditional barriers to natural gas weatherization.

In addition to covering the actual costs in installing measures in client’s homes, natural gas weatherization program payments also need to cover additional agency costs such as the costs associated with inspections and audits. The goal would be to remove the utility program as much as possible from requiring supplemental DOE WAP program funding that carries bureaucratic requirements detrimental to the delivery of natural gas utility weatherization programs and/or that unnecessarily increase program expenses.

Even with a social overlay system such as CAT, structural issues remain within the traditional low-income weatherization arrangement that can lead to unpredictable, and sub-optimal, program performance. Many of these additional issues can be overcome through innovative program designs. One of these innovative designs is the authority for the utility to take control of program delivery (described below) when conditions or program focus change so the local CAP agency becomes unable or unwilling to deliver utility natural gas weatherization program services in their designated geographic areas. Significant portions of the traditional weatherization arrangement have always been, and will remain for the foreseeable future, outside of the purview and control of the OPUC and of the utilities responsible for funding, administering and reporting on utility-administered weatherization programs. These include:

- Federal weatherization program guidelines, requirements and specifications, which can dramatically impact the performance of utility programs. Utilities and the OPUC have little control or influence over program changes at the federal level. Commission authorized utility program modifications such as the CAT pilot can help provide work around solutions.
  - Modifications to the DOE WAP program are made at the national level where relatively small states such as Oregon and Washington have little real influence. These modifications are then incorporated directly into each state's annual DOE-WAP State Plans. These changes may, or may not, be beneficial to the delivery of utility natural gas programs such as OLIEC/CAT. Recent examples of changes not beneficial to utility natural gas programs include; modification to wait list prioritization, requirements for the installation of expensive and arguably unnecessary ASHRAE 62.2-2013 ventilation devices, and expensive daily diagnostic test-out requirements for projects where combustion appliances are present.
- State administration and oversight of federally and public purpose-funded low-income weatherization programs can dramatically impact the performance of utility weatherization programs under the purview of the OPUC. Utilities and the OPUC have little control or influence over program changes at OHCS. Commission authorized utility program modifications such as the CAT pilot can help provide work around solutions.
  - OHCS is the state agency that has contractual and legal authority and oversight over federal weatherization program funding, including the BPA program, as well as the public purpose funded Energy Conservation Helping Oregonians (ECHO) program serving low income customers of Pacific Power and Portland General Electric. All Oregon CAP agencies are contractually obligated to OHCS to deliver these programs. OHCS is under no obligation to assist or cooperate in the delivery of other utility-funded weatherization programs under the purview of the OPUC or to coordinate the delivery of these programs through CAP agencies. There have been instances in the past where OHCS weatherization program administration and utility weatherization program administration have been at odds at the program level as well as at the individual agency level.

- Changes at individual CAP agencies can dramatically impact weatherization program performance in areas served by those specific agencies.<sup>14</sup> Commission-authorized utility program modifications, such as the CAT pilot, can help provide work-around solutions. In addition, granting utilities the authorization to potentially assume temporary responsibility for program delivery in specific agency/geographic areas can also help address the impact of the following CAP-related program delivery issues and “Wild Cards”:
  - *Weatherization staffing issues:* Weatherization efforts at CAP agencies, even those whose services are delivered through county governments such as Clackamas, Lane, and Multnomah counties, can be dramatically affected by the departure (for whatever reason) of a long-time, or especially effective, weatherization coordinators. History has shown one or two key departures can cause an ‘exemplary’ weatherization agency to become one that struggles to regain its footing for a period of time. As a consequence, the number of weatherization completions can decline at those specific agencies from historic averages. If these problems remain for a sufficient length of time, the overall program administrators (utilities and/or OHCS) can reallocate weatherization funds to another agency until such time that the affected agency is back up to speed. Unfortunately, the resulting slack in the number of project completions at those agencies are rarely made up once the agency is back up to speed.
  - *Agency geographic coverage:* CAP agency boundaries conform to those of the county(s) that agency serves. Occasionally, situations can arise where a utility’s customers may reside just across the border from an energetic agency in an area where it is more difficult, expensive, or outside of the interest level of their ‘local’ CAP agency. A CAP agency will not venture into a neighboring agency’s territory to deliver a utility weatherization program even if adequate program funding is available. Typically, neighboring agencies need to enter into contractual arrangements with one another that involve the appropriate sharing of various grant monies. An example from Central Oregon was an arrangement between Mid-Columbia CAC and NeighborImpact so that NeighborImpact could provide services near *Kah-nee-ta* in Wasco County. This county line demarcation can mean that a utility’s customers can be receiving different levels of service from the same program in neighboring counties.
  - *Shift in program focus at an individual agency:* From time to time, decisions can be made at an individual agency where its weatherization funds and efforts are focused for a period of time in market areas not covered by the utility weatherization program. For example, it could be decided that agency efforts be focused for a period of time (sometimes a year or more) exclusively on major, multi-family retrofits and not on single family site built or manufactured housing. While it is totally appropriate for agencies to make such decisions the end results can play havoc on utility weatherization program performance.

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<sup>14</sup> CAP agency service areas conform to Oregon county boundaries. Some CAPs provide low-income services in multiple counties.

- *Wild Cards:* Natural gas utilities and the OPUC should prepare for ‘wild cards’ that emerge from time to time that can affect weatherization program performance.
  - The Grantee/Subgrantee changes: Things can change in the contractual and/or funding relationship between OHCS and the agencies that the gas utilities might not discover until after the fact. This can be ameliorated by improved communications between agencies and the utilities as well as by actions that might require utility and commission decision with participation of the advisory groups.
  - Reductions in federal funds such as DOE WAP, LIHEAP or the percentage of the LIHEAP grant that is set aside to support weatherization: The impact of those reductions could be softened through utility/commission program decisions with input from our advisory group.

### *Recommendations and Final Observations*

The following list of recommendations is presented as thoughts for the OPUC to consider as it decides later in the year on the future of the Conservation Achievement Tariff concept and any need for adjustments to Cascade’s public purpose charge collections for the OLIEC and CAT programs.

- The ‘social overlay’ concept to natural gas low-income weatherization, as framed through CAT, is proving to be successful in increasing the number of low-income homes weatherized by overcoming many of the traditional barriers to natural gas weatherization. Cascade recommends the OPUC authorize the continuation of the CAT concept past the December 31, 2015 pilot expiration date.
- If the OPUC decides to continue the CAT concept past the current expiration date modifications will need to be made to Cascade’s Oregon Schedule 31 tariff that will make additional funding available for weatherization. This, of course, is predicated upon the success of the agencies in spending down the vast majority of currently available OLIEC and CAT weatherization funds by weatherizing homes identified in their current CAT pipeline
- If the Commission determines the CAT concept *not* be continued past the current December 31, 2015 expiration it *might* be prudent to allow the pilot a grace period to continue for a few months into 2016 to ensure time is allowed for projects in the current pipeline initiated by the agencies (where existing OLIEC/CAT funds are available) are completed and paid. Cascade *will* work closely with Agencies in the closing months of the CAT pilot to complete weatherization work, and pass a final inspection, before the pilot concludes.
- Discontinuing CAT and returning to the ‘business as usual’ OLIEC model will lead to a significant cutback in weatherization output. Cascade’s ongoing Schedule 31 collections can be adjusted to reflect the reduction of funding required by the program.

- If the CAT concept is continued, the Commission might want to consider granting Cascade the authority to assume temporary control of weatherization program delivery in order to work around any agency issues of personnel, program focus or geographic limitations or other Wild Card issues that could lead to program underperformance. Such partnership efforts would be aimed at supporting, and not supplanting, the efforts or capability of the local CAP agency. This option is made possible by the CAT model with the augmented payments through the program for diagnostic testing and final inspections in addition to the payment to contractors of 100 percent of the cost of installing qualified energy efficiency upgrades.