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May 25, 2011

VIA ELECTRONIC FILING

Dave Danner, Executive Director & Secretary
Washington Utilities and Transportation Commission
1300 S Evergreen Park Drive SW
PO Box 47250
Olympia, Washington 98504-7250

Re: UG-080546 – Compliance Filing

In compliance with Order No. 04 to the Company's 2008 rate case, docketed as UG-080546, Northwest Natural Gas Company, dba NW Natural ("NW Natural" or the "Company"), in consultation with its regulatory advisory group, the Energy Efficiency Advisory Group ("EEAG"), hereby presents its recommendation regarding the ongoing administration of NW Natural's Washington-based energy efficiency programs. The Company and the EEAG recommend that the Energy Trust of Oregon ("Energy Trust") continue to be the delivery arm for NW Natural's programs. The information below provides background and support for this decision.

I. Background

Order No. 04 to NW Natural's 2008 rate case required the Company to form an energy efficiency advisory group, referred to as the EEAG, comprised of interested parties. The Stipulation adopted by that same order stated that the NW Natural could use the Energy Trust to administer its energy efficiency program in the Company's Washington-based service territory for one year.

The EEAG began meeting in early 2009 to develop the program that later launched on October 1, 2009. The program parameters were codified in Schedule G of the Company's tariff, which references NW Natural's Energy Efficiency Plan ("EE Plan"). The Company's EE Plan was written in cooperation with the EEAG and lays out many program-related details including an explanation the programs' development, the cost-effective screens, evaluation, monitoring and verification processes ("EM&V"), as well as first year program targets, quarterly and annual reporting requirements, and a process and schedule for evaluating the Energy Trust's performance after the first program year. The stipulation to Order No. 04 states, "Following this pilot period, the Company will, in consultation with EEAG, evaluate the cost-effectiveness of the continued use of (Energy Trust) for delivering the Company's Energy Efficiency programs in Washington. "[1]

[1] *See* Page 5 of the Full Settlement Stipulation, filed on October 21, 2008, in UG-080546.

The decision as to whether Energy Trust should continue to deliver NW Natural's energy efficiency programs was based on the following:

- The achievement of the first year metrics and cost-effectiveness of the program as provided in the annual report.
- The comparison of Energy Trust-delivered program costs to the estimated costs for other demand side management ("DSM") program delivery options including delivering programs in-house or using a third-party administrator located in Washington, as provided in the third-party benchmarking report provided by Navigant ("Navigant Report") which is hereby attached as Exhibit A.

The EE Plan outlines the review process in more detail in the following manner:

> "This decision will be based on the Energy Trust's achievement of its first year metrics and the cost-effectiveness of the program using the benefit cost ratios tests, as defined in Schedule G.
>
> The decision of whether NW Natural should continue using the Energy Trust as its DSM delivery arm will be based, in part, on the comparisons of estimated costs for other DSM program delivery options such as delivering DSM programs in-house or using a third party administrator located in Washington. To this end, NW Natural will provide the EEAG with a paper benchmarking its Energy Trust delivered program against other Washington utility-delivered DSM programs. The Company will use benchmarking efforts to extrapolate what it might cost the Company to deliver its own DSM program, as well as potential costs to use a Washington-based DSM program administrator. This benchmarking study will be prepared by a third-party and will be distributed to the EEAG no later than March 25, 2011.
>
> A third party will be solicited to prepare the benchmarking report to provide parties with the assurance that the information contained the report will be objective. To choose the party who will prepare the benchmarking report, the Company will issue a request for proposal (RFP) to multiple third parties and then bid the contract to the party who presents itself as having the ability to deliver the most value for a reasonable cost.
>
> By April 25, 2011, NW Natural will convene with the EEAG to review the Energy Trust's Annual Report and a third-party's benchmarking study, and to determine whether or not the Energy Trust should continue delivering the Company's Washington EE programs. By May 25, 2011, the Company will file with the WUTC under Docket No. UG-080546, the third party benchmarking study along with the EEAG's recommendation regarding ongoing program administration. The recommendation filed will represent the majority opinion among EEAG members (where each organization, including the Company, has one vote).[2]
>
> In accordance with the Commission's approval of NW Natural's Petition for Reconsideration of Order No. 04 in UG-080546, the Energy Trust will continue administering the Company's energy

[2] The public process allows parties to separately or collectively advocate for a different recommendation than that which is filed.

> efficiency programs throughout the period that the cost-effectiveness decision is being made,[3] and in the event the decision is made not to retain the Energy Trust as program administrator, throughout the period during which a new program administrator is selected and established. The program targets and costs for 2011, which were developed under the assumption that Energy Trust would deliver services for the whole year. . ."

This process has been followed. On April 12, 2010, NW Natural issued a request for proposal ("RFP") for a third party benchmarking study. Navigant Consulting, a known consultant with a good reputation for analytical reporting, was chosen from the respondents and was hired to prepare the benchmarking report.

The Navigant Report fulfilled the obligations laid forward in the RFP which were stated as follows:

> The purpose of the study is to provide the information to support the decision the Energy Efficiency Advisory Group (EEAG)[4] must make regarding the cost-effectiveness of using and continuing to use the Energy Trust as the delivery agent for NW Natural's energy efficiency programs in Washington.

1.1 Study Contents

The study will gather the following information:

- Estimation of costs that NW Natural would incur by independently setting up and implementing DSM programs for its Washington residential and commercial customers.
- Information on NW Natural's Washington DSM programs (Residential, Commercial Retrofit and Low Income Energy Efficiency) and those offered by other natural gas providers in Washington state (Puget Sound Energy, Cascade Natural, and Avista):
  - Description of programs
  - Range of measures and services offered
  - Description of delivery program methods
  - Costs related to initiating a new program[5]
  - Cost of delivery of the program[6]
  - Gross savings resulting from the delivery of the program
  - Number, location, and years of experience of Trade Allies working with programs
  - Customer satisfaction with program services, incentives and delivery

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[3] The program year ends September 30, 2010, and the deadline for filing the EEAG recommendation with the Commission is May 25, 2011.

[4] The EEAG is a group formed to oversee the development and operation of NWN's Washington Energy Efficiency programs, in compliance to Commission Order No. 04 in Docket UG-080546 (the Company's last Washington rate case.) The EEAG is comprised off interested parties in UG-080546.

[5] The Energy Trust delivered program will be in "ramp-up" mode, meaning the program will have costs and challenges associated with being new to the market. To aptly compare Energy Trust's efforts with more mature programs, analysis needs to be done so that appropriate comparisons are made.

[6] Consultant must consider differences in reported savings (i.e.- gross verses net, normalized, etc.) The Consultant should review evaluation memos, reports and documents detailing Energy Trust's program implementation in Washington.

- Unique program characteristics that may provide additional benefits to customers, such as familiarity with local trade allies or experience in the market.[7]

The initial Navigant Report was provided to the EEAG on March 25, 2011. EEAG members exchanged emails, attached as Exhibit B, with questions and comments regarding the Navigant Report before meeting by teleconference on April 5, 2011. EEAG members requested back-up documentation on Navigant's estimated costs for NW Natural to deliver a program in-house. This request spurred Navigant to add supporting verbiage to the Report. At this same time Navigant corrected some inconsistencies it identified.[8] Attached is the revised Navigant Report that was sent to the EEAG on April 11, 2011.

II. Information Available for Reviewing the Program

At the April 5, 2011 teleconference, the EEAG defined its immediate task which was to review the information available to it regarding the Energy Trust's administration of the Company's Washington energy efficiency program and make a recommendation regarding the future administration of the program. The EEAG acknowledged that its resources included the Energy Trust's quarterly and annual reports, the Navigant Report, and each member's knowledge and experience gained as advisors on the EEAG as well as other utility advisory groups.

A. The Quarterly and Annual Reports

The EEAG received quarterly reports on February 25, May 25, and August 25. An annual report was distributed January 25, 2011. These reports demonstrated that energy efficiency acquisitions were initially slow and then significantly increased towards the end of the program year. This acquisition pattern that is common for energy efficiency programs is called the "hockey stick" effect, referring to the picture created by a line graph of annual energy savings acquisitions.

The annual report presented that five of the six targets that were established for the pilot year program were met. Energy Trust achieved the therm savings, program costs and other cost-effectiveness metrics. The target for spending 60% or more of program costs on incentives was not met. Energy Trust attributes this to "the impact of slow customer uptake during the start-up months along with the fact that more low-cost and low incentive measures were installed than expected."[9]

The Energy Trust's annual report also outlines lessons learned in the first year which included a greater understanding of the technical potential for residential customers in Washington. The median age of a home in Vancouver is 22 years, which means these homes have fewer

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[7] NW Natural's Request for Proposal: NW Natural's Washington DSM Program Benchmarking Study, issued April 12, 2010.

[8] The inconsistencies corrected in the Navigant Report were largely related to the a failure to reconcile the initial section of the report that was compiled using secondary research with the data obtained later through direct interviews or more recent program reports. For instance, Table 3-15 initially reported that Puget Sound Energy had no incentive for furnaces. The interview revealed that Puget Sound does offer $250 to $350 for 90% to 95% AFUE furnaces. The Navigant Report, issued April 11, 2011, and attached as Exhibit A, correctly states program offerings.

[9] Energy Trust's Annual Report filed by NW Natural on January 25, 2011, in UE-080546, page 11.

opportunities for weatherization but are beginning to need replacement furnaces. Energy Trust also learned that the commercial sector had a larger appetite for energy efficiency than anticipated.[10]

B. Navigant Benchmarking Report

The Navigant benchmarking Report provides results comparing key DSM achievements and delivery costs for three different Washington utility programs, each at a different stage of maturity. The data presented requires a bit of an "apples to oranges" comparison. But as stated by a member in the April 5, 2011, EEAG teleconference, utility programs are not going to have the same offerings and they are not going to have the same costs for many reasons including different weather patterns in a given service territory which causes the same measures to have different cost-effectiveness results, different housing demographics within a service territory and different stages of program maturity. The Navigant demonstrates that the Energy Trust administered program compares favorably to the three other Washington based programs. In terms of overall costs to deliver programs, DSM achievement and cost-effectiveness, the primary recommendation in the Navigant Report is as follows:

> NW Natural should continue to use the Energy Trust as its program administrator. There is no conclusive evidence that program delivery would be less costly if NW Natural self delivered its programs and any transition could cause disruption in the delivery of program services to its customers."[11]

NW Natural's program has a respectable menu of offerings as compared to programs that have been in the market for many years more. Also, Navigant observes that Energy Trust has the most advanced tracking system.[12] Energy Trust uses a custom designed software program that tracks a customer's project from start to finish. All Energy Trust program contributors, including external contractors, have access to the program tracking software allowing complete integration of all program delivery functions.

III. The EEAG Evaluation Process

Using the data available through the quarterly and annual reports provided by Energy Trust and the Navigant Report, the EEAG thoughtfully weighed future administration options against the possibility of having Energy Trust continue to be the delivery arm. Below are the options considered:

A. NW Natural - Self-Delivered Program

The EEAG considered the costs and benefits of NW Natural delivering its own program.

Navigant assumes that NW Natural could offer a self-delivered residential program for a cost of $6.00 to $6.50 a therm for residential customers and a commercial/industrial ("C/I") program for a cost of $3.70 a therm. [13] By comparison, Energy Trust paid $7.35 per residential therm and $3.37 per commercial therm in the first program year. Navigant's cost estimates assume NW Natural could deliver a more cost-effective residential program than Energy Trust but that the

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10 IBID, page 9.
11 Navigant Benchmarking Report, prepared April 11, 2011, page 3.
12 IBID, page 3.
13 IBID, pages 60-62.

Company's commercial program would likely be more expensive to deliver in-house. Navigant's assumptions are based on a comparison of Avista's cost to serve customers. Avista was deemed the only comparable utility in the study for making assumptions about a self-delivered program. PSE's program, which is also delivered in-house, has unusually low costs per therm that reflect the maturity of the program. Both Avista and PSE also have the benefits of being able to leverage electric savings with their gas DSM programs.

Navigant's C/I cost per therm for a NW Natural delivered program is based on Avista's costs per therm reduced by 7% to account for the program costs that NW Natural tracks to their program but Avista does not. [14] Navigant admits that the 7% deduction may be conservative. The Navigant Report also notes that NW Natural has fewer heating degree days than Avista ("6,842 in Spokane and 5,655 in Vancouver),[15] making the estimate more speculative.

Navigant further assumes that NW Natural eventually could acquire residential therm savings for $5.00 to $4.50 per therm as experienced by utilities with mature programs that were studied in a different 2007 benchmarking study.[16] These costs are somewhat dated and are experienced in a colder climate than NW Natural's service territory.

Navigant admits that its estimates are uncertain, saying,

> ". . . given the small sample number of Washington utilities this analysis is based on, these cost estimates should be considered rather uncertain. Navigant's national gas DSM benchmarking results discussed here are for program year 2007, and so are older than the benchmarking analysis conducted of the Washington gas DSM programs.
>
> This analysis is limited by the fact that it is principally based on one data point: Avista's. Avista is the only Washington IOU that delivered residential programs in-house. The typical sample size for a DSM benchmarking study is much larger; for example, 27, 19, 14, 25, and 22 utilities or other energy efficiency program administrators are sample sizes for recent publically available benchmarking studies.[17] While the study scope does not accommodate a quantitative assessment of a sufficient sample size, the results of this analysis are in-line with Navigant's experience in benchmarking natural gas residential DSM portfolios.
>
> Practically, transferring program delivery from the Energy Trust to NW Natural would likely result in an initial rise in cost per therm conserved due to a possible drop in participation resulting from confusion about program administration and loss of brand recognition.

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14 IBID, page 60.

15 IBID, page 60.

16 Summit Blue Consulting, LLC, "Task 5: Identify Best Practice Regional DSM Programs: Benchmarking Results from Reported 2007 Program Results, " submitted to the Maine Public Utilities Commission, January 22, 2010. (Note; Summit Blue Consulting, LLC was acquired by Navigant Consulting Inc. and the former employees of Summit Blue Consulting, LLC were the Navigant consultants who prepared the report referred herein as the Navigant Report.

17 Respectively for Vermont Department of Public Service 2008 electric DSM, Maine Public Utilities Commission 2008 and 2007 DSM (electric and natural gas), Tucson Electric Power 2008 DSM (electric and natural gas).

> Thus in considering costs per therm, were NW Natural to self-deliver its residential programs, given the uncertainty around the concluded improved cost per therm conserved and the likely losses incurred in transferring delivery, Navigant does not see sufficient evidence to recommend transferring residential program delivery from the Energy Trust to NW Natural.
>
> A sample size of one does not provide a firm basis to estimate costs for NW Natural to self-deliver their programs compared to their current costs. However, with a close qualitative analysis and the knowledge of our previous and extensive benchmarking, we believe that, in the near term, self-delivery by NW Natural may be more expensive for the C&I programs, and although from one perspective it appears self-delivery may be less expensive for the residential programs, neither the amount of expected savings nor the evidence is strong enough to support recommending transferring residential programs from the Energy Trust to NW Natural."

Navigant assumes Energy Trust is a more cost effective administer because Energy Trust is already delivering inexpensive C/I savings, and Navigant forecasts that NW Natural's program will continue to deliver more commercial than residential savings. Navigant cite two supporting facts: 1) the Company has more commercial gas sales than residential, and 2) the other Washington programs experience more commercial than residential savings with their programs.

As presented to the EEAG, NW Natural and Energy Trust continue to forecast that residential savings will increase in a manner that is consistent with the Company's DSM projection in its 2011 Integrated Resource Plan ("IRP") and as stated in the review of the annual report. The Company's assumptions are derived from the technical potential study performed for the IRP which looks at the housing stock and other demographic information and determines when available cost effective energy efficiency measures can be adopted by customers. The Company's technical potential study has been fairly accurate in the past few years for Oregon, and it follows that the study should prove relatively accurate for Washington.

The Company believes the residential sector acquired fewer than expected savings during the first year because this sector requires more marketing for initial uptake. Also as stated in the annual report, Energy Trust made significant learnings about the Washington residential sector, including the knowledge that this group may be better served by offering an interview prior to having a scheduled home evaluation review (HER) to screen for available efficiency opportunities. When these program modifications are adopted and as the program continues to mature, the Company expects residential savings to exceed commercial savings. NW Natural's 2011 IRP assumes Residential savings will exceed commercial savings by 2014. As savings increase for this sector, the cost per therm should go down as has been demonstrated in Oregon. The cost per therm goes down as the number of customers participating goes up. So while therm savings acquisitions were cost effective for residential customers in the first program year, they should get more cost effective as the program matures. This is supported by the downward trend experienced when looking at the first year costs per therm verses the first calendar year cost per therm. This is a three month difference (October 1, 2009 to September 31, 2010 verses January 1, 2010 through December 31, 2010). For these

timeframes, the cost for residential therm savings dropped from $7.35 per therm to $6.62 per therm. Navigant predicts this trend saying, "the Energy Trust's costs per therm conserved should decrease as they increase participation, especially as they reach deeper into the significant residential sales."[18]

A somewhat more accurate cost estimate for a NW Natural delivered program might be created by working with EEAG members to determine the needed skill sets for program delivery and the full time employees ("FTE"s) that parties would consider allowable for rate recovery. Due to a stipulated agreement in Oregon, NW Natural currently has no in-house expertise or implementation staff.[19] An in-house program would need to be created from the ground up.

B. A Washington Based Contractor

The Energy Efficiency Plan established that the benchmarking report would be used to "extrapolate. . . the potential costs to use a Washington-based contractor."[20] EEAG members expressed disappointment that the Navigant Report did not provide an estimate for this option. The scope of work for the report did not request such an estimate. As the EEAG discussed this, it was agreed that assuming a cost for a Washington based contractor would be a purely hypothetical exercise. No other Washington utility is using a Washington based contractor. Cascade Natural Gas's program offers the only close similarity to this option. Cascade is currently employing Lockheed Martin, a Maryland-based energy efficiency service provider. NW Natural's Energy Trust delivered program compares favorably next to Cascade Natural Gas's program. The Navigant Report shows that NW Natural's overall first year costs of savings,[21] and C/I first year cost of savings were less expensive than Cascade Natural Gas,[22] demonstrating that a different third party provider is not necessarily more cost effective.

C. Continuing to use Energy Trust

The final option evaluated was for NW Natural to continue using Energy Trust as its program delivery arm. As shown in the annual report, NW Natural has met its metrics for first year therm savings and cost effectiveness. The Navigant Report demonstrated that the Energy Trust's data points were generally comparable with Avista's, PSE's and Cascade's.

As stated by Navigant, Energy Trust's tracking system is considered the most advanced among those used by other Washington utilities.[23]

Navigant also recommends that NW Natural continue using Energy Trust to avoid a disruption in service with its customers. Customers have paid for the ramping up of the current program. A different program would be confusing and costly as it would require new campaigns to develop customer awareness.

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18 IBID, page 64.
19 *See* Public Utility Commission of Oregon Order No. 02-634, issued September 12, 2002.
20 NW Natural's Energy Efficiency Plan, page 2.
21 Navigant Benchmarking Report, prepared April 11, 2011, page 39.
22 IBID, page 44.
23 IBID, page 3.

NW Natural contends that Energy Trust brings a deeper skill set to its program that is not reflected in metrics for program cost effectiveness, including market research, market transformation, and excellent EM&V work.

EEAG members expressed concern that the Energy Trust's costs may not be competitive. However, the Energy Trust explained that it hires third parties to deliver its programs, and these third party contracts are systematically re-bid to ensure costs paid are market based.

If the Energy Trust continues to be used to deliver NW Natural's DSM programs, it will continue to be under the watchful eye of the EEAG. Also, NW Natural will commit to continuing to file with the UTC and provide to the EEAG annual energy efficiency plans and reports with savings and cost-related metrics for its DSM programs, and the Energy Trust will continue to report on its progress as program administrator to the EEAG. Further NW Natural commits to convene quarterly EEAG meetings to discuss program progress throughout the course of the program year.

IV. <u>Recommendation</u>

Based on the analysis of the information available, NW Natural and the EEAG recommend that NW Natural continue using Energy Trust of Oregon to deliver its residential and commercial energy efficiency programs.

NW Natural is pleased with this recommendation. The first program year went very well. Customers were offered good opportunities for reducing their energy consumption. The Company believes customers will continue to be well served with the Energy Trust delivered program.

Thank you.

/s/ Jennifer Gross

Jennifer Gross

EXHIBIT A

Navigant Benchmarking Report

NAVIGANT

BENCHMARK STUDY OF DELIVERY COSTS FOR GAS DSM IN WASHINGTON

Prepared for:
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March 21, 2011

NAVIGANT

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Executive Summary

Northwest Natural Gas Company (NW Natural or Company) has contracted the delivery of demand side management (DSM) services in its Washington service area with the Energy Trust of Oregon (Energy Trust). As stated in its Washington Energy Efficiency Plan, NW Natural will use benchmarking efforts to extrapolate what it might cost the Company to deliver its own DSM program, as well as the potential to use a Washington-based DSM program administrator. Energy Trust's contract to provide the energy efficiency programs to NW Natural's Washington residential and commercial customers is for October 1, 2009, through September 30, 2010, with a possible extension.

The purpose of the research study is to provide the information to support the Energy Efficiency Advisory Group's (EEAG) recommendation regarding the cost effectiveness of continuing to use the Energy Trust as the delivery agent for NW Natural's energy efficiency programs in Washington. The EEAG is comprised of interested parties and is formed in compliance with Order No. 04 to the Company's 2008 rate case, docketed as UG-080546,

The methods employed to achieve the study goals included a combination of secondary and primary research as well as a benchmarking assessment. The secondary research included characteristics and comparisons of the various natural gas DSM programs offered through the utilities in the State of Washington. Gathering this data took two steps. The first step was to review recent annual DSM reports and visit each utility's website for details on the natural gas DSM programs currently offered. This data was compiled before telephone interviews with utilities occurred and was on hand for reference during the interviews. The second step was to revise the information gathered from the websites from that which was gained through the interview process. The primary research included interviewing by telephone key staff from the Energy Trust as well as each of the four Washington natural gas utilities. Once the interviews were completed, Navigant documented the conversations in a standard format and the respondents reviewed these for accuracy and completeness. The evaluation team then summarized the key findings from the interviews for each utility and assessed similarities and differences in programs across all the utility programs. The benchmarking data for each organization were prepared as follows:

1. Collected reported incremental Washington natural gas DSM program results for 2008 and 2009 for Avista, Cascade Natural Gas, and Puget Sound Energy and for 2010 for NW Natural Gas:
   - Expenditures
   - Natural gas savings
   - Program descriptions

The sources for all DSM program data are the utilities' annual reports on their 2008, 2009, and 2010 DSM programs.

2. Collected Washington natural gas baseline data for each program year:
   - Revenues
   - Retail sales

The main source for the baseline data is Form 176 from the Energy Information Administration's web site (www.eia.doe.gov). Baseline data for NW Natural's 2010 program year (10/09-9/10) were provided by NW Natural.

3. Categorized reported DSM program results and baseline data by major customer sector:
   - Residential
   - Commercial and industrial (C&I)

4. Normalized incremental results and expenditures overall and for the two major customer sectors:
   - Expenditures as a percentage of revenue
   - Natural gas savings as a percentage of natural gas sales for WA

5. Calculated costs of savings on a first year basis:
   - Divided DSM expenditures by DSM program natural gas savings to give $/Therm for the first year

6. Identified median of normalized spending, savings, and costs of saving.

7. Analyzed DSM portfolios of the utilities at the program level.

The cost of energy savings reported here is calculated on a *first year* basis. It is not levelized cost of savings, thus not comparable to supply side $/Therm. Levelized cost of savings were not calculated because the data required to do so (measure life or lifetime savings) were not available.

Conclusions Regarding NW Natural Self Delivering Programs

A very small sample size does not provide a firm basis to estimate costs for NW Natural to self-deliver their programs compared to their current costs. However, with a close qualitative analysis and the knowledge of our previous and extensive benchmarking, we believe that, in the near term, self-delivery by NW Natural may be more expensive for the C&I programs, and although from one perspective it appears self-delivery may be less expensive for the residential programs, neither the amount of expected savings nor the evidence is strong enough to support recommending transferring residential programs from the Energy Trust to NW Natural.

In 2010, about 66% of the achieved NW Natural savings was from the commercial sector. Overall sales are about 40% for C&I and 60% for residential.

In 2009, for the other utilities, the shares of energy savings for residential and C&I are more balanced: the residential sector accounted for 55% of Avista's achieved savings, 49% of Cascade's savings, and 42% of PSE's savings.

Together with the sector-level delivery cost analysis, this suggests that continuing with Energy Trust for the C&I sector would support continued significant cost-effective savings and that for the residential sector, the Energy Trust's costs per therm conserved should decrease as they increase participation,

especially as they reach deeper into the significant residential sales. However, as discussed previously, these conclusions should be considered rather uncertain.

Given these perspectives, the current third party arrangement with the Energy Trust would be less costly than the self delivery option.

Recommendations

As we have seen in our sample of Northwest gas programs, successful DSM program implementation can be achieved in a variety of ways. Dedicated staff, whether they are utility or subcontractor, and consistent oversight appear to be the winning combination. Cost-effectiveness is not clearly linked to implementation strategy. With thoughtful design and consistent oversight it is possible to implement effective programs in-house or via implementation contractors. All the utilities indicated that the method they use to track their program results was effective.

The Navigant team developed the following recommendations based on the research.

- NW Natural should continue to use the Energy Trust as its program administrator for all customer sectors. The current evidence is that program delivery would be more costly if NW Natural self delivered its programs and any transition could cause disruption in the delivery of program services to its customers.
- NW Natural would likely increase cost-effective savings by providing site-specific custom measure programs for commercial and industrial customers.
- NW Natural should consider implementing a marketing and outreach campaign similar to that done by Avista.
- NW Natural should continue using the tracking system of the Energy Trust as it seems to be the most advanced.
- Trade allies (contractors and engineering firms) should be made to feel that the EE programs directly benefit them and that the programs are "their" programs. It is good practice to establish a point of contact for contractor concerns. NW Natural might consider developing in-house this point of contact with trade allies and work both with the trade allies and the Energy Trust.
- Provide contractors with the tools they need to succeed; good training, discounts on diagnostic equipment, and thoughtful and up-to-date incentive design will make it easier for them to successfully sell program savings projects.

1. Introduction

Northwest Natural Gas Company (NW Natural or Company) has contracted the delivery of demand side management (DSM) services in its Washington service area with the Energy Trust of Oregon (Energy Trust). As stated in its Washington Energy Efficiency Plan, NW Natural will use benchmarking efforts to extrapolate what it might cost the Company to deliver its own DSM program, as well as the potential to use a Washington-based DSM program administrator. Energy Trust's contract to provide the energy efficiency programs to NW Natural's Washington residential and commercial customers is for October 1, 2009, through September 30, 2010, with a possible extension.

The purpose of the research study is to provide the information to support the Energy Efficiency Advisory Group's (EEAG) recommendation regarding the cost effectiveness of continuing to use the Energy Trust as the delivery agent for NW Natural's energy efficiency programs in Washington. The EEAG is comprised of interested parties and is formed in compliance with Order No. 04 to the Company's 2008 rate case, docketed as UG-080546,

The report begins with this introduction section, followed by Section 2, which describes the research methods; Section 3 presents the findings of secondary research on features of current DSM programs; Section 4 presents the findings of interviews with DSM directors; Section 5 presents the benchmarking of reported DSM program spending and impacts, Section 6 puts forth conclusions and recommendations; and Section 7 provides references and sources for the study.

2. Methodology

This section of the report describes the research methods used for our secondary and primary research efforts.

2.1 Secondary Research

The information included in the secondary research contains characteristics and comparisons of the various natural gas DSM programs offered through the utilities in the State of Washington. Gathering this data took two steps. The first step was to review recent annual DSM reports and visit each utility's website for details on the natural gas DSM programs currently offered. This data was compiled before telephone interviews with Washington utility staff occurred and was on hand for reference during the interviews. The second step was to revise the information gathered from the websites from that which was gained through the interview process. Some of the annual report and website-based information was not up to date.

2.2 Interviews

This section describes the method for gathering primary data from utilities providing gas DSM programs in Washington.

The first step was to create a draft interview guide. NW Natural reviewed the guide and provided feedback. The evaluation team incorporated the feedback and finalized the interview guide as shown in Appendix A.

NW Natural provided Navigant with contacts with whom to conduct telephone interviews, having consulted with contacts in advance. Navigant interviewed the following people:

- Bob Stolarski, Director of Customer Energy Management, Puget Sound Energy, on Nov 29, 2010
- Alison Spector, Director of Conservation, Cascade Natural Gas, on Nov 29, 2010
- Bruce Folsom, Director of Energy Efficiency, Avista Corp., on Nov 30, 2010
- Kate Hawley, NW Natural Washington Sector Program Manager, Energy Trust of Oregon, on Jan 28, 2011

Once the interviews were completed, Navigant documented the conversations in a standard format and the respondents reviewed these for accuracy and completeness. The evaluation team then summarized the key findings from the interviews for each utility and assessed similarities and differences in programs across all the utility programs.

2.3 Benchmarking

This section describes the methodology used to collect data and to analyze and compare impacts and costs, for all customer sectors and by customer sector.

The benchmarking data for each organization were prepared as follows:

1. Collected reported incremental Washington natural gas DSM program results for 2008 and 2009 for Avista, Cascade Natural Gas, and Puget Sound Energy and 2010 for NW Natural Gas:
   - Expenditures
   - Natural gas savings
   - Program descriptions

The sources for all DSM program data are the utilities' annual reports of their 2008, 2009, and 2010 DSM programs.

2. Collected Washington natural gas baseline data for each program year:
   - Revenues
   - Retail sales

The main source for the baseline data is Form 176 from the Energy Information Administration's web site (www.eia.doe.gov). Baseline data for NW Natural's 2010 program year (10/09-9/10) were provided by NW Natural.

3. Categorized reported DSM program results and baseline data by major customer sector:
   - Residential
   - Commercial and industrial (C&I)

4. Normalized incremental results and expenditures overall and for the two major customer sectors:
   - Expenditures as a percentage of revenue
   - Natural gas savings as a percentage of natural gas sales for WA

5. Calculated costs of savings on a first year basis:
   - Divided DSM expenditures by DSM program natural gas savings to give $/Therm for the first year

6. Identified median of normalized spending, savings, and costs of saving.

7. Analyzed DSM portfolios of the utilities at the program level.

The cost of energy savings reported here is calculated on a *first year* basis. It is not levelized cost of savings, thus not comparable to supply side $/Therm. Levelized cost of savings were not calculated because the data required to do so (measure life or lifetime savings) were not available.

3. Secondary Research Findings

This section summarizes the findings from the review of secondary research of current DSM program offerings.

3.1 Residential Programs

In order to gain perspective on the programs offered through the utilities, Navigant staff reviewed the current residential program offerings of the four gas utilities: NW Natural Gas, Cascade Natural Gas, Avista, and Puget Sound Energy. NW Natural Gas uses the Energy Trust to supply the incentives and the contractor information to its customers in Washington. Using Energy Trust allows NW Natural to provide well-structured incentive options to its customers; but the customer must apply for the programs directly through Energy Trust, which potentially leaves some disconnect between the utility and its customers. The three other utilities provide incentive programs directly to their customers. For all of the utilities, the incentive programs available to gas customers include upgrades to house heating equipment, upgrades to water heating equipment, and improvements in insulation.

All the utilities provide contractor information and resources to customers applying for rebates, except Avista. Avista supplies rebates to customers who submit forms with proof of the qualifying measure installation, such as model numbers and receipts. Though many of the measures accepted may need professional installation, such as windows, contractor assistance is not required for a customer receiving the incentive. In contrast, Cascade Natural Gas requires an approved contractor's involvement with the energy efficiency project in order for the customer to receive a rebate. Having an approved contractor in a trade ally network perform the installations of energy efficient measures for the utility may help to ensure the validity and quality of the installation.

In addition to the rebates offered by the utilities for existing residential homes, a variety of incentives are provided for new construction projects. The Energy Trust of Oregon offers new construction incentives to projects that are completed for NW Natural. For the remaining utilities, new construction incentives are mainly focused around the Energy Star New Homes programs.

3.1.1 Existing Homes Comparisons

The tables below include the basic specifications and incentive values for selected measures provided through various residential existing homes rebates from the four utilities in review. Offerings between the utilities are similar, though some differences do exist. This information was collected from the utilities' websites mainly during the fall of 2010.

Table 3-1. Residential Attic Insulation

Measure	Utility	Basic Specs	Incentive value
Attic Insulation	NW Natural	Existing insulation must be R-18 or less, and you must insulate to R-38	$0.25 per square foot
	Cascade	Equal to or greater than R-38 or to fill cavity; prior condition must not exceed R-18	$0.25 per sq. ft.
	Avista	R-10 or greater. Homes are eligible if the existing insulation is less than R-19 for attics.	$0.25 per sq. ft.
	Puget Sound	Must be installed through a pre-qualified contractor	up to $200

Table 3-2. Residential Wall Insulation

Measure	Utility	Basic Specs	Incentive value
Wall Insulation	NW Natural	Existing must be R-4 or less, must insulate to R-11 or fill wall cavity; all heated exterior wall surfaces must be insulated. Must be installed by a professional	$0.30 per square foot
	Cascade	Equal to or greater than R-11 or to fill cavity; prior condition must not exceed R-4	$0.40 per sq. ft.
	Avista	R-10 or greater. Homes are eligible if the existing insulation is less than R-5 for walls and R-5 in floors.	$0.50 per sq. ft.
	Puget Sound	Must be installed through a pre-qualified contractor	up to $200

Table 3-3. Residential Floor Insulation

Measure	Utility	Basic Specs	Incentive value
Floor Insulation	NW Natural	Existing insulation must be R-11 or less, and you must insulate to R-30 or fill floor cavity.	$0.30 per square foot
	Cascade	Equal to or greater than R-30 or to fill cavity; prior condition must not exceed R-11	$0.45 per sq. ft.
	Avista	R-10 or greater. Homes are eligible if the existing insulation is less than R-5 for walls and R-5 in floors.	$0.50 per sq. ft.
	Puget Sound	Must be installed through a pre-qualified contractor	up to $200

Table 3-4. Residential Duct Sealing

Measure	Utility	Basic Specs	Incentive value
Duct Sealing	NW Natural	Minimum 150 CFM50 reduction and a minimum of 50 percent reduction in duct leakage	50 percent of cost, up to $325
	Cascade	Ducts must be sealed to PTCS standards	$150
	Avista	No Program	No Program
	Puget Sound	Must be installed through a pre-qualified contractor	up to $200

Table 3-5. Residential Gas Furnace

Measure	Utility	Basic Specs	Incentive value
Gas Furnace	NW Natural	90 percent or greater AFUE; incentive available for primary heat source only	$100
	Cascade	90% AFUE or greater	$150
	Avista	90% AFUE or greater	$400
	Puget Sound	Energy Star qualified; 90% AFUE or better	$100

Table 3-6. Residential Gas Water Heater

Measure	Utility	Basic Specs	Incentive value
Gas Tank Water Heater	NW Natural	0.62 EF or greater	$35
	Cascade	0.62 EF or greater	$25
	Avista	0.60 EF or greater for 50-gallon tank; 0.62 EF or greater for 40-gallon tank	$50
	Puget Sound	Energy Star qualified; EF of 0.65 or higher	$50

Table 3-7. Residential Gas Tankless Water Heater

Measure	Utility	Basic Specs	Incentive value
Gas Tankless Water Heater	NW Natural	0.80 EF or greater	$200
	Cascade	90% AFUE or greater	$800
	Avista	No Program	No Program
	Puget Sound	.82 Energy Factor or higher	$150
		.90 Energy Factor or higher	$200

Table 3-8. Residential Windows

Measure	Utility	Basic Specs	Incentive value
Windows	NW Natural	Energy Star qualified high efficiency windows. Measure can only be installed if at least one other measure installed.	$2.25 or $3.50 per square foot not to exceed cost
	Cascade	No Program	No Program
	Avista	Ending April 1, 2011 U factor of 0.3 or less	$3.00 per square foot not to exceed cost
	Puget Sound	U factor of 0.3 of less for multifamily retrofit only	$4.00 per square foot

Table 3-9. Residential Duct Insulation

Measure	Utility	Basic Specs	Incentive value
Duct Insulation	NW Natural	R-11 insulation. Current insulation must be R-2 or less.	50 percent of cost, up to $100
	Cascade	No Program	No Program
	Avista	No Program	No Program
	Puget Sound	R-11 insulation	50 percent of cost, up to $200

Table 3-10. Residential Gas Boiler

Measure	Utility	Basic Specs	Incentive value
Gas Boiler	NW Natural	Minimum 88% AFUE	Up to $200
	Cascade	No Program	No Program
	Avista	Minimum 90% AFUE	Up to $400
	Puget Sound	Minimum 95% AFUE	Up to $350

Table 3-11. Residential Direct Vent Gas Fireplace

Measure	Utility	Basic Specs	Incentive value
Direct Vent Gas Fireplace	NW Natural	Two tiers available based on fireplace efficiency. Tier 1 is 65-69.9% efficient and Tier 2 is 70% or greater efficiency. If intermittent pilot ignition added, an additional incentive.	Tier 1: $100 Tier 2: $150 Intermittent pilot ignition: $100
	Cascade	Minimum 80% AFUE	$70
	Avista	No Program	No Program
	Puget Sound	Minimum 70% AFUE	$200

Table 3-12. Residential Direct Vent Gas Unit Heater

Measure	Utility	Basic Specs	Incentive value
Direct Vent Gas Unit Heater	NW Natural	Minimum 80% AFUE	Up to $100
	Cascade	No Program	No Program
	Avista	No Program	No Program
	Puget Sound	No Program	No Program

Table 3-13. Residential Fuel Switching

Measure	Utility	Basic Specs	Incentive value
Fuel Switching	NW Natural	No Program	No Program
	Cascade	No Program	No Program
	Avista	Electric space and/or water heat to natural gas	Space heat: $750 Water heat: $250
	Puget Sound	Electric space and/or water heat to natural gas	Space and water: $1,950 - $3,950 Space only: $500 - $2,500 Water only: $950

Northwest Natural Gas (NW Natural)

NW Natural uses the Energy Trust to implement their residential energy efficiency incentive programs for both existing homes and new construction. For NW Natural Washington customers, Energy Trust provides incentives for single-family homes insulation, windows, duct sealing, hearth, uniting heaters, boilers, furnaces, and water heating measures. When customers want to apply for an incentive, they are referred to the Energy Trust directly for the incentive application.

Cascade Natural Gas (Cascade)

Cascade provides cash incentive rebates to its customers for energy efficiency projects in both existing homes as well as new construction through an implementation contractor. Cascade provides a list of qualified contractors and builders for its customers to use as the implementer of their energy-efficiency projects. For existing homes projects, gas customers must complete the appropriate incentive forms to be eligible for rebates on upgrades to their home's insulation, duct sealing, furnace, hearth, and water heat.

Avista

Avista offers incentives for gas and electric customers who are installing new energy efficient measures in their home, switching from electric to gas water heat, and weatherizing their home. These incentives are provided directly to homeowners when they fill out and submit the appropriate incentive application forms with the appropriate information, such as model number and specifications for new energy efficient measures. The use of a contractor is not a program requirement for Avista. Incentive payments are processed based on measures already installed in the home.

Puget Sound Energy (Puget Sound)

Puget Sound offers incentives to its gas customers for the installation of efficient heating and water heating systems, hearth, duct insulation, fuel switching, and structure insulation upgrades. The incentives included in the comparison tables for existing homes, above, apply only to existing single-family properties with four attached units or less. PSE does offer incentives to existing multifamily properties, which include upgrades to heating and water heating systems, windows, insulation, and shower head replacement. Customers may use a certified contractor to install their equipment upgrades, or they can do the work themselves and apply for the rebate after the installation is complete.

3.1.2 New Homes Comparisons

The tables below include the basic specifications and incentive values for selected measures provided through various residential new homes rebates from the four utilities in review. This information was collected from the utilities' websites mainly during the fall of 2010.

Table 3-14. Residential ENERGY STAR New Construction

Measure	Utility	Basic Specs	Incentive value
Energy Certified Homes (Energy Star)	NW Natural	ENERGY STAR Certified home (Gas heat): NW ENERGY STAR® Builder Option Package (BOP).	$600
	Cascade	ENERGY STAR Certified home (Gas with or without A/C): NW ENERGY STAR® Builder Option Package (BOP); minimum of 95% AFUE	$350
		ENERGY STAR® Plus Certified Home (Gas with or without A/C): Federal Tax Credit eligible; Copy of Federal Tax Credit approved documentation (provided by project RATER) must accompany incentive application	$750
	Avista	ENERGY STAR Certified Home using Avista gas or electric to heat space and water.	$900
		ENERGY STAR Certified Home where gas is provided by Avista but electric service is not.	$650
	Puget Sound	ENERGY STAR® qualified manufactured home: Puget Sound-served natural gas heating	$150

Table 3-15. Residential New Construction High Efficiency Furnace/Boiler

Measure	Utility	Basic Specs	Incentive value
High Efficiency Furnace/Boiler	NW Natural	No Program	No Program
	Cascade	ENERGY STAR® Premium High-Efficiency Natural Gas Furnace: 95% AFUE or greater	$150
		90% AFUE or greater	$150
		90% AFUE or greater; Ducts must be sealed to PTCS standards	$400
	Avista	90% AFUE or greater	$400
	Puget Sound	90%-94% AFUE	$350
		95% AFUE or higher	$250

Table 3-16. Residential New Construction Natural Gas Hearth

Measure	Utility	Basic Specs	Incentive value
Natural Gas Hearth	NW Natural	No Program	No Program
	Cascade	Cannot be combined with ENERGY STAR incentives: 80% AFUE or greater	$70
	Avista	No Program	No Program
	Puget Sound	No Program	No Program

Table 3-17. Residential New Construction Natural Gas Water Heater

Measure	Utility	Basic Specs	Incentive value
Conventional Natural Gas Water Heater	NW Natural	Tankless	$200 per unit
	Cascade	.62 EF or greater	$25
	Avista	0.60 EF or greater for 50-gallon tank; 0.62 EF or greater for 40-gallon tank	$50
	Puget Sound	0.67 EF or higher, 20-100 gallon tank	$100
		0.62-0.66 EF, 20-100 gallon tank	$40

Table 3-18. Residential New Construction Natural Gas Combination Radiant Heat/Water Heater

Measure	Utility	Basic Specs	Incentive value
High-Efficiency Combination Radiant Heat/Water-Heat System	NW Natural	No Program	No Program
	Cascade	90% AFUE or greater condensing tankless hot-water delivery	$800
	Avista	No Program	No Program
	Puget Sound	No Program	No Program

Table 3-19. Residential Multi-Family New Construction

Measure	Utility	Basic Specs	Incentive value
Space and water heat	NW Natural	No Program	No Program
	Cascade	No Program	No Program
	Avista	new construction of 5 units or more	$2,000
	Puget Sound	new construction of 3 or more attached units	ranges from $0.04 to $0.32 per square foot

NW Natural

On July 1, 2010, Energy Trust began delivering its New Homes program in NW Natural's territory, which offers incentives to builders for new homes that meet ENERGY STAR® requirements.

Cascade Natural Gas

Cascade offers a new construction program for homes that meet ENERGY STAR® building guidelines, which means homes are designed, built, and performance tested to be at least 15% more energy-efficient than homes built to Washington energy codes. The incentives are provided to the builders and trade allies that complete the construction. Two types of incentives are available, 1) The New Homes Stand Alone Incentive and 2) the ENERGY STAR Whole Home Package Incentive and Upgrades. The two incentives cannot be combined as they have overlapping measures. In order to complete the incentive process, applicants must ensure that the home adheres to the Northwest ENERGY STAR® Builder Option Package (BOP) requirements and standards, conduct a review of the home by an approved verifier to ensure all ENERGY STAR measures are properly implemented, and submit all materials no more than 90 days after installation of the measures.

Avista

Avista incentives are available for the new construction of single and multifamily residences (up to a four-plex), including manufactured and modular homes. The available incentives are the same as the existing homes program, and applications must be submitted within 90 days after measure installation.

Puget Sound

All Puget Sound Energy natural gas and electric customers are eligible for a rebate when they purchase a new ENERGY STAR® qualified manufactured home. Manufactured homes with the ENERGY STAR® qualifications offer added insulation, efficient windows, and efficient ventilation and duct sealing. Along with a properly completed rebate form, applicants must include a photocopy of the home's ENERGY STAR® Certificate of Compliance and a legible photocopy of the purchase agreement between the customer and the dealer selling the home. The Certificate of Compliance requirement is similar to the requirement by Cascade.

Puget Sound Energy also provides incentives for multifamily new construction projects of three or more attached dwelling units. These incentives are available during the design and construction phase of the project and include gas water and space heating measures as well as water-efficient showerheads. Receiving custom incentives beyond the prescriptive measures is possible on a case-by-case basis.

3.2 Overview of Utility Commercial and Industrial Programs

As with its residential programs, NW Natural uses the Energy Trust to deliver incentive programs for its commercial customers. Non-residential customers of NW Natural are referred to the Energy Trust directly to apply for and receive their incentives for energy efficiency rebates. The three other utilities supply commercial incentives directly to their customers. For all four utilities, the incentive programs available to commercial gas customers include upgrades to space heating systems, upgrades to water heating systems, installation of steam traps, upgrades to insulation and installation of high efficiency food service equipment.

Though all of the utilities suggest using a contractor for the installation of energy efficient measures, only Cascade Natural Gas requires that a qualified contractor be used in order for a customer to receive an incentive on all eligible measures. Using a qualified contractor ensures the validity and quality of the installation.

Avista and Puget Sound provide custom incentive-type programs to their commercial and industrial (C&I) customers. These custom programs allow businesses to receive incentives for measures that are specific for their processes and may not fit directly with a prescriptive program offering. A custom program requires creative planning and coordination on the part of the customer and the utility. This incentive path often generates interesting case studies that may be used as a marketing tool for future projects. The Energy Trust program began offering a custom option as of Jan 1, 2011.

Commercial Programs Comparisons

The tables below include the basic specifications and incentive values for selected measures provided through various commercial rebates from the four utilities in review. This information was collected from the utilities' websites mainly during the fall of 2010.

Table 3-20. Commercial Sector – HVAC Unit Heater

Measure	Utility	Basic Specs	Incentive value
HVAC Unit Heater; High Efficiency Non-Condensing and Condensing	NW Natural	with electronic ignition; Minimum 86% AFUE	$1.50/kBtu/hr
	Cascade	86% AFUE	$1.50/kBtu/hr
		92% AFUE	$3.00/kBtu/hr
	Avista	90% to 94% of greater AFUE single stage <225 kBtu/hr	$3.25-$4.25/kBtu/hr
		90% AFUE or greater multi stage <225 kBtu/hr	$4.25/kBtu/hr
		85% to 90% or greater AFUE boiler <300kBtu/hr	$1.25-$1.75/kBtu/hr
		90% or greater thermal efficiency unit heater	$5.00/kBtu/hr
	Puget Sound	Available with AC upgrade	CEE Tier 1 - $100
			CEE Tier 2 - $150

Table 3-21. Commercial Sector – Gas Fryer

Measure	Utility	Basic Specs	Incentive value
Gas Fryer	NW Natural	ENERGY STAR®; Infrared	$1,000
	Cascade	ENERGY STAR®	$600
	Avista	No Program	No Program
	Puget Sound		$750

Table 3-22. Commercial Sector – Gas Convection Oven

Measure	Utility	Basic Specs	Incentive value
Gas Convection Oven	NW Natural	ENERGY STAR®; Direct-fired gas	$300
	Cascade	Cooking capacity six (6) cubic ft or more	$600
	Avista	ENERGY STAR® ≤ 13,000 Btu/h	DNA[1]
	Puget Sound	DNA	$1,000

Table 3-23. Commercial Sector – Gas Griddle

Measure	Utility	Basic Specs	Incentive value
Gas Griddle	NW Natural	ENERGY STAR®	$150
	Cascade	infrared	$500
	Avista	ENERGY STAR®; ≤ 2,650 Btu/h per ft²	DNA
	Puget Sound	No Program	No Program

Table 3-24. Commercial Sector – Rack Oven

Measure	Utility	Basic Specs	Incentive value
Rack oven	NW Natural	No Program	No Program
	Cascade	No Program	No Program
	Avista	ENERGY STAR®; energy efficiency of ≥ 50%	DNA
	Puget Sound	DNA	$2,000

[1] DNA = data not available

Table 3-25. Commercial Sector – Steam Cooker

Measure	Utility	Basic Specs	Incentive value
Steam Cooker	NW Natural	ENERGY STAR®	$1,300
	Cascade	No Program	No Program
	Avista	ENERGY STAR®	$500 - $630
	Puget Sound	DNA	$750

Table 3-26. Commercial Sector – Gas Water Heater

Measure	Utility	Basic Specs	Incentive value
Water Heater	NW Natural	Condensing tank; Minimum 91% AFUE or 91% thermal efficiency	$2.50/kBtu/hr
	Cascade	Condensing tank— Min 91% AFUE/91% Thermal Efficiency	$2.50/kBtu/hr
	Avista	Replace electric with gas - 80 gallons or smaller with an Efficiency Factor > .60 AFUE > 90%.	$150
	Puget Sound	Condensing tank— Qualified 92% efficient (or better)	$4.71 per 1,000 Btu/hr capacity

NW Natural

NW Natural uses the Energy Trust to implement its commercial energy efficiency incentive programs. Energy Trust assists C&I customers with cash incentives, technical assistance, finding a contractor, installation, and more. Energy Trust provides a list of contractors that are available to complete qualifying projects and helps customers complete forms needed for cash incentives for the gas-only upgrades, such as insulation, water heat, and food service equipment.

Cascade Natural Gas

Cascade provides incentives to its commercial customers for qualified high efficiency space and water heating systems, and cooking equipment installed as replacement, retrofit or new installation in place of standard efficiency equipment. In order to qualify for the incentive, commercial customers must choose from a list of qualified trade ally contractors to install the efficient equipment. These contractors are also available to assist customers with rebate paperwork. In addition, customers requesting rebates for site-specific energy efficiency measures must submit estimated costs and natural gas savings associated with the project.

Avista

Avista offers technical assistance, design review and cash incentives for energy efficient upgrades for its commercial customers. Available programs include gas space heat and water heater installations, boiler steam traps, and various efficient commercial kitchen equipment upgrades. Avista also provides assistance with custom efficiency upgrades for businesses and structures its applications based on the type of business that requires the upgrade, such as offices, retail, or schools.

Puget Sound Energy

Puget Sound provides energy efficiency opportunities to its commercial customers through two approaches: direct rebates and custom grant programs. The rebates are available to gas customers for water heater upgrades, new gas HVAC installation, clothes washers that use gas-heated water, and new commercial kitchen equipment upgrades. HVAC incentives are calculated on a tiered system based on the specifications of the baseline unit that is being replaced and the qualifying replacement unit's efficiency. Incentives are also offered for the replacements of electric HVAC equipment to qualifying gas equipment. The custom grants program provides commercial customers with a custom incentive of no more than 70 percent of the installed cost for any energy-efficiency project resulting in increased efficiency of equipment fueled by electricity or natural gas supplied by Puget Sound to the business or non-residential account.

4. Interview Findings

This section summarizes the key points from the interviews with staff from Cascade, Avista, Puget Sound, and the Energy Trust.

4.1 Timing and Scope of Programs

DSM program managers interviewed for this study for Puget Sound and Avista have many years of experience in the industry; managers for NW Natural and Cascade programs are relatively new to the business. Puget Sound has provided gas and electric DSM programs since 1978. Cascade has provided gas DSM programs since the late 1990s but has only recently expanded its programs in Washington beyond prescriptive measures. Avista started providing gas DSM programs in Washington in the year 2000, but has provided uninterrupted electricity DSM programs since 1978. NW Natural has been delivering DSM programs in Washington since the fall of 2009.

Each of the four Washington gas utilities researched provides programs for all customer sectors, except for NW Natural which does not have industrial sector programs at this time. The scope of delivery and types of programs do not differ significantly—all utilities provide new construction programs and rebates for efficient measure to both residential and commercial customers, as well as custom programs for non-residential customers. Cascade is the only utility with no marketing and outreach programs and Avista does not provide contractor referrals. See Appendix A for additional program details.

4.2 Program Delivery Approaches

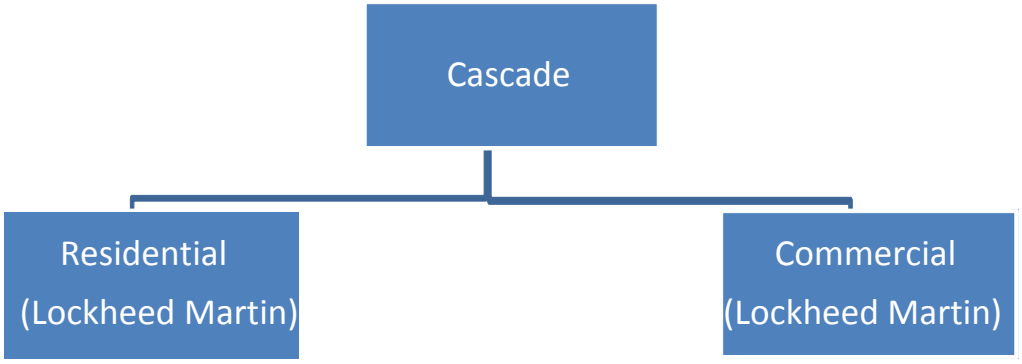
This section describes how the utilities deliver DSM programs to their customers.

All utilities, except for NW Natural, provide gas and electric DSM programs jointly to customers. Puget Sound does not separate out gas and electric DSM programs. Cascade partners with electric utilities to deliver DSM programs and found that this has "worked out great". Avista found that combining gas and electric opportunities in WA and ID provided better gas savings.

Cascade outsources[2] all programs (mainly rebates for prescriptive measures) through an implementation contractor (IC) as dictated by the WUTC.[3] Cascade is very happy with its IC (Lockheed Martin), who now delivers both Commercial and Residential programs. Cascade was not happy with its previous residential contractor and additionally finds it more cost-effective to have both programs delivered by Lockheed Martin. Cascade noted that they prefer a deemed savings approach and do not provide education and outreach program for such activities. Figure 1 shows the structure of Cascade's program delivery approach.

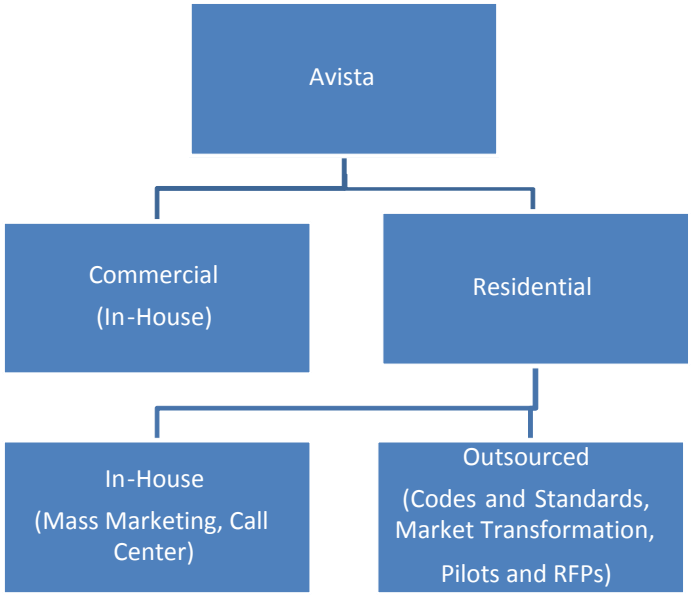
[2] *The requirement to outsource is a condition of decoupling. See* WUTC Order No. 06 in Docket UG 060256, issued August 16, 2007.
[3] Ibid

Figure 1. Cascade Delivery Approach



Both Puget Sound and Avista have strong in-house programs for the Commercial market and outsource on a program-by-program basis. The Avista staff member interviewed said that "we want to interact directly with our customers on energy efficiency." Avista says mass marketing is the most effective approach for residential and spends a significant amount on marketing with a successful cross-fuel marketing campaign called "Every Little Bit." The utility also believes that "the best way to deliver energy efficiency is through codes and standards." Avista previously implemented programs through PECI and UCons, both NW based energy services companies. Figure 2 shows the current outsourcing structure for Avista.

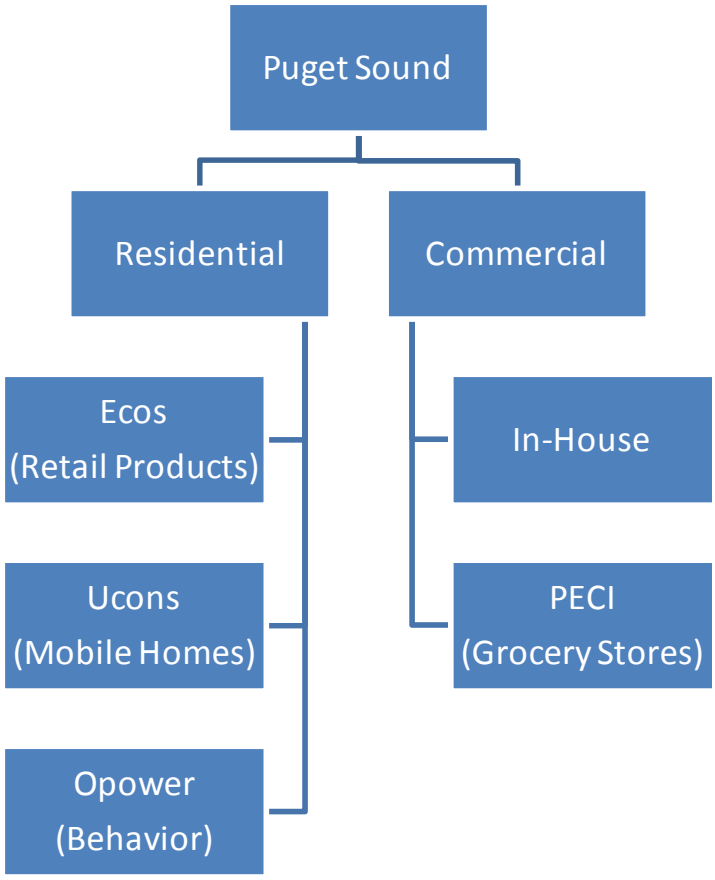
Figure 2. Avista DSM Delivery Approach



Puget Sound spends $100 million annually on DSM activities and thinks it is best to implement programs themselves, especially in the Commercial sector, as they have better knowledge of markets and want to manage customer relationships. Puget Sound outsources specific opportunities in the Residential sector as shown in Figure 3.

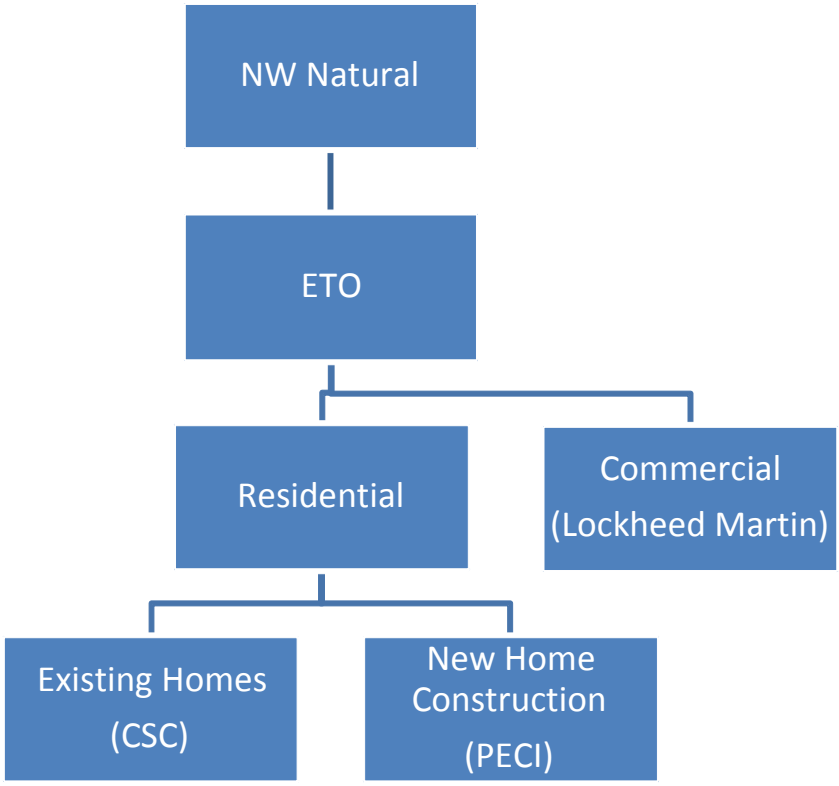
Interestingly, Puget Sound has achieved notable savings through OPower, a unique approach to efficiency through motivating behavior change. Because OPower is a pilot program, these savings are under evaluation and are not reported in their annual filing of DSM achievements. Puget Sound was the one of the first gas utilities in the country to make use of OPower's novel approach of comparing a customer's use to that of their neighbors.

Figure 3. Puget Sound DSM Delivery Approach



NW Natural currently outsources program delivery to the Energy Trust of Oregon. Launched in Oct 2009, the portfolio uses prescriptive measures with prescribed savings values from the RTF. (The savings estimates from the Regional Technical Forum and the Energy Trust Planning Group are not specifically classified as deemed, but are their best estimates of savings per measure and treated as deemed by NW Natural). Three programs were offered in the first year—Existing Homes, New Home Construction, and Existing Buildings. Energy Trust in turn outsources program delivery to other implementation contractors as shown in Figure 4 below.

Figure 4. NW Natural DSM Delivery Approach



While the four DSM program providers interviewed take differing approaches to their program implementation, all are very satisfied with their implementation methodologies. Puget Sound runs nearly all programs in-house and thinks this is best way to go. Cascade outsources all of its programs and is very happy with its choice. Avista feels strongly that providing a list of approved contractors on its web site creates unnecessary risk and does not see the upside, while Puget Sound provides detailed referrals for its contractors. There is clearly no "one size fits all" for designing and implementing gas DSM programs in the State of Washington. When a satisfying combination is found, these entities tend to stick with it.

Avista is the only utility in this group who does not provide contractor referrals. For the other utilities, a contractor is generally removed from a program when they are found to be non-performing for a variety of reasons. Training in proper program function is typically employed as a quality assurance approach. Performance can also be assisted through rewards, such as preferential listing on the contractor list.

Table 4-1. Delivery Approaches to Contractor Support

Utility	Approach to Contractors
Avista	Provides neither referrals nor a list of contractors, seeing no upside, only downside with lawsuits. Suggests customers seek 3 bids from contractors.
Cascade	Offers contractors facilitated training and co-op marketing (venue of trade ally benefits). Provides a contractor list for referrals; these are rotated. The utility provides facilitated training and provided co-op marketing until Jan 2011. Cascade now offers a $1,000 training fund for trade allies and $1,000 worth of co-branded bonus coupons to encourage update of tariff approved high efficiency HVAC and water heaters.
Puget Sound	Provides training on programs and Contractor Referral Services with qualified contractors listed on website. Referral based on performance, training, number of jobs done, etc. Other services include co-marketing and QC.
NW Natural	Energy Trust provides a trade ally list on its website. Energy Trust does a lot of quality assurance for contractors, rating them on quality, volume, customer satisfaction, etc. Contractors can access training sessions on sales, program implementation and codes.

Marketing and outreach approaches differ among the utilities. For NW Natural, Energy Trust uses a sales approach for the commercial sector and for the residential sector, works through trade allies and traditional channels such as bill stuffers and direct mailings. Avista uses a broad brush marketing campaign, and both Cascade and Puget Sound use traditional channels such as bill stuffers and co-op marketing. Table 4-2 compares marketing and outreach approaches.

Table 4-2. Marketing and Outreach Approaches

Utility	Approach
Avista	$700,000 "Every Little Bit" marketing and outreach campaign. A very dynamic and interactive campaign utilizing state of the art social marketing approaches. Also does seasonal marketing and markets through Account Executives; 5 staff in marketing.
Cascade	Mainly uses bill stuffers and co-op marketing with trade allies. ICs also do marketing. The utility also does some minimal advertising in newspapers and association publications.
NW Natural	Energy Trust does the marketing using a sales approach, e.g. meeting with building owners. Marketing played a critical role in building awareness of the new programs. Energy Trust performs outreach using a Home Energy IQ test which it offers at a variety of venues, e.g. the Home and Garden Show.
Puget Sound	Marketing done through traditional channels (bill stuffers, co-op marketing, print, radio, TV, etc.). Outreach includes middle school outreach program and presentations at trade shows and meetings (rotary, BOMA, etc.). Planning more customer education in future.

4.3 Program Costs

This section describes what each utility includes in its definition of Program Costs. Table 4-3 shows the each utility's 2009 Program Costs.

Table 4-3. Utility Program Costs ($000s) for 2009 by Sector

	Avista	Cascade	NW Natural[4]	Puget Sound
Residential	2,864	1,913	283	10,598
Commercial	2,112	1,039	330	4,955
Other	-	-	-	970
Total	**5,609**	**3,194**	**613**	**17,053**

[4] Covers the first program year, from Oct 2009 through end of Sept 2010.

All costs including evaluation and marketing for NW Natural are fully allocated to program costs. Puget Sound includes all costs except for evaluation, although the utility does include measurement and verification costs. Table 4-4 shows the cost categories included in each utility's overall program costs, whether the activity is done by the IC or the utility. A √ indicates it is included in program cost. "Done by IC" indicates the activity is performed by the implementation contractor and the cost is included in program costs.

Table 4-4. Program Cost Components

Cost Categories	Avista	Cascade	NW Natural	Puget Sound
Marketing	√	Done by IC	Done by IC	Specific to programs
Market Research	√	√	Done by IC	√
Accounting			√	√
Tracking Systems	In-house	Done by IC	In-house & IC	In-house
IT (Other)	√		√	√
M&V	√	Done by IC	√	√
Program Delivery	√	√	√	√
Utility Staff Costs	√ Staff costs included; HR overhead excluded	3 FTE's; Regulatory staff excluded	√	√
Administration (IC)	√	√	√	√
Incentives	√	√	√	√
Evaluation		Charged to utility; not deferred	√	Only for pilots
Call Center			√	
Legal			ETO costs only	√

As shown in Table 4-5, both Avista and Puget Sound spend most program costs on customer incentives and rebates. However they also exclude the cost of evaluation from program costs as shown in Table 4-4 above. Cascade spends under half on incentive costs and NW Natural just over half. It is not unusual for programs in their early years to spend more money per unit of savings delivered than mature programs.

Table 4-5. Incentives as % of Program Costs

Utility	Residential	Commercial
Avista	82	82
Cascade	43	42
Puget Sound	70	80
NW Natural	53	53

The utilities use different mechanisms to recover costs. Cascade and Avista use decoupling mechanisms to recover lost margin from DSM programs. NW Natural requested decoupling but it was not approved. Puget Sound recovers costs through a rate surcharge[5] and NW Natural defers and amortizes costs. Cascade and Avista had decoupling pilots in place and by Commission order; the maximum recovery of costs is 90% of deferred revenue.[6] NW Natural defers the costs for the energy efficiency program and then amortizes these costs annually for recovery from customers during the Purchased Gas Adjustment filing.

Avista implemented a 2 year pilot for limited decoupling from 2006 to 2007. Results were scrutinized in a 2009 regulatory process and Avista is now required to conduct more formal evaluation including assessing net savings. Cascade implemented a 3 year, partial decoupling mechanism in 2007. The utility hired a third party consulting firm to evaluate the impact; the study was in the field at the time of writing of this report.

4.4 Evaluation, Measurement & Verification

The interviewers asked about evaluation, measurement and verification (EM&V), including quality control procedures. Neither Cascade nor Avista have done any third party formal evaluations to date. Avista is changing its approach to EM&V to assess impact, process and market effects and net to gross ratios as a result of input received during the recent hearing about decoupling. Cascade has a study on decoupling in the field which includes an EM&V component and a telephone survey to assess customer satisfaction. Energy Trust, which does all the EM&V for NW Natural's gas DSM programs, hires third party evaluators and also has three in-house staff. Process and impact evaluations are conducted every year for different programs, e.g. process evaluations are conducted during the first program year and impact evaluations generally in year two.[7]

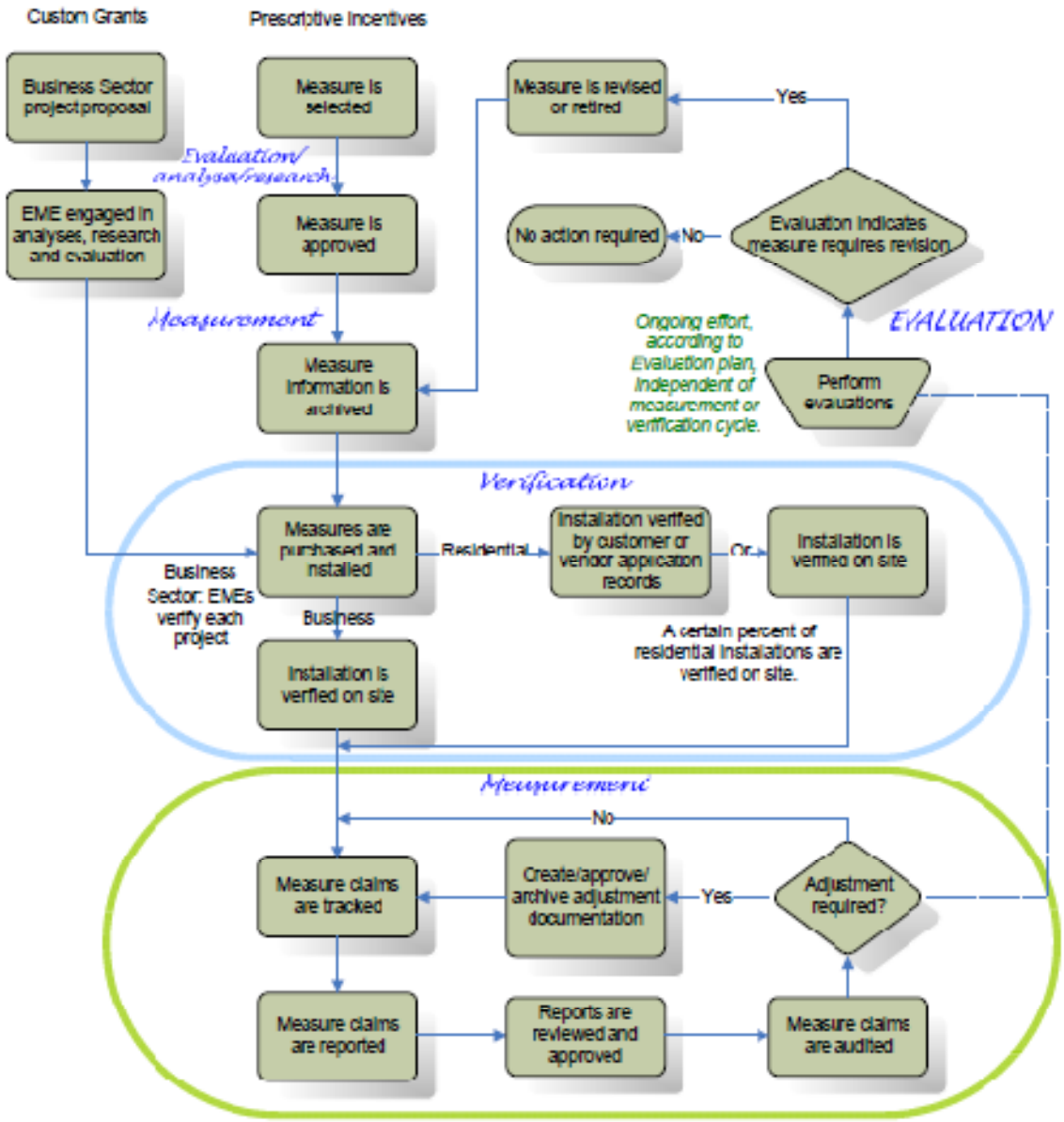
Puget Sound has the most EM&V done by a third party and has three internal evaluation analysts. Over the past six months, Puget Sound has formalized some processes that have been followed for several years, including evaluation planning that ensures that all Energy Efficiency Services (EES) programs are examined in a regular, consistent fashion. Puget Sound also actively participates in the Regional Technical Forum (RTF) which provides a coordinated approach to program evaluation issues. Savings claims are regularly audited at various stages of development at a regional level. From the time that a measure is implemented and its value and source of savings is added to the Measure Metrics database, it is regularly verified against the savings values logged in the EES tracking systems. Savings are reviewed and audited on both a monthly rolling basis and a formal stand-alone quarterly audit that—similar to the evaluation plan—which ensures that all programs are reviewed in a planned cycle. Figure 5 below shows a high level of measure EM&V for Puget Sound.

[5] Puget Sound Energy Natural Gas Supplemental Schedule No. 120: Natural Gas Conservation Service Tracker. http//www.pse.com/Site Collection Documents/rates/gas_sch_120.pdf

[6] WUTC Order 06 issued August 16, 2007 in Docket UG 060256,

[7] Presentation by Phil Degens to EEAG Workshop about ETO EM&V, Nov 19, 2009.

Figure 5. Puget Sound High Level View of Measure EM&V[8]



[8] Puget Sound Energy, *Energy Efficiency Services, Jan through June 2010, Semi-Annual Report of Energy Conservation Accomplishments*, August 13, 2010.

Table 4-6 shows the EM&V activities conducted by the utilities.

Table 4-6. EM&V Activities

EM&V Activities	Cascade	NW Natural	Puget Sound
Deemed Savings	Piggybacked off Energy Trust via Stellar/Ecotope. If the IC notices something that needs to be corrected, assumptions and tariff are adjusted.	Deemed savings from RTF estimates and Energy Trust Planning. Adjust future results.	Starts with deemed savings from RTF. Evaluations used to adjust deemed savings for future results.
Evaluation Plans	Informal process with the IC	Formal process	Formal process
Customer surveys	Phone survey of satisfaction	Fast Feedback process and process evaluations.	Part of process evaluation.
Site visits	Part of QA	Part of impact evaluation as well as QA	Part of impact evaluation as well as QA
Potential studies	Done earlier by Stellar Processes/Ecotope	IRP Process	Quantum Consulting and IRP Process
Evaluation Reports/Research	Not formal/continuous feedback from IC	Impact & Process Evaluation	Impact & Process Evaluation

Costs for EM&V range from 2% for Puget Sound to 5-6% for Avista's 2011 budget. Table 4-7 compares EM&V costs across the utilities. Cascade does not track or report EM&V costs.

Table 4-7. EM&V Costs

Utility	EM&V Costs
Avista	Spent 4% on EM&V in 2010 but expects to spend 5-6% in 2011.
Cascade	Not tracked.
Puget Sound	Spends less than 2% of program costs on EM&V.
NW Natural	Energy Trust – $20,000 or about 3% of costs. In Oregon it is about 2% of costs.

Quality Control (QC) and Quality Assurance (QA) Procedures
Energy Trust appears to have the most comprehensive QA/QC procedures. For example, The Quality Control Plan for Existing Buildings (see Appendix D) notes that all projects with over $5,000 of incentives are inspected and that Energy Trust conducts quarterly audits of IC physical projects folders and FastTrack project entries.

Table 4-8 compares QA/QC procedures for the utilities.

Table 4-8. QA/QC Procedures

Utility	QA/QC
Avista	The utility uses EM&V protocols.
Cascade	The implementation contractor inspects 10% of projects installed by trade allies.
NW Natural	Energy Trust hires a third party contractor to inspect a sample of projects every month.
Puget Sound	Puget Sound does the inspections. The percentage of inspection of projects varies; it can be up to 100% for custom commercial and industrial projects.

4.5 New Program Launch & Change in Measure Mix Over Time

Neither Puget Sound nor Avista were able to provide information on startup costs and activities. Cascade implemented a decoupling and conservation pilot program in Washington for 2008-2010 so 2007 costs can be used as a proxy for startup program costs. Costs for Cascade were $320,000 in 2007 compared to $643,000 for ETO in its first year of operation. According to Energy Trust, startup costs to implement gas DSM programs in Washington for NW Natural were $102,000 compared to a budget of $150,000.

Customer Barriers to Participation

- Puget Sound has learned that they need to get customers to understand that gas efficiency is equally as valid as electric efficiency and that gas efficiency needs to be delivered through current market channels. The utility went aggressively into gas efficiency around 2001-2002 but struggled with success until about 2007-2008.
- Avista encountered the following customer barriers to participation in DSM programs: limited capital; lack of information about energy efficiency; customer time required; trust; split incentives for tenants/owners in low income rentals and small commercial, strip malls); and the temporal nature of energy efficiency.
- Cascade encountered three unexpected barriers: 1) cultural - east of the mountains people are more "bottom-line focused" as opposed to "environmentally focused" compared to those west of the mountains, so messaging needed to focus less on climate change and more on bottom line (for Yakima, east of mountains); 2) language – Cascade has quite a few customers who do not claim English as their primary language; and 3) the limited potential for gas due to the influx of electric heat pumps west of the mountains, and limited gas infrastructure east of the mountains.

In addition, the avoided cost of gas is decreasing at present, which may also limit potential future program offerings.

- NW Natural (through Energy Trust) learned that program awareness is essential for program participation.

Change in Mix of Measures

All the utilities have changed their mix of measures over time. For Cascade, changes include providing a combined incentive for a high efficiency gas furnace and duct sealing, which used to get individual incentives; raising incentives levels for wall insulation; removing residential clothes washers and tankless water heaters, which the utility claims are not cost-effective; adding incentives for radiant heat systems; and adding an energy savings kit (low-flow showerheads, faucet aerators) that is delivered by mail. In addition, code changes have affected the program. In commercial, the utility now offers tiered incentives on insulation; minimum tiers, with higher incentives for more insulation—all above code.

At Puget Sound, the mix has been growing, as have the savings targets, increasing the number of programs, measures, and inspectors, including promoting behavior changes by working with OPower. They were the first gas company in the country to sign up.

From 2006 to 2009, referred to by Cascade as the "era of reinventing DSM", Avista had low fixed costs and high market volume and was not too concerned with its portfolio of measures. The approach was to maintain a high percentage of customer incentives as a portfolio of total expenditures. Since 2010, Avista is now pursuing opportunities that require more non-incentive investments, and are required to conduct more evaluation and reporting to meet regulatory requirements. The leads to higher fixed costs and Avista is now using a new approach, to "target the market with market research" using categories like "involved" and "uninvolved". Avista staff has reviewed thousands of measures, modeled them for impact, selected the 300 or so which are cost effective, and packaged them into programs.

Energy Trust is actively involved in a continuous process of program improvement through regular market and technical research, evaluation efforts and analysis of evaluation and market assessment data. New measures are regularly explored and the Energy Trust has added new measures to the NW Natural gas DSM programs this year.

4.6 DSM Targets and Program Results

This section summarizes how targets are set, program results tracked, and what is working and not working in the program portfolios.

All the utilities use an integrated resource planning (IRP) process to determine technical DSM potential and appropriate DSM program plans, and Avista's goals are also set through this process. The other utilities have additional methods to set realistic targets. Puget Sound is guided by its 2-year IRP, which is informed by the NW regional plan. All the utilities regularly exceed their DSM goals and NW Natural met its goals for the first year of its program. This fact begs the question as to whether goals are being set appropriately. Table 4-9 compares how the utilities determine potential and set goals, as well as levels of goal achievement.

Program results are shown in detail in section 3.3.

Table 4-9. Determining Potential and Setting and Achieving Goals

	Avista	Cascade	NW Natural	Puget Sound
Determine Potential	Through IRP process. Carbon adders and risk factors are included in avoided costs.	Through IRP process done every two years.	Through IRP process. Both TRC and UCT must be > 1. Avoided costs include a 10% environment adder and will include carbon adders in 2014.	Determined by the IRP team and Quantum Consulting (every 2 years). Avoided costs include a 10% environmental adder.
Set Goals	Set through IRP process. 2010 target is 2 million therms.	Targets are pre-determined through the decoupling process and adjusted based on IRP.	Through both a top-down (IRP process) and a bottom-up process (by measure).	The IRP provides guidance on goals and with an advisory group to set realistic goals.
Achieve Goals	Regularly exceeds goals for both gas & electric by double digits.	Normally exceeds goals.	Goals for the first year were met.	Exceeds goals on a regular basis.
Why Goals Exceeded	"Every Little Bit" campaign, rate increases, staff is good at what they do.	Decoupling, which makes the utility neutral to lost margin, has lead to a more aggressive approach.	Goals for the first year were met.	Goal setting is realistic – based on market, etc. The shareholder incentive to meet stretch goals had led to a culture change.

Responses to the question of what works best and what is challenging varied from utility to utility. Puget Sound said all the programs are working well but they are striving to develop a self-sustaining audit. The other utilities noted more success in the commercial sector. Table 4-10 shows what's working best and is challenging for each utility

Table 4-10. What Works Best and What Is Challenging

Utility	What Works Best	What is Challenging
Avista	Commercial site-specific programs work best due to customer-specific focus, extreme flexibility and sensitivity.	ESCO's providing incentives for measures that would not pass Avista screening, e.g. >60-year payback.
Cascade	Commercial kitchens and food services work best. This area had so much activity that Cascade hired someone from the NW food services industry.	Residential new construction program has been impacted by lower growth in new construction.
Puget Sound	All programs are working well with steady costs and rising savings.	Home audits. Still trying to develop a self-sustaining audit, i.e. pays for itself. For Home Performance with Energy Star, they are tying the incentive to participation in other rebate programs.
NW Natural	Commercial Existing Buildings is working best. With no prior programs offered to these customers, there was considerable pent up demand.	The Existing Homes Program took longer to start bringing in results due to the need to make customers aware of the programs

As shown in Table 4-11, each utility has a unique way to assess customer satisfaction. Except for Cascade, which is awaiting results from its decoupling study, customer satisfaction is high. Only Cascade and NW Natural conduct trade ally satisfaction surveys, and both use quarterly round tables.

Table 4-11. Customer Satisfaction Methods and Findings

Utility	Customer Satisfaction Method	Customer Satisfaction Rating
Avista	Sample of 600 participants every quarter.	Outstanding
Cascade	Decoupling study currently in field.	Not available yet
NW Natural	Fast feedback process and process evaluations.	High
Puget Sound	Only at the corporate level.	High

5. Natural Gas DSM Program Benchmarking

5.1 Performance Results for 2008, 2009, and 2010 Natural Gas DSM

This section compares annual natural gas DSM program results for residential and C&I customer sectors for Avista, Cascade, PSE, and NW Natural. For Avista, Cascade, and PSE, program years 2008 and 2009 are reviewed; for NWN, program year 2010 is reviewed. Program results for 2010 for Avista, Cascade, and PSE are not available until March 31, 2011.

Table 5-1 shows the median result for natural gas DSM spending, savings, costs, and energy costs over all customer sectors for the four investor-owned utilities (IOUs), Avista, Cascade, PSE, and NW Natural. It should be noted that the median value is based on only three utilities and that NW Natural 2010 includes the start-up of the New Construction program, offered as of July 1, 2010.

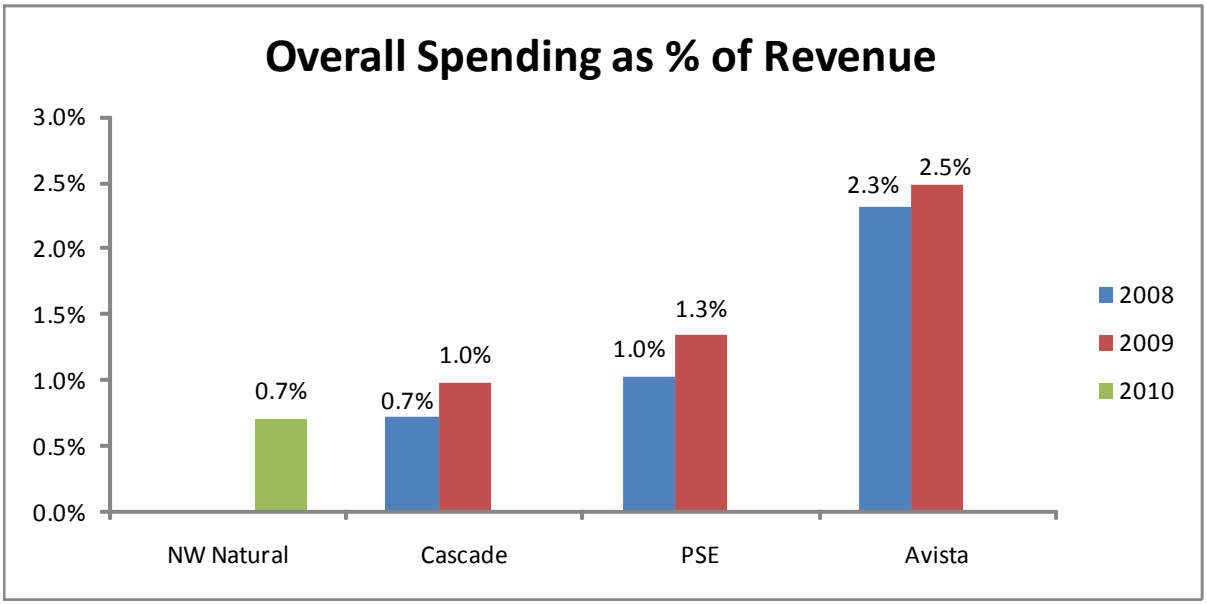
Table 5-1. Natural Gas DSM Results Over All Sectors

	Spending as % of Revenue	Natural Gas Savings as % of Sales	Retail Cost of Energy $/Therm	Cost of First Year Savings $/Therm
WA IOUs Median 2008	1.0%	0.4%	$1.21	$4.34
WA IOUs Median 2009	1.3%	0.5%	$1.32	$3.67
NW Natural 2010	0.7%	0.2%	$1.15	$4.56

Natural Gas DSM Spending

For the IOUs reviewed, the spending on natural gas DSM as a percentage of revenue ranges widely from 0.7% to 2.5%, with the median 1.0%. Figure 6 below shows the IOUs' spending on natural gas DSM as a percentage of annual revenue. Spending as a percentage of revenue for newer DSM portfolios is expected to be lower than spending for more mature portfolios.

Figure 6. Natural Gas DSM Spending as % of Revenue[9] [10]



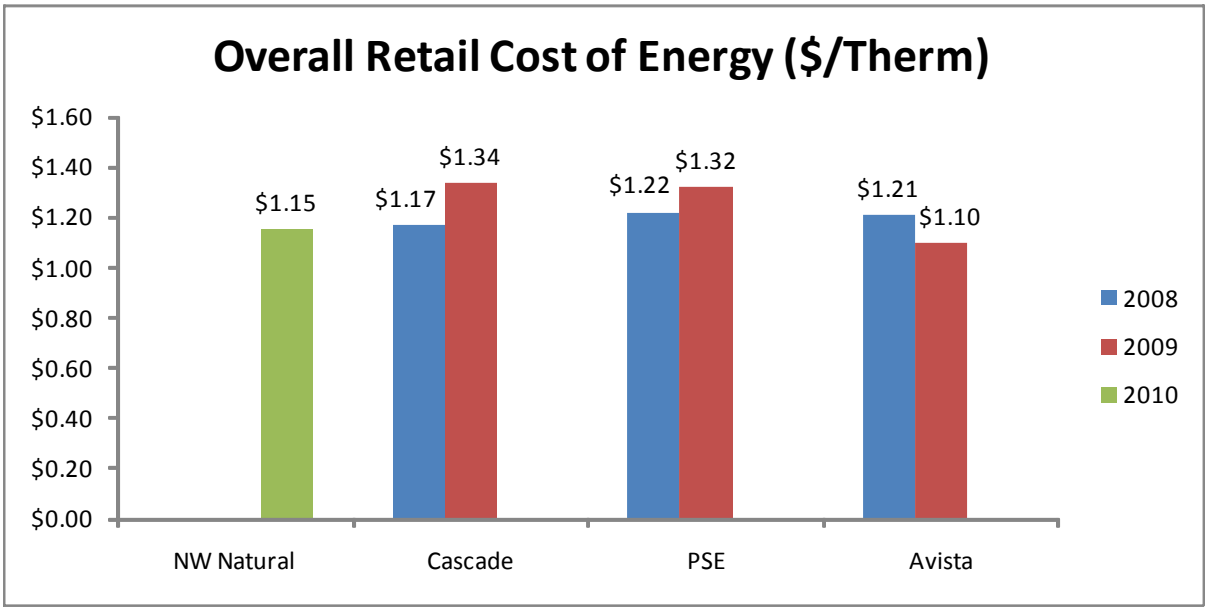
[9] All statistics throughout this section are of natural gas DSM activity in the state of Washington.
[10] In Figure 6 and similar figures to follow, the IOUs are shown in ascending order of overall spending as a percentage of revenue.

Retail Cost of Natural Gas

The average retail cost of natural gas was calculated by dividing total annual retail revenue by total annual retail sales for each IOU.

Among the IOUs reviewed, the retail cost of natural gas generally ranges narrowly per year, with the median at $1.21/Therm (Figure 7).

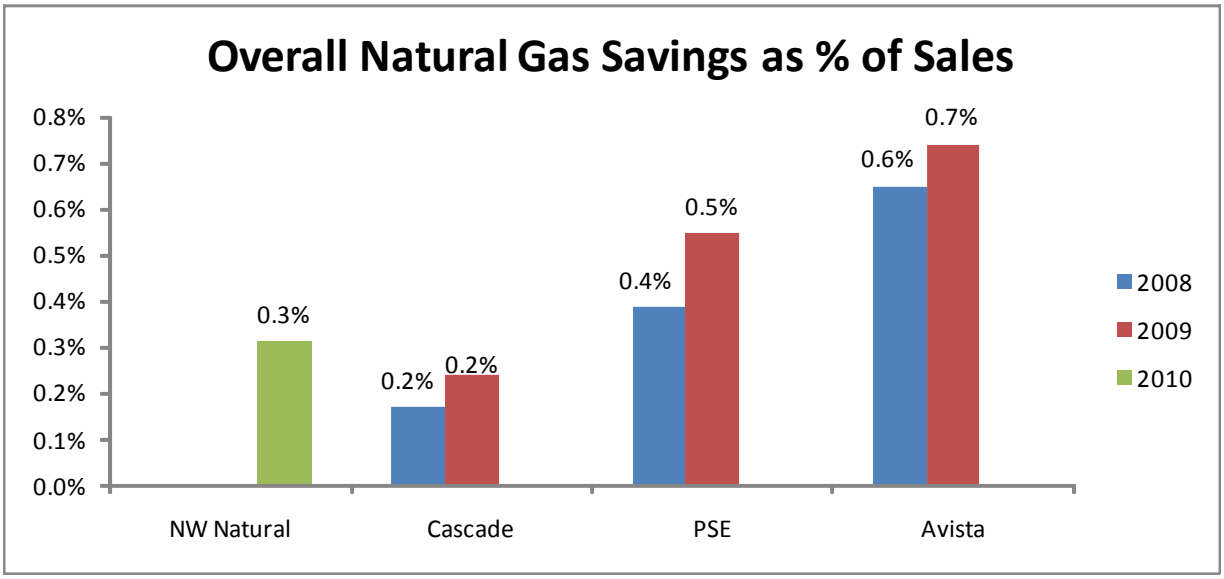
Figure 7. Retail Cost of Natural Gas



Natural Gas Savings

For the IOUs reviewed, the natural gas savings as a percentage of sales range from 0.2% to 0.7%, with the median at 0.4%. Figure 8 below shows the IOUs' natural gas savings as a percentage of sales. In comparison to Figure 11, increased spending (as a percentage of revenue) results in increased savings (as a percentage of sales).

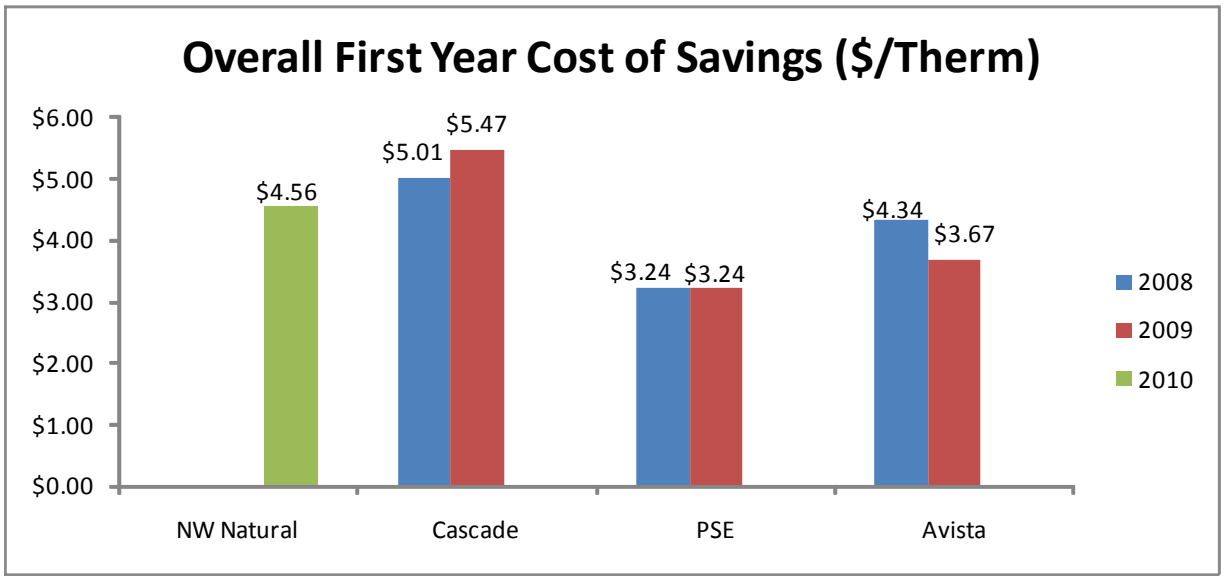
Figure 8. Natural Gas Energy Savings as % of Sales



Cost of Natural Gas Savings

For the IOUs reviewed, the cost of first year natural gas energy savings ranges from $3.24/Therm to $5.47/Therm, with the median at $4.34/Therm (Figure 14).

Figure 9. Cost of Natural Gas Energy Savings ($/Therm) First Year



Sector Analysis for Natural Gas DSM

This section reviews the IOUs' natural gas DSM spending, savings, and costs results for the C&I and residential sectors and reviews program-level detail for the IOUs.

Table 5-2 lists the utilities' programs for the residential and C&I sectors.

Table 5-2 WA IOUs' Programs[11]

Avista 2009		Cascade 2008 and 2009		PSE 2008 and 2009		NW Natural 2010	
Residential	**C&I**	**Residential**	**C&I**	**Residential**	**C&I**	**Residential**	**C&I**
Home Products	Energy Star Products	Energy Certified Home	Commercial Program-Prescriptive	Single Family Existing	C/I Retrofit	Existing Homes	Existing Buildings
Home Weatherization	EnergySmart	Residential Program	Commercial Program-Custom	Pilot	C/I New Construction	New Homes	
Energy Star Homes	Prescriptive Clothes Washers	Energy Saver Kit		Single Family New Construction	RCM		
Water Heater Efficiency	Prescriptive Demand Controlled Ventilation			Multi Family Existing	Commercial Rebates		
UCONS Multi-family	Prescriptive Food Service			Energy Education			
Site-specific Multi-family	Prescriptive Refrigerated Warehouse			Multi Family New Construction			
Heating & Cooling Efficiency	Prescriptive Steam Trap Replacement						
	Site-specific Appliances						
	Site-specific HVAC						
	Site-specific Industrial Process						

C&I Sector

Table 5-3 shows the median results for natural gas DSM spending, savings, and costs for the C&I sector for the IOUs.

Table 5-3. Natural Gas DSM Results for the C&I Sector

	Spending as % of Revenue	Natural Gas Savings as % of Sales	Retail Cost of Energy $/Therm	First Year Cost of Savings $/Therm
WA IOUs Median 2008	1.0%	0.6%	$1.11	$3.24
WA IOUs Median 2009	1.3%	0.8%	$1.20	$3.47
NW Natural 2010	1.0%	0.3%	$1.05	$3.20

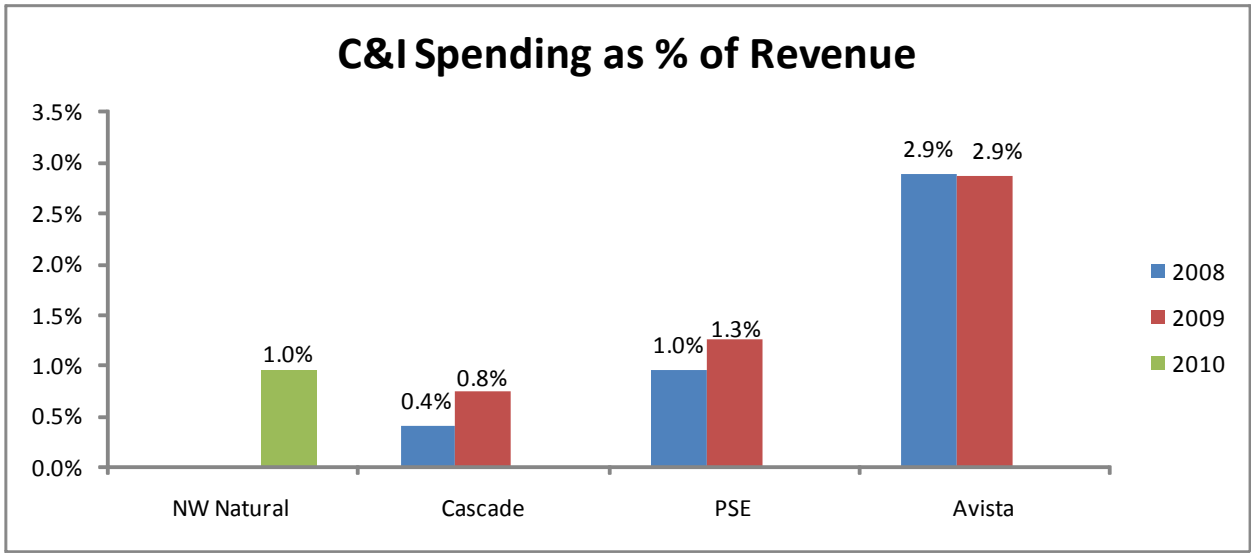
[11] Avista did not provide a list of programs they offered in 2008.

C&I Natural Gas DSM Spending

This section reviews natural gas DSM spending for the C&I customer sector as a percentage of C&I natural gas revenue.

For the IOUs reviewed, DSM spending in the C&I sector, as a percentage of retail revenue, ranges widely from 0.4% to2.9%, with the median at 1.0% (Figure 10).

Figure 10. C&I Natural Gas DSM Spending as % of Revenue

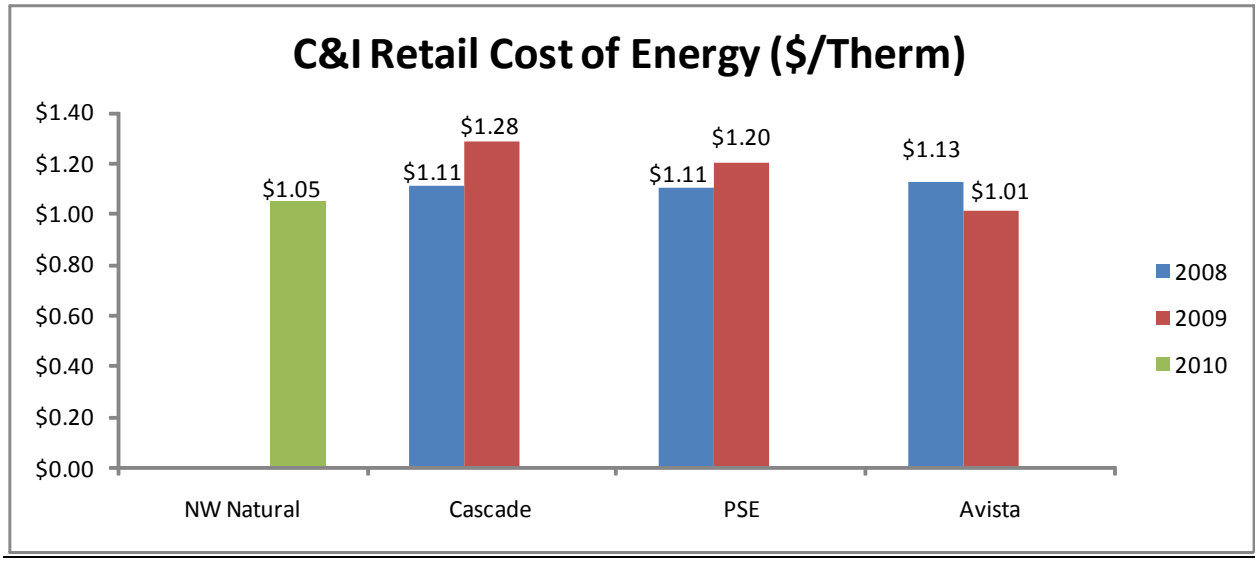


C&I Retail Cost of Natural Gas

The average retail cost of natural gas was calculated by dividing C&I annual retail revenue by C&I annual retail sales for each IOU.

For the IOUs reviewed, the retail cost of natural gas in the C&I sector generally ranges narrowly each year, with the median at $1.11/Therm (Figure 11).

Figure 11. C&I Retail Cost of Natural Gas

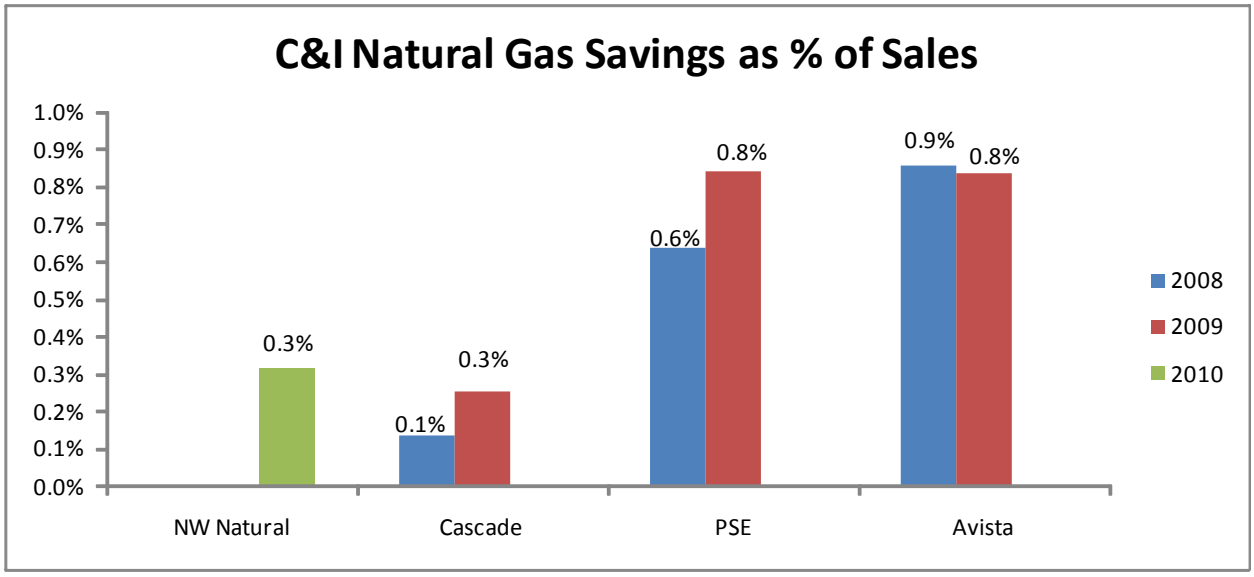


C&I Natural Gas Savings

This section reviews the energy saved (as a percentage of sales) and the costs of first-year natural gas savings of DSM programs in the C&I customer sector.

For the IOUs reviewed, Figure 12 shows the natural gas savings as a percentage of sales in the C&I sector. Natural gas savings as a percentage of sales ranges from 0.1% to 0.9%, with the median at 0.6%.

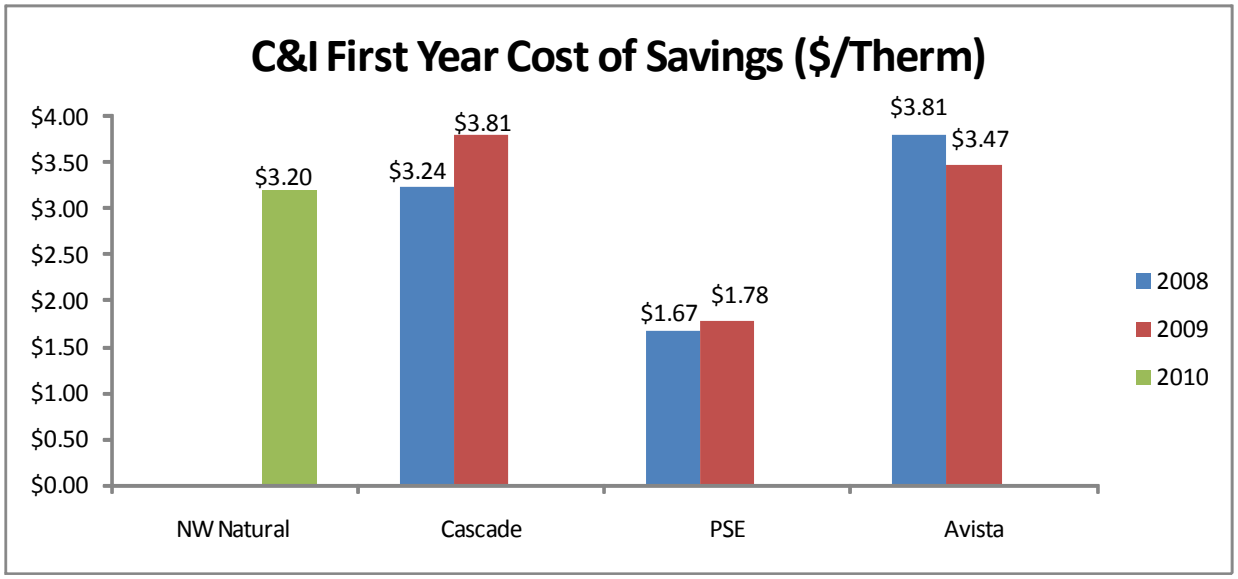
Figure 12. C&I Natural Gas Savings as % of Sales



C&I Cost of Natural Gas Savings

For the IOUs reviewed, the cost of first-year natural gas savings ranges from $1.67/Therm to $3.81/Therm, with the median at $3.24/Therm (Figure 13).

Figure 13. C&I Cost of Natural Gas Savings ($/Therm) First Year



Program Results for C&I Portfolios

For the IOUs reviewed, Table 5-4, Table 5-5, Table 5-6, Table 5-7, and Table 5-8 below show C&I program-level savings and incentive and non-incentive cost detail by program type per utility for program years 2009 and 2010.

Prescriptive incentive programs comprise a significant share of all C&I DSM energy savings, as shown in Table 5-4. Incentives comprise 50%-91% of the total program cost. This may reflect varying levels of program participation and incentive levels.

Table 5-4. IOU C&I Savings Distribution and Spending Distribution and $/Therm per Cost Component for Prescriptive Incentive Programs

C&I Prescriptive Incentive Programs for WA IOUs							
Utility	Program Name	% of C&I Sector Savings	Incentives		Admin & Other		Program Total
			Costs as % of Total	$/Therm	Costs as % of Total	$/Therm	$/Therm
Avista 09	Energy Star Products	<1%	61%	$0.98	39%	$0.62	$1.60
Avista 09	Prescriptive Clothes Washers	<1%	92%	$6.70	8%	$0.62	$7.33
Avista 09	Prescriptive Demand Controlled Ventil	<1%	77%	$2.06	23%	$0.62	$2.68
Avista 09	Prescriptive Food Service	4%	73%	$1.71	27%	$0.62	$2.33
Avista 09	Prescriptive Refrigerated Warehouse	<1%	83%	$3.14	17%	$0.62	$3.76
Avista 09	Prescriptive Steam Trap Replacement	2%	59%	$0.90	41%	$0.62	$1.52
	Total	**6%**	**75%**	**$1.84**	**25%**	**$0.62**	**$2.46**
Cascade 09	Commercial Program	40%	50%	$2.70	50%	$2.70	$5.41
PSE 09	Commercial Rebates	65%	91%	$0.22	9%	$0.02	$0.24

Table 5-5 below shows that custom incentive programs account for the majority of all C&I energy savings for both Cascade and Avista. Unlike prescriptive programs, incentives account for only 32% of Cascade's total program costs. Cascade's incentive costs as a percent of total are significantly less than Avista's costs. PSE's custom incentive program achieved 20% of its C&I energy savings. As with its prescriptive incentive program, incentives costs account for the majority of its total program costs.

Table 5-5. IOU C&I Savings Distribution and Spending Distribution and $/Therm per Cost Component for Custom Incentive Programs

C&I Custom Incentive Programs for WA IOUs							
Utility	Program Name	% of C&I Sector Savings	Incentives		Admin & Other		Program Total
			Costs as % of Total	$/Therm	Costs as % of Total	$/Therm	$/Therm
Avista 09	Site-specific HVAC	63%	83%	$3.14	17%	$0.62	$3.76
Avista 09	Site-specific Appliances	1%	85%	$3.40	15%	$0.62	$4.02
Avista 09	Site-specific Industrial Process	9%	76%	$1.99	24%	$0.62	$2.61
Avista 09	Site-specific Shell	20%	81%	$2.59	19%	$0.62	$3.21
	Total	**93%**	**82%**	**$2.91**	**18%**	**$0.62**	**$3.54**
Cascade 09	Commercial Program-Custom	60%	32%	$0.87	68%	$1.85	$2.72
PSE 09	C&I Retrofit	20%	83%	$4.74	17%	$0.95	$5.69

In 2010, NW Natural's retrofit program was the only program they offered, as show in Table 5-6.

Table 5-6. IOU C&I Savings Distribution and Spending Distribution and $/Therm per Cost Component for Retrofit Programs

C&I Retrofit Programs for WA IOUs							
Utility	Program Name	% of C&I Sector Savings	Incentives		Admin & Other		Program Total
			Costs as % of Total	$/Therm	Costs as % of Total	$/Therm	$/Therm
NW Natural 10	Existing Buildings Retrofit	100%	50%	$1.61	50%	$1.59	$3.20

Table 5-7 below shows that PSE was the only IOU with a C&I new construction program. It accounted for 3% of the total C&I program savings and achieved savings at costs higher than other program types; higher costs are typical for new construction programs.

Table 5-7. IOU C&I Savings Distribution and Spending Distribution and $/Therm per Cost Component for New Construction Programs

C&I New Construction Programs for WA IOUs							
Utility	Program Name	% of C&I Sector Savings	Incentives		Admin & Other		Program Total
			Costs as % of Total	$/Therm	Costs as % of Total	$/Therm	$/Therm
PSE 09	C&I New Construction	3%	83%	$6.08	17%	$1.21	$7.29

In 2009, Avista and PSE offered other programs. Avista's ENERGY SMART program targets grocers and helps them upgrade qualifying equipment and streamline operations to get the highest possible energy savings. PSE's Resource Conservation Manager Services (RCM)[12] program provides a salary guarantee for large customers with multiple facilities to contract with or employ someone with resource management responsibilities. This includes accounting for resource consumption.

Table 5-8 below shows that for both Avista and PSE, these programs account for a small portion of total C&I savings.

Table 5-8. IOU C&I Savings Distribution and Spending Distribution and $/Therm per Cost Component for Other Programs

C&I Other Programs for WA IOUs							
Utility	Program Name	% of C&I Sector Savings	Incentives		Admin & Other		Program Total
			Costs as % of Total	$/Therm	Costs as % of Total	$/Therm	$/Therm
Avista 09	EnergySmart	<1%	17%	$1.03	83%	$4.96	$5.99
PSE 09	C&I RCM	12%	61%	$0.72	39%	$0.45	$1.17

[12] PSE offers RCM to school districts, public-sector government agencies, and C&I customers, but focuses on larger customers with multiple facilities. An RCM customer employs or contracts a professional resource management person, including accounting for resource consumption and savings. PSE then assists in designing and implementing an RCM program. Salary guarantees are available for RCMs, and training opportunities are available for RCMs and corollary staff such as custodial and maintenance personnel.

5.2 *Residential Sector*

This section reviews DSM program spending, savings, and costs for the residential customer sector. Table 5-9 shows the median result for natural gas DSM spending, savings, and costs for the residential sector for the IOUs.

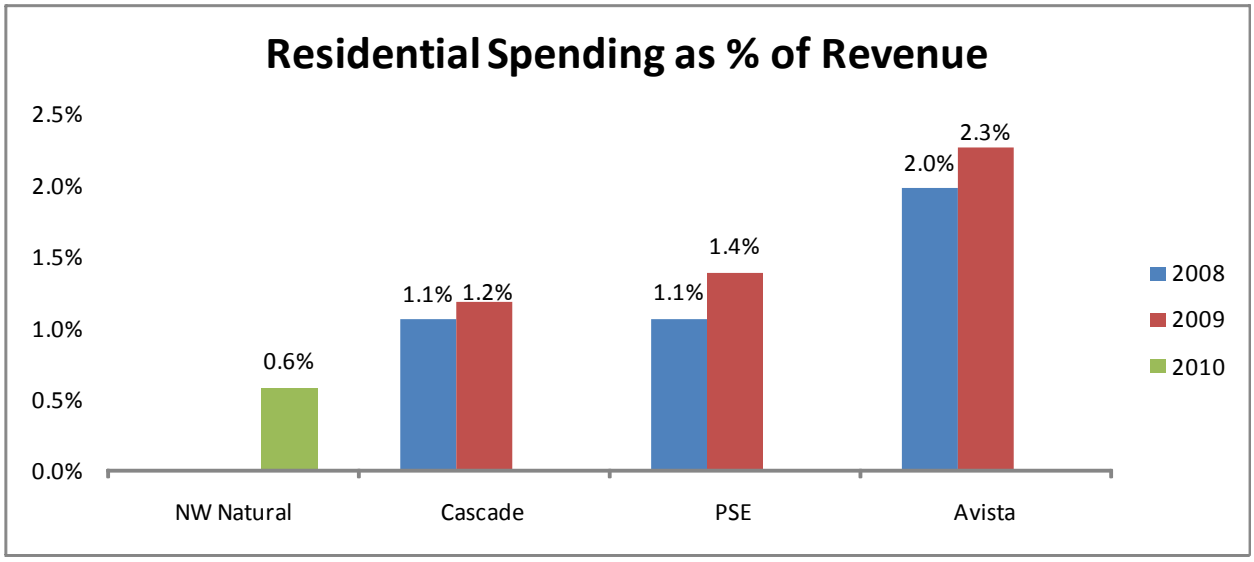
Table 5-9. Natural Gas DSM Results for the Residential Sector

	Spending as % of Revenue	Natural Gas Savings as % of Sales	Retail Cost of Energy $/Therm	First Year Cost of Savings $/Therm
WA IOUs Median 2008	1.1%	0.2%	$1.26	$5.87
WA IOUs Median 2009	1.4%	0.4%	$1.39	$5.23
NW Natural 2010	0.6%	0.1%	$1.22	$7.35

Residential Natural Gas DSM Spending

For the IOUs reviewed, the natural gas DSM spending in the residential sector as a percentage of revenue ranges from 0.6% to2.3%, with the median at 1.2% (Figure 14). From 2008 to 2009, spending increased for the three IOUs.

Figure 14. Residential Natural Gas DSM Spending as % of Revenue

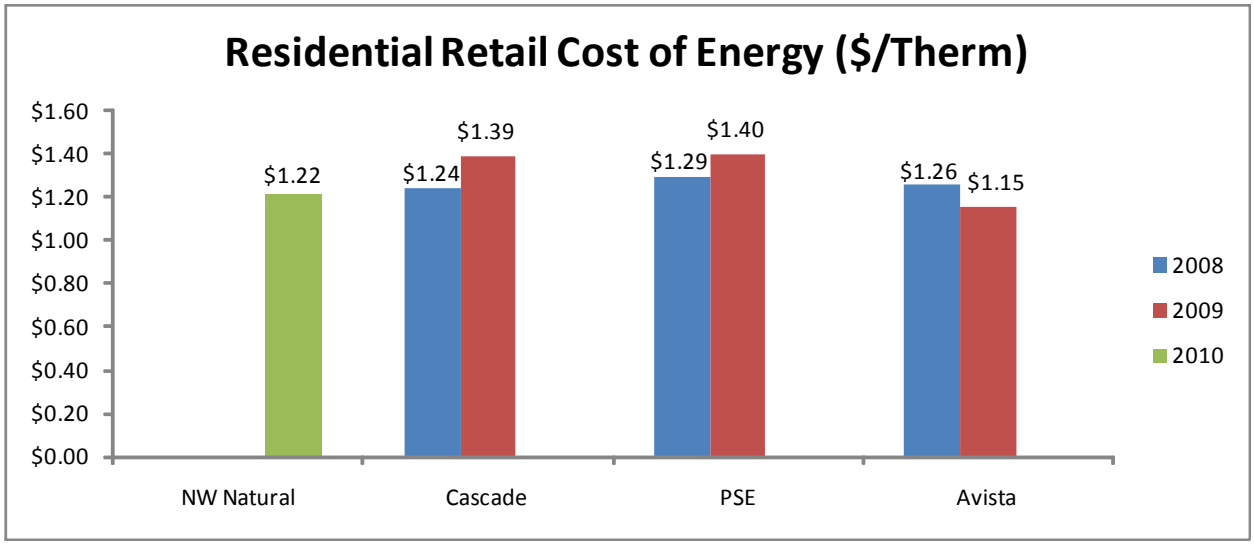


5.2.1 Residential Retail Cost of Natural Gas

The average retail cost of natural gas was calculated by dividing residential annual retail revenue by residential annual retail sales for each IOU.

For the IOUs reviewed, the retail cost of natural gas in the residential sector ranges from $1.15/Therm to $1.40/Therm, with the median at $1.26/Therm (Figure 15).

Figure 15. Residential Retail Cost of Natural Gas

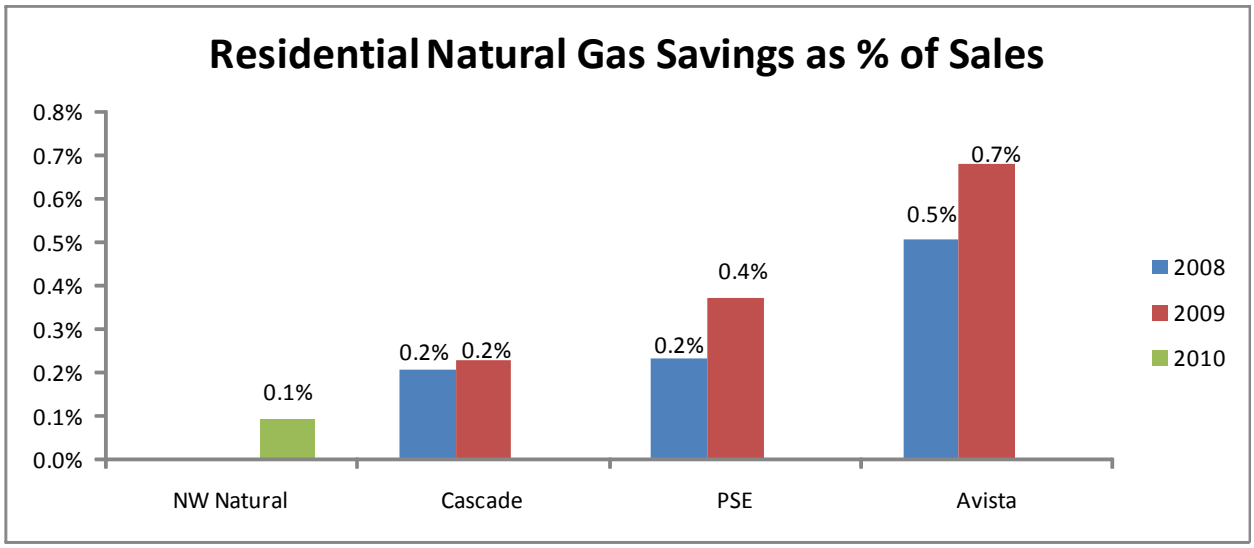


5.2.2 Residential Natural Gas Savings

This section reviews the natural gas energy saved (as a percentage of sales) and the costs of first year natural gas savings achieved by DSM programs in the residential customer sector.

For the IOUs reviewed, Figure 16 shows the natural gas savings as a percent of sales in the residential sector. Natural gas savings as a percentage of sales increased for the three IOUs from 2008 to 2009 and ranges widely by utility from 0.1% to 0.7%, with the median at 0.2%.

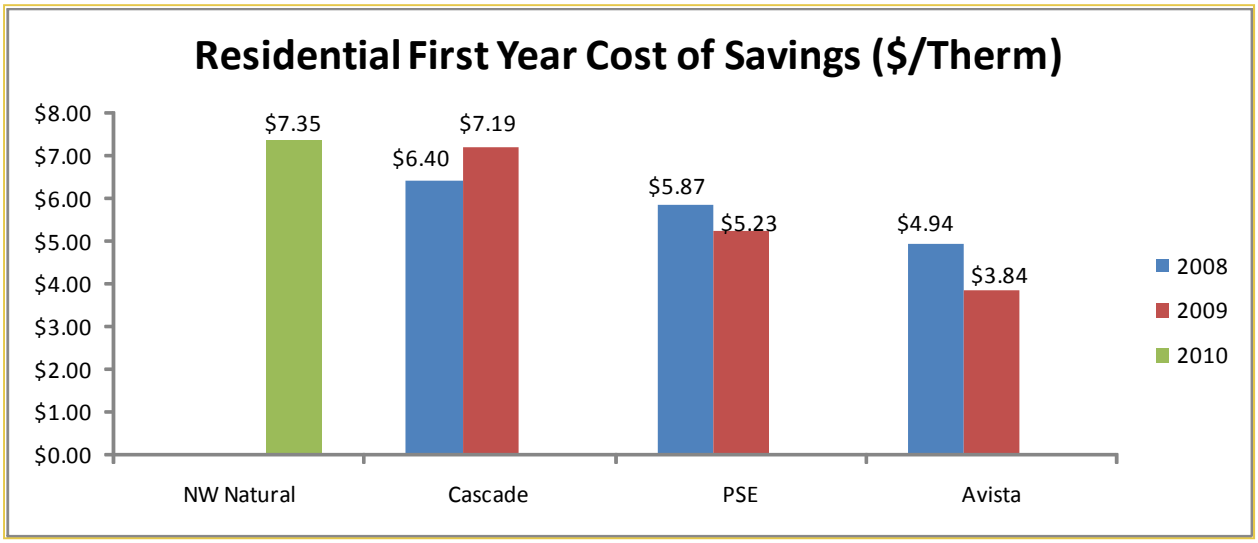
Figure 16. Residential Natural Gas Savings as % of Sales



5.2.3 Residential Cost of Natural Gas Savings

For the IOUs reviewed, the cost of first year natural gas energy savings ranges from $3.84/Therm to $7.35/Therm, with the median at $5.87/Therm (Figure 17).

Figure 17. Residential Cost of Natural Gas Savings ($/Therm) First Year



5.2.4 Program Results for Residential Portfolios

For the IOUs reviewed, Table 5-10, Table 5-11, Table 5-12, Table 5-13, Table 5-14 and Table 5-15 below show residential program-level savings and incentive and non-incentive cost detail by program type per utility.

Efficient products for existing homes programs account for the majority of residential savings for all the WA IOUs. Incentives comprised 39%-90% of total program costs.

Table 5-10. IOU Residential Savings Distribution and Spending Distribution and $/Therm per Cost Component for Prescriptive Incentive Programs

Residential Efficienct Products for Existing Homes Programs for WA IOUs							
Utility	Program Name	% of Residential Sector Savings	Incentives		Admin & Other		Program Total
			Costs as % of Total	$/Therm	Costs as % of Total	$/Therm	$/Therm
Avista 09	Home Products	3%	90%	$5.42	10%	$0.61	$6.03
Avista 09	Home Weatherization	57%	82%	$2.80	18%	$0.62	$3.42
Avista 09	Water Heater Efficiency	1%	88%	$3.96	12%	$0.56	$4.52
Avista 09	Heating & Cooling Efficiency	36%	85%	$3.25	15%	$0.56	$3.82
Cascade 09	Residential Program	74%	46%	$3.59	54%	$4.16	$7.75
NW Natural 10	Existing Homes	90%	39%	$2.75	61%	$4.25	$6.99
PSE 09	Single Family Existing	85%	78%	$3.15	22%	$0.90	$4.05
PSE 09	Multi Family Existing	2%	54%	$3.70	46%	$3.19	$6.89

Table 5-11 below shows the new construction programs for Avista, Cascade, NW Natural, and PSE. NW Natural's new construction program achieved 10% of its total residential energy savings. For almost all of the IOUs' new construction programs, incentives comprised about 60% or more of the total program costs. Incentives comprised 45% of total program costs for Cascade's new construction program.

Table 5-11. IOU Residential Savings Distribution and Spending Distribution and $/Therm per Cost Component for New Construction Programs

Residential New Construction Programs for WA IOUs							
Utility	Program Name	% of Residential Sector Savings	Incentives		Admin & Other		Program Total
			Costs as % of Total	$/Therm	Costs as % of Total	$/Therm	$/Therm
Avista 09	Energy Star Homes	<1%	83%	$2.79	17%	$0.56	$3.35
Cascade 09	Energy Certified Home	9%	45%	$3.37	55%	$4.16	$7.53
NW Natural 10	New Homes Program	10%	63%	$6.67	37%	$3.99	$10.66
PSE 09	Single Family New Construction	6%	69%	$4.11	31%	$1.86	$5.97
PSE 09	Multi Family New Construction	1%	59%	$8.37	41%	$5.72	$14.08

Table 5-12 below shows the education programs for Cascade and PSE. Cascade's education program achieved substantial residential sector savings, 17%. Non-incentive costs comprised the majority of Avista's total program costs and all of PSE's total program costs.

Table 5-12. IOU Residential Savings Distribution and Spending Distribution and $/Therm per Cost Component for Education Programs

Residential Education Programs for WA IOUs							
Utility	Program Name	% of Residential Sector Savings	Incentives		Admin & Other		Program Total
			Costs as % of Total	$/Therm	Costs as % of Total	$/Therm	$/Therm
Cascade 09	Energy Saver Kits	18%	11%	$0.52	89%	$4.16	$4.68
PSE 09	Energy Education	3%	NA	NA	100%	$3.70	$3.70

Avista's UCONS Multi-family program is a direct install program that offers prescriptive measures such as CFLs, low-flow showerheads, and high efficiency heating and shell measures. The program goal is to increase participation in regular income energy efficiency offerings as well as reach the "renters" segment, which has been difficult to reach in the past. The incentives offered under Avista's Site-specific Multi-family program are handled on a more unique or custom basis.

Table 5-13 below shows that these two programs achieved a very small amount of Avista's residential sector savings and that the majority of the total program costs are comprised of incentives.

Table 5-13. IOU Residential Savings Distribution and Spending Distribution and $/kWh per Cost Component for Other Programs

Residential Other Programs for WA IOUs							
Utility	Program Name	% of Residential Sector Savings	Incentives		Admin & Other		Program Total
			Costs as % of Total	$/Therm	Costs as % of Total	$/Therm	$/Therm
Avista 09	Site-specific Multi-family	<1%	84%	$3.00	16%	$0.56	$3.56
Avista 09	UCONS Multi-family	2%	52%	$5.59	48%	$5.15	$10.74

Benefit-Cost Tests

We collected benefit-cost test results as the IOUs reported them in their annual energy efficiency reports.

Table 5-14. Total Resource Cost (TRC) and Participant Cost Test (PACT) Ratios for Avista 09

TRC and PACT Ratios for Avista 09						
Avista 09						
	Sector	TRC	PACT	Program	TRC	PACT
	Residential	1.68	5.7	Home Products	0.24	1.63
				Home Weatherization	1.92	8.57
				Energy Star Homes	2.45	5.98
				Water Heater Efficiency	0.72	2.34
				UCONS Multi-family	2.00	2.00
				Site-specific Multi-family	5.01	2.71
				Heating & Cooling Efficiency	1.67	3.11
	Low Income	2.54	2.48	Home Weatherization-LI	2.63	2.57
				Water Heater Efficiency-LI	0.06	0.05
				Heating & Cooling Efficiency-LI	0.72	0.69
	Non-Residential	0.73	3.23	Energy Star Products	0.50	3.57
				EnergySmart	0.52	1.49
				Prescriptive Clothes Washers	1.04	0.78
				Prescriptive Demand Controlled Ventilation	1.67	3.45
				Prescriptive Food Service	1.23	3.49
				Prescriptive Refrigerated Warehouse	0.41	2.37
				Prescriptive Steam Trap Replacement	1.23	1.63
				Site-specific Appliances	0.57	1.77
				Site-specific HVAC	0.57	2.90
				Site-specific Industrial Process	2.97	5.22
				Site-specific Shell	1.13	3.99
	Total	1.25	4.41			

Table 5-15. TRC and Utility Cost test (UCT) Ratios for Cascade 09

TRC and UCT Ratios for Cascade 09						
Cascade 09						
	Sector	TRC	UCT	Program	TRC Range	UCT Range
	Residential	0.989	1.649	Energy Certified Home	0.720-1.168	1.525-1.902
				Residential Program	0.513-1.275	0.802-2.127
				Energy Saver Kit	1.500-1.521	1.481-1.504
	Low Income	0.676	0.763	Low Income	0.676	0.763
	Non-Residential	2.220	2.394	Commercial Program-Prescriptive	1.320-5.863	1.478-3.723
				Commercial Program-Custom	0.969-4.572	1.425-2.586

Table 5-16 TRC and UCT Ratios for PSE 09[13]

TRC and UCT Ratios for PSE 09				
PSE 09				
	Sector	Program	TRC	UCT
	Residential	Single Family Existing	1.45	2.08
		Pilots	0.19	0.22
		Single Family New Construction	1.23	1.76
		Low Income	0.57	0.57
		Multi Family Existing	1.93	2.76
		Energy Education	2.02	2.02
		Multi Family New Construction	1.01	1.45
	C&I	C&I Retrofit	1.99	2.85
		C&I New Construction	1.70	2.43
		RCM	1.46	1.84
		Commercial Rebates	2.04	2.92

[13] PSE's TRCs and UCTs were obtained through personal correspondence with the utility as they were not reported in their annual energy efficiency report.

6. Conclusions & Recommendations

Included in this section of the report is an analysis of self-delivery costs for NW natural along with study conclusions and recommendations.

6.1 Assessments of Self-Delivery Costs for NW Natural

Our assessment of the potential self-delivery costs for NW Natural is based on the secondary research, interviews, and DSM benchmarking conducted for this report, as well as based on Navigant's previous benchmarking of natural gas DSM programs nation-wide.

The most important caveat to remember is that our assessment is primarily based on only four data points of the Washington gas utilities. In addition, NW Natural's programs savings and costs were mostly incurred in calendar year 2010, while program results for calendar year 2010 were not yet available for any other Washington gas utility.

To summarize our assessment, we believe that if NW Natural were to move toward a self-delivery of its DSM programs, that costs, as compared to the Energy Trust incurred costs, may be higher and lower depending on the sector. In the C&I customer sector, costs per therm conserved may be greater with self-delivery than the costs realized in PY 2009-2010. Conversely, for the residential sector, costs per therm conserved may be less with self delivery than costs achieved in PY 2009-2010. These conclusions regarding self-delivery costs are based on:

- Navigant's observations in evaluating and benchmarking DSM programs nation-wide.
- The fact that NW Natural's DSM portfolio is new (having been launched in 2009).
- The view that NW Natural's taking over the administration and delivery of its DSM programs from ETO would make the DSM portfolio similar to a startup portfolio.

6.1.1 Navigant's Observations in Evaluating and Benchmarking DSM Programs Nation-wide

Navigant has found that newer DSM portfolios generally have greater costs per energy saved than mature DSM portfolios because newer portfolios have the following characteristics:

- Startup costs.
- Higher administrative costs relative to incentive cost ratios as participation ramps up.
- Higher marketing and education costs to educate a new market.

This observation is also supported by the finding from Navigant's quantitative benchmarking studies of DSM programs nation-wide that organizations that save energy (as a percentage of sales) at rates greater than typical of similar organizations generally achieve those high savings at costs lower than typical. The scatter plot provided in Figure 18, from Navigant's benchmarking of 2007 natural gas DSM programs for the Maine Public Utilities Commission (PUC), illustrates this phenomenon. The data points represent energy savings (as a percentage of sales), plotted on the horizontal axis, and cost of energy savings, $/MCf, plotted on the vertical axis. The axes indicate the median values for this group; thus, organizations in the bottom right quadrant are those that achieved energy savings greater than typical at

costs lower than typical. The scatter plot shows that organizations that achieve savings greater than typical do so at costs that are typical or lower than typical.

Figure 18. 2007 Natural Gas DSM Energy Savings (as % of Sales) and Cost of Savings, $/MCF

Navigant has also observed, however, that, in some markets, newer DSM portfolios, especially for the C&I sector, enjoy high participation rates, low marketing costs, and low administrative cost to incentive cost ratios due to pent up demand. But our observations also suggest that these downward cost pressures exceed upward pressures (like startup costs) only when the "newer" portfolio is actually a more robust portfolio implemented by an organization that has already been running some DSM programs for several years. Four years of Navigant's benchmarking data suggest that newer portfolios that achieve high rates of energy savings are the exception.

6.1.2 Navigant's Observations in Benchmarking Washington IOU DSM Programs

The only Washington portfolios that are delivered principally in-house are PSE's and Avista's; thus program costs of these two IOUs are examined here to gauge in-house delivery costs. PSE's is the most mature natural gas DSM portfolio, having been run since 1978; Avista's natural gas programs launched in 2000.

PSE is the IOU that defines program costs most closely to NW Natural's current definition of program costs: PSE's program costs are equivalent to NW Natural's except PSE excludes evaluation costs. In contrast, Avista's program cost definition is a smaller subset of NW Natural's current definition: Avista excludes overhead costs for accounting, HR, evaluation, and legal.

C&I DSM Program Costs

PSE's 2009 cost of energy saving for their recent C&I programs are the lowest of all four IOUs at about $1.78/therm. These low costs are driven principally by PSE's very low program costs for its prescriptive incentive program, which costs PSE only $0.24/Therm. PSE's very low costs may be a reflection of their having run DSM programs since 1978.

These PSE costs are in contrast to Avista's prescriptive incentive program cost of $2.46/therm and an overall C&I cost of $3.47/therm for Avista.

Navigant would expect C&I program costs for a NW Natural self-delivery C&I program costs to initially exceed Avista's. The reasoning for this conclusion is based on the following Avista C&I program characteristics:

- Avista programs have over 10 years' maturity.
- Avista's definition of program costs is a subset of NW Natural's.

NW Natural's recent C&I program costs in 2010 were $3.20/therm. Were NW Natural to deliver its C&I DSM programs without a third-party administrator, Navigant would expect those costs to be initially greater than Avista's 2009 cost of $3.47/therm, at least about 7% greater (estimating about 3% of that from EM&V costs and the remainder costs from HR, accounting, legal, and ramp-up). We estimate these costs to possibly be at least about $3.70. Navigant's estimate of 7% for costs, including evaluation, HR, accounting, and legal, may be a conservative estimate, and actual costs for these factors may be higher than this. Navigant does not have good data on the magnitude of such costs for other utilities. Also, that ETO's costs are lower than Avista's is notable given that NW Natural has fewer heating degree days per year than Avista (in 2010, 6,842 in Spokane and 5,655 in Vancouver). Thus, continuing to utilize the Energy Trust is likely the more cost effective option for C&I programs for NW Natural in the near term.

However, this analysis is limited by the fact that it is based on one data point: Avista's. Only two of the four Washington IOUs delivered C&I programs in-house, and the costs for one of those two, PSE, are too low to be considered reasonable for a new portfolio. The typical sample size for a DSM benchmarking study is much larger; for example, 27, 19, 14, 25, and 22 utilities or other energy efficiency program

administrators are sample sizes for Navigant's recent publically available benchmarking studies[14]. While the scope of this study does not accommodate a quantitative assessment of a sufficient sample size, the results of this qualitative analysis are in-line with Navigant's experience in benchmarking natural gas C&I DSM portfolios.

Residential DSM Program Costs

Only Avista delivers residential natural gas programs in-house, thus features and program costs for Avista's residential programs are reviewed in detail here.

Avista's costs for its recent residential programs are much lower at $3.84/therm in 2009, than NW Natural's at $7.35/therm. However, it is unreasonable to conclude that NW Natural's in-house delivery would have residential program costs as low as Avista's costs of $3.84/therm. Specific elements of the Avista and NW Natural programs, we believe, drive Avista's lower costs when compared to the NW Natural residential programs:

- Avista programs have over 10 years' maturity
  - Avista's program with the greatest impacts, Home Weatherization, had 4% of all residential customers participate in 2009.
  - NW Natural's program with the greatest impacts, Existing Homes, had about 0.6% of all residential customers participate in 2010. Lower participation rates are typical of new programs and result in higher costs per unit of energy conserved.
- NW Natural's new construction program was in its infancy, beginning July 1, 2010, and programs during startup are almost always more expensive than mature programs.
- NW Natural's new construction program is substantial, achieving about 10% of total residential energy savings, however at high costs, about $10.66/therm in 2010 compared to its existing homes program at $6.99/therm in 2010.
- Avista's new construction program is very small, achieving less than 1% of total residential energy savings at costs that comprise less than 1% of total residential DSM expenditures.
- Avista has about 20% more heating degree days than NW Natural, thus NW Natural cannot achieve Avista's level of impacts for the same space heating and shell measures.
- Avista's DSM programs enjoy a greater economy of scale having more than twice the number of residential customers as NW Natural.
- Avista's definition of program costs is a smaller subset of NW Natural's. Comparing the two, Avista's program costs do not include overhead costs for accounting, human resources, or evaluation, which are included in NW Natural's costs.

In addition, Navigant reviewed its residential 2007 national benchmarking results conducted for the Maine PUC. These results, shown in Figure 19, illustrate that costs for residential DSM vary widely,

[14] Respectively for Vermont Department of Public Service 2008 electric DSM, Maine PUC 2008 and 2007 DSM (electric and natural gas), Tucson Electric Power 2008 DSM (electric and natural gas).

from $20/Mcf to $120/Mcf. Organizations with mature portfolios achieved savings around $40/Mcf. Newer portfolios achieved savings around $65/Mcf.

Were NW Natural to deliver its residential DSM programs without a third-party administrator, the costs may be lower than the current costs of $7.35/therm, given Avista's performance. However, Navigant does not believe that the costs would even approach the level of $3.84/therm experienced by Avista in the near term, given Avista's program and service territory characteristics outlined above. Given the relative newness of NW Natural's portfolio, Navigant would expect NW Natural's in-house portfolio costs to be at least $6.00 to $6.50/therm in the near term, in line with costs of newer portfolios in the 2007 Maine benchmarking. At best, we estimate that program costs could eventually approach $5.00 to $4.50/therm, in line with costs of mature portfolios in the Maine benchmarking.

However, given the small sample number of Washington utilities this analysis is based on, these cost estimates should be considered rather uncertain. Navigant's national gas DSM benchmarking results discussed here are for program year 2007, and so are older than the benchmarking analysis conducted of the Washington gas DSM programs.

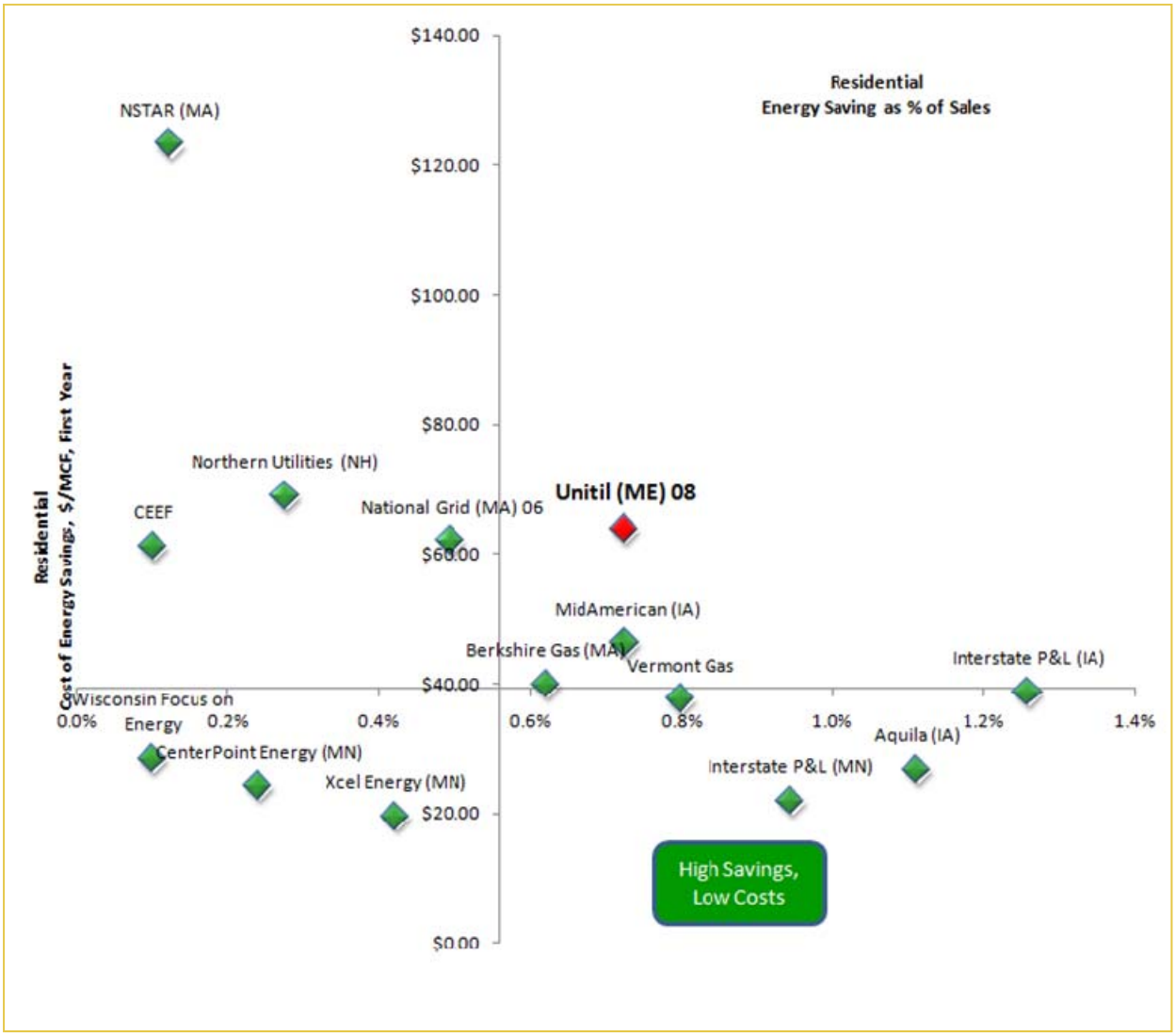
This analysis is limited by the fact that it is principally based on one data point: Avista's. Avista is the only Washington IOU that delivered residential programs in-house. The typical sample size for a DSM benchmarking study is much larger; for example, 27, 19, 14, 25, and 22 utilities or other energy efficiency program administrators are sample sizes for recent publically available benchmarking studies[15]. While the study scope does not accommodate a quantitative assessment of a sufficient sample size, the results of this analysis are in-line with Navigant's experience in benchmarking natural gas residential DSM portfolios.

Practically, transferring program delivery from the Energy Trust to NW Natural would likely result in an initial rise in cost per therm conserved due to a possible drop in participation resulting from confusion about program administration and loss of brand recognition.

Thus in considering costs per therm, were NW Natural to self-deliver its residential programs, given the uncertainty around the concluded improved cost per therm conserved and the likely losses incurred in transferring delivery, Navigant does not see sufficient evidence to recommend transferring residential program delivery from the Energy Trust to NW Natural.

[15] Respectively for Vermont Department of Public Service 2008 electric DSM, Maine Public Utilities Commission 2008 and 2007 DSM (electric and natural gas), Tucson Electric Power 2008 DSM (electric and natural gas).

Figure 19. 2007 Residential Natural Gas DSM Energy Savings (as % of Sales) and Cost of Savings, $/MCF



6.1.3 Conclusions Regarding Self-Delivery Costs

A sample size of one does not provide a firm basis to estimate costs for NW Natural to self-deliver their programs compared to their current costs. However, with a close qualitative analysis and the knowledge of our previous and extensive benchmarking, we believe that, in the near term, self-delivery by NW Natural may be more expensive for the C&I programs, and although from one perspective it appears self-delivery may be less expensive for the residential programs, neither the amount of expected savings nor the evidence is strong enough to support recommending transferring residential programs from the Energy Trust to NW Natural.

In 2010, about 66% of the achieved NW Natural savings was from the commercial sector. Overall sales are about 40% for C&I and 60% for residential.

In 2009, for the other utilities, the shares of energy savings for residential and C&I are more balanced: the residential sector accounted for 55% of Avista's achieved savings, 49% of Cascade's savings, and 42% of PSE's savings.

Together with the sector-level delivery cost analysis, this suggests that continuing with Energy Trust for the C&I sector would support continued significant cost-effective savings and that for the residential sector, the Energy Trust's costs per therm conserved should decrease as they increase participation, especially as they reach deeper into the significant residential sales. However, as discussed previously, these conclusions should be considered rather uncertain.

Recommendations

As we have seen in our sample of Northwest gas programs, successful DSM program implementation can be achieved in a variety of ways. Dedicated staff, whether they are utility or subcontractor, and consistent oversight appear to be the winning combination. Cost-effectiveness is not clearly linked to implementation strategy. With thoughtful design and consistent oversight it is possible to implement effective programs in-house or via implementation contractors. All the utilities indicated that the method they use to track their program results was effective.

The Navigant team developed the following recommendations based on the research.

- NW Natural should continue to use the Energy Trust as its program administrator for all customer sectors. The current evidence is that program delivery may be more costly if NW Natural self delivered its programs and any transition could cause disruption in the delivery of program services to its customers.

- NW Natural would likely increase cost-effective savings by providing site-specific custom measure programs for commercial and industrial customers.

- NW Natural should consider implementing a marketing and outreach campaign similar to that done by Avista.

- NW Natural should continue using the tracking system of the Energy Trust as it seems to be the most advanced.

- Trade allies (contractors and engineering firms) should be made to feel that the EE programs directly benefit them and that the programs are "their" programs. It is good practice to establish a point of contact for contractor concerns. NW Natural might consider developing in-house this point of contact with trade allies and work both with the trade allies and the Energy Trust.

- Provide contractors with the tools they need to succeed; good training, discounts on diagnostic equipment, and thoughtful and up-to-date incentive design will make it easier for them to successfully sell savings.

Table 6-1 compares the utility delivery approaches in terms of success factors for implementing cost-effective DSM programs in Washington.

Table 6-1 Comparing Success Factors by Utility Delivery Approaches

Success Factors	Comparison
Delivery Costs	The Energy Trust implemented the program with low start up costs.
Energy Savings	NW Natural is already achieving savings at a level similar to Cascade. Both PSE and Avista achieve higher levels of savings, but this is likely due to the maturity of their programs.
Program Cost-Effectiveness	The most cost-effective Avista programs are the industrial site-specific (TRC=3) and multi-family site specific (TRC=5). Cascade's commercial sector programs are more cost-effective than their residential sector programs with TRC ratios ranging from 1 to 3.7. The most cost-effective PSE programs are the residential energy education, C&I retrofit, and commercial rebates (TRC=2).
Marketing & Outreach	Avista's approach is the most sophisticated with its Every Little Bit campaign as well as marketing and sales staff. The Energy Trust noted that the lack of awareness of the program was a barrier to participation.
Tracking Results	The Energy Trusts' tracking system is the only one which is accessible both by Energy Trust staff and implementation contractors. The other utilities use either an in-house or implementation-contractor system; all are satisfied with their tracking systems.
Evaluation	Both the Energy Trust and Puget Sound have an established infrastructure for evaluation, including detailed processes, a relationship with the Regional Technical Forum, strong planning components, third party evaluation, and internal staff.
In-house Expertise	The regulator had concerns about outsourcing all programs to the Energy Trust such that NW Natural will not develop in-house energy efficiency expertise. The other utilities found that their in-house expertise was one of the success factors, especially in terms of delivering the highly effective site-specific program for the commercial and industrial market.
Customer Relationships and Outsourcing	The utilities were consistent in emphasizing the value of outsourcing where appropriate while maintaining the customer relationships.
Trade Allies	Contractor relationships are critical to overall success; trade allies should be made to feel it is their program. All utilities but Avista have well established trade ally relationships.

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8. APPENDICES

NAVIGANT

Appendix A: Interview Guide

Interviewer Data

Interviewer
Interview Date

Respondent Data

Utility
Contact Name
Contact Title
Contact Phone #
Contact Email mailto:Allison.spector@cngc.com

We are calling on behalf of [NW Natural] to gather information on natural gas DSM programs offered by other utilities in Washington. NW Natural engaged my company, Navigant, to compare its programs, currently delivered by the Energy Trust of Oregon, to those of other utilities. The key goal of this effort is to estimate the costs and relative effectiveness for NW Natural to independently set up and implement DSM programs for its Washington residential and commercial customers. Jennifer Gross (503-226-4211) is our contact at NW Natural.

This interview is designed to get your input on your utility's DSM program scope, how programs are delivered, what it costs, amount of savings delivered and cost-effectiveness, and any insights you might be willing to provide. Your responses will be included in our study results. At the completion of this study, we would be happy to share a summary of our findings if you are interested.

The topics we'll cover in the interview are:

- *An overview of the programs offered;*
- *How the programs are delivered;*
- *Activities and costs associated with launching a new portfolio;*
- *What's included in program costs and how they are recovered; and*
- *How program results are measured.*

Respondent Information

I'd like to start by getting a better understanding of your roles and responsibilities with your organization and your background in the industry.

1. What are your responsibilities at your organization?

2. How long have you been in this position?

3. What is your background in the industry and experience with DSM?

Programs Overview

Next I'd like to talk about the programs delivered by your utility. We've received and reviewed the information about your programs.

4. How *long* has your organization been providing DSM programs in Washington?

5. What is the *scope of these programs*, e.g. all customer types, focuses on residential, market transformation, programs for low-income required, etc.?

Sector	Program	Specify Other	Yes = √
	Education & Outreach		
	Codes & Standards		
	Contractor Training		
Residential	New Construction		Yes
	Rebates		
	Existing		Yes
	Low-Income Weatherization		
	Audits		
	HVAC		
	Other		
Non-Residential	New Construction		Yes
	Rebates		
	Audits		
	Custom Projects		
	HVAC		
	Existing		
	Other		
Industrial	Custom		Yes
	Prescriptive Rebates		
	Audits/Feasibility Studies		
	Other		

Programs Delivery

6. *How* are DSM *programs delivered*, for example, direct installation, rebates, through trade allies such as contractors, engineering consultants or industry associations, totally outsourced, etc.?

Delivery approaches	Program(s)
Upstream – manufacturers & distributors	
Rebates & Coupons	
3rd Party Implementer	
Direct installation	
Delivered through trade allies	

   a. Are any programs **delivered in conjunction with electric programs**? If yes, probe for details about how this worked, e.g. how the cooperation happened, how long it took to set up, any difficulties encountered, or any successes?

   b. If any **programs are outsourced**, probe for details such as how long the program had been outsourced, who is the implementation contractor, satisfaction with contractor, etc.

   c. If **trade allies are involved in program implementation**, probe on details such as type, number, location, years of experience, etc., and pros and cons of working with trade allies, length of time working with trade allies.

7. Has the *mix of measures* changed over time? (e.g. start-up years vs. mature program years, was heavily CFLs in 2005 – 2008, now weatherization, etc.) If yes, probe for reasons. If no, ask why not.

8. What *activities* does your organization include in *delivery,* e.g. rebate processing, utility staff time, etc.?

Delivery Activities	Yes = √
Rebate processing	
Marketing	
Utility staff time	
Implementer administration	
Equipment purchase	
Installation & inspection	
Application processing	
Tracking results	
QA/QC process	
Contractor qualification	
Contractor hiring/management	

9. How is the ***program marketed***? Probe about the role of marketing in various programs, costs of marketing, effectiveness as measured by awareness, etc.?

10. How are ***trade allies managed and supported***? Probe for details.

    a. Is there training or support provided for trade allies?

    b. Are there contractor qualifications required to participate in the program?

11. Do you offer ***customer education and or outreach*** beyond the marketing approach we discussed? Probe for details.

12. What is your ***approach to QA/QC***?

    a. Is it working well?

13. Which of your programs do you consider to be *working well* in terms of program delivery?

    a. Can you describe the **features** that make it work?

    b. What are the **criteria for working well**? Savings as a % of load, levelized costs, TRC, market penetration, market transformation?

14. Which of your programs are having some *difficulty* in terms of program delivery? Probe for details.

    a. Do you have ideas on how to improve these features?

    b. Have you tried improvements? What was the outcome? Probe for details.

Launch of New Portfolio

Let's turn to what's involved in launching a new portfolio of programs.

15. What activities need to happen when initiating a *new portfolio* of programs? Probe about organization, staff roles, new staff requirements (FTEs), marketing & outreach, setting up tracking and accounting systems, contractor recruiting and training.

New portfolio activities	Specify Other	Yes = √
Hire staff		
Train staff		
Tracking System		
Accounting Systems		
Program Plans		
Marketing materials		
Define organization structure		

New portfolio activities	Specify Other	Yes = √
Contractor recruitment & training		
Determine targets & budgets		
Contractor qualification/list		
QA/QC process		

a. How long did it take your organization to get the programs into the field?
b. Can you tell me some details about what happened with the programs over the years?

16. Can you provide an estimate of your organization's *start up costs*?

    a. Were there any unexpected start-up costs?

17. Were there any unexpected barriers to implementation?

Program costs

Now I'd like to discuss program costs, with a focus on delivery costs.

18. Can you tell us what is *included in program costs* – e.g. marketing, IT, staff costs, program delivery, advertising, market research, etc.?
    a. What is not included; marketing, education and outreach…

Program cost categories	Notes	Yes = √
Marketing		
Market Research		
Accounting		
Tracking Systems		
IT (Other)		
M&V		
Program Delivery		
Administration (utility)		
Administration (Implementer)		
Incentives		
Evaluation		

19. What does it *cost to deliver programs*, in terms of total $ or % of total costs or some other measure? Probe about differences in costs by type of delivery, e.g. rebate programs, upstream, custom projects, low-income, whole house, etc.

20. How much is spent on *evaluation, measurement and verification* as a % of total program costs? What's included in that cost?

[CHECKLIST – SEE Q 28]

EM&V Activities	Specify Other	Yes = √
Estimate Ex Ante Savings		
Evaluation Plans		
Customer surveys		
Site visits		
Potential studies		
Evaluation Reports		
Evaluation Research		

21. Are any *costs subsidized by leveraging* existing systems or core services within the utility, such as customer accounting, legal, marketing? If yes, probe for details.

22. What percentage of total *costs is for incentives or rebates* to customers or trade allies or distributors, manufacturers?

    a. How is this calculated?

    b. What is that percentage?

23. What mechanism is used to *recover lost margin*, e.g. LRAM or decoupling? Probe for details .

Program results

24. How does your organization *track program results*?

    a. Is this an effective approach? Probe for why or why not.

25. Does your organization measure *customer satisfaction* with program services, incentives and delivery?

    a. If yes, how is it done and what are the findings?

    b. If no, why not?

26. Does your organization measure *Trade ally satisfaction*?

    a. If yes, how is it done and what are the findings?

    b. If no, why not?

27. What *approach is used for EM&V*, e.g. in-house, third party, etc.?

28. Please describe *EM&V activities* such as measure analysis, market and load research, free ridership studies, engineering studies, process evaluations, etc.

[CHECKLIST – SEE Q 20]

EM&V Activities	Specify Other	Yes = √
Estimate Ex Ante Savings		
Evaluation Plans		
Customer surveys		
Site visits		
Potential studies		
Evaluation Reports		
Evaluation Research		

29. Do you *start with deemed savings*, measure lives, costs? Do you then adjust after evaluation results are available? Is the adjustment done for future results or are prior reported savings also changed?

30. Would you be able to *share any evaluation plans and reports* other than the annual reports which you have already provided?

Other – General

31. For Washington only, can you tell us how many customers and energy used in each customer class?

32. How do you *set goals*? Do you use most recent IRP deployment plan for DSM resources?

33. What is the track record in terms of *meeting goals*, e.g. usually exceed, sometimes exceed, usually don't achieve goals? If they regularly exceed goals, probe for details.

34. How do you *determine cost-effective DSM resource potential*, and whether the programs are cost effective? Probe for details, e.g. filed avoided costs with adders (carbon, NOx, hedge values, etc.), use TRC, Utility test, or combination.

35. Those are all my questions. Do you have any other comments or suggestions?

Thank you for your time.

Appendix B: Natural Gas DSM Programs in Washington

Sector	Program	Avista	Cascade	NW Natural (ENERGY TRUST)	Puget Sound
All	Education & Outreach	Yes	No – can't assign savings aka regulator	Yes	Yes
	Codes & Standards	Yes	Monitor and inform trade allies	No	No
	Contractor Training	With Partners, e.g. BOMA	Not any more	Yes	Yes, mostly about how to deal with PSE programs. Also has a referral list
	Other				Field conversion, (fuel switching)
Residential	New Construction	Energy Star Homes	Yes	Yes	Yes, NW E star
	Rebates	Yes	Yes	Yes	Yes
	Existing	Yes	Yes - shell	Yes	Yes, moving to HPwES (from audit program)
	Low Income Wx	Thru CAP Agencies	Yes	Delivered by NW Natural	Yes
	Audits	Yes	Partner with Sustainable Connections and Sustainable Living center in Bellingham and Walla Walla	Yes. Home energy analysis and Wx measures	Yes, moving to HPwES
	HVAC	Yes	Yes – ducts, furnaces	Yes, duct sealing, air sealing, fireplace. Test in, test out required. Offer gas furnace rebate in WA but not in OR.	Yes
Non-Residential	New Construction	Yes, through site-specific projects	Yes	Yes	Yes
	Rebates	Yes	Yes	Yes	Yes
	Audits	Yes	Yes	Yes, Energy analysis and energy study	Yes, walk through

Sector	Program	Avista	Cascade	NW Natural (ENERGY TRUST)	Puget Sound
	Custom Projects	Simple payback of greater than 1 year	Yes, robust custom programs complying with cost effectiveness standards, incentives not to exceed 50% of incremental cost. Assessed by IC (Lockheed Martin), who works directly with business owners through Resource Conservation Managers.	Yes for 2011. Requested by customers	Yes
Industrial	Other	Yes, site-specific plans	Cooking Equipment	No programs offered.	C&I Resource Conservation program, energy accounting, benchmarking

Appendix C: Costs Included in Delivery

Delivery Activities	Avista	Cascade	NW Natural	Puget Sound
Rebate processing	Yes	Yes, by IC	Yes	Puget Sound mostly does, retail done by others
Marketing	Yes	Yes, Co-op marketing on website, facilitated training for contractors	Yes	Mostly done by Puget Sound
Utility staff time	Yes	60/40with IC	No	
Implementer administration	Yes	Yes	Yes	
Installation & inspection	Verification through protocols	Yes, IC	Yes	
Application processing	Yes	Inspections are done by the IC. Installations are performed via independent local contractors in the course of their standard business operations.	Yes	
Tracking results	In-house tracking	IC maintains database	In-house database	Done in-house
QA/QC process	Per M&V protocols	10% inspected, by IC	Yes	Varies, but typically done by Puget Sound
Contractor qualification	Not included	Yes – IC. Also interface with trade ally network (MOU with Cascades to promote program and fill out paperwork).	Yes	Yes, the referral program has more stringent qualifications, Puget Sound training
Contractor hiring and management	Not included	Yes - Website (insurance, liability, clean QC record) 2011 qualifications now include criteria that TA must submit at least 10 rebate-qualified projects a year (projects in which a rebate is submitted and approved)	Yes	
Sales	No	No	No	25% of the time of Major Accounts time is billed to the programs.

Appendix D: Quality Control for NW Natural Existing Buildings Program

SECTION 9 – QUALITY CONTROL PLAN

The existing buildings program has project quality control operational processes in place that ensure each project meets necessary program standards for qualification, energy savings estimation, implementation, verification, and final project approval and payment.

PROJECT QUALIFICATION

The program must confirm that each project application meets the program eligibility criteria before providing service or financial incentives to the applicant. A program representative qualifies the project as described in Section 6 – Project Screening.

POST-INSTALLATION INSPECTIONS

The program conducts post-installation inspections on all measures that receive over $5,000 financial incentive. Inspections verify that the equipment installed matches the measures detailed on the application and that it is functioning properly. These inspections come at no cost to the participant and ensure a high standard of quality from the trade ally network.

PROJECT DOCUMENTATION

The project checklist provides a systematic list to use for quality control of project files and FastTrack entries, with checkboxes for each important task of each phase, and necessary project documentation and FastTrack entry points. The current project checklists and project workflow are described in detail in Section 7 – Project Implementation Process (PIP).

CONFIDENTIALITY

All participant information, including utility data, is kept in utmost confidentiality within compliance of Energy Trusts privacy policy.

FASTTRACK & GOLDMINE DATA ENTRY PROTOCOL

The existing buildings program has six distinct project phases that are described in Section 7 – Project Implementation Process (PIP). At each project phase, project information is entered into FastTrack in order to maintain a consistent project management process and track each project's tasks and milestone. Each phase of a project has quality control checkpoints to prevent projects from moving forward without all required forms, information, signatures and approvals. FastTrack has quality control measures built in to the program that will not allow the project to be queued for payment if certain fields are missing information. This prompts the PC to obtain the necessary information required to move forward.

Continuity in FastTrack is required to promote unity among programs and ease of reporting. Therefore, naming conventions and data entry specifications established by Energy Trust are required and followed. Any protocol changes suggested by the PMC require Energy Trust approval.

FORMS AND TOOLS

The existing buildings program uses many forms to document each project's progress. The program makes a distinction between "Internal Forms" that are strictly used by the program to assist in project tracking and documentation, and "External Forms" which are viewed and used by participants and trade allies, often as contracts and to present program services, terms and conditions. There are also MS Excel-based tools that are used to calculate program parameters, savings and incentives. All of the different forms and tools are handled slightly differently, but generally they are updated and maintained at least once per year, if not less than quarterly, in conjunction with the new measure release schedule and uploaded to the Energy Trust website on a weekly basis.

EXTERNAL FORMS are viewed and used by participants and trade allies, and often contains terms and conditions and other contract information. Due to the legal nature of these forms and how they affect the image of the program, all external forms must be reviewed and approved by the Energy Trust. External forms are often developed by Energy Trust in cooperation with the PMC. Once the form content is approved, the form can be utilized by the program and incorporated into the existing buildings Excel workbook.

INTERNAL FORMS are strictly for internal use to assist in project tracking and documentation. These forms do not have terms and conditions; participants and trade allies are not privy to these forms. The PMC can change internal forms at their discretion in order to make the program run more efficiently.

EXISTING BUILDINGS WORKBOOK is an Excel workbook developed by Energy Trust in cooperation with the PMC. Certain sheets of this tool are public forms and are represented as such, while others are internal forms only. Constant review of this workbook is made to ensure accuracy and ease of use.

See Appendix A: Summary of Program Forms, for a complete list of program forms.

AUDITING

Energy Trust performs quarterly audits of PMC physical project folders and FastTrack project entries. This process encourages a high level of quality control awareness among PMC staff and provides information that aids processes and procedure improvement.

PROJECT COMPLETION AND PAYMENT APPROVAL

Quality control is maintained by careful checks of the project file and FastTrack fields at each phase in the project, with particular consideration by the PC at project completion and payment phase.

A final review of the project and identification of any significant changes to the savings and/or incentives is documented via signatures on the Project Payment Approval (Form 141) by the entities listed below. The Project Payment Approval (Form 141) is an internal PMC form that documents that the file is

reviewed for measure and payment accuracy by PMC,s PC, reviewed for technical accuracy by PMC TS, and approved for incentive payment by PMC POM. This process is mirrored in FastTrack by the PMC incentive approval "Received, Reviewed, Released" and is known as the "3-R" process. Further description of this process is located in Section 7 – Project Implementation Process (PIP) - Approval and Payment Process ("3-R's").

All incentive payments are requested using FastTrack. Every payment request must be approved by three different PMC approval authorities, the PC, the TS and POM, prior to submission to the Energy Trust. After each of the approval authorities completes their project review, they approve the project payment by electronically approving "Received, Reviewed, Released" respectively in the payment module of FastTrack. The Energy Trust PM then approves each payment. Payment requests can be approved individually or in batches of multiple requests. Each approval authority is restricted by the amount ($500,000) of the individual payment they can approve, and by the total amount ($500,000) they can approve in one batch. This quality control process ensures that the project has been thoroughly reviewed and passes all program conditions necessary to receive a financial incentive.

Some payment requests may require validation for accuracy and completeness prior to approval. Validation standards vary based on the type of project. High volume projects will be randomly spot-evaluated while high dollar incentives will be validated on a case-by-case basis. Validation is performed using a combination of external error exception reports and individual project analysis using FastTrack.

Appendix E: Baseline Sales and Revenue and DSM Spending, Saving, and Normalized Results: 2008, 2009, and 2010

Natural Gas DSM Results of IOUs											
			Incremental DSM Results		Retail				Normalized DSM Results		
Customer Sector	Region	Utility/Agency	Therm	Costs $M	Customers	Annual Therm	Revenue $M	Cost of Energy $/Therm	Spending as % of Revenue	Gas Savings as % of Sales	Cost of Savings $/Therm
Residential		**Median**	**554,467**	**$2.7**	**165,007**	**116,712,296**	**$148.0**	**$1.26**	**1.2%**	**0.2%**	**$5.87**
	Northwest	Avista 08	554,467	$2.7	130,302	109,518,502	$138.0	$1.26	2.0%	0.5%	$4.94
		Avista 09	746,712	$2.9	131,871	110,023,993	$126.7	$1.15	2.3%	0.7%	$3.84
		Cascade 08	245,109	$1.6	165,007	119,232,859	$148.0	$1.24	1.1%	0.2%	$6.40
		Cascade 09	266,144	$1.9	166,760	116,712,296	$161.7	$1.39	1.2%	0.2%	$7.19
		NW Natural 10	41,002	$0.3	62,381	42,585,345	$51.9	$1.22	0.6%	0.1%	$7.35
		PSE 08	1,370,334	$8.0	681,260	582,189,235	$753.1	$1.29	1.1%	0.2%	$5.87
		PSE 09	2,151,136	$11.3	689,434	580,016,778	$810.4	$1.40	1.4%	0.4%	$5.23
C&I		**Median**	**607,841**	**$2.1**	**23,919**	**107,724,097**	**$138.3**	**$1.11**	**1.0%**	**0.6%**	**$3.24**
	Northwest	Avista 08	630,740	$2.4	13,871	73,513,144	$83.0	$1.13	2.9%	0.9%	$3.81
		Avista 09	607,841	$2.1	14,030	72,701,081	$73.5	$1.01	2.9%	0.8%	$3.47
		Cascade 08	191,837	$0.6	23,919	138,626,435	$154.3	$1.11	0.4%	0.1%	$3.24
		Cascade 09	272,936	$1.0	24,251	107,724,097	$138.3	$1.28	0.8%	0.3%	$3.81
		NW Natural 10	83,945	$0.3	5,350	26,704,702	$28.0	$1.05	1.0%	0.3%	$3.20
		PSE 08	2,281,778	$3.8	56,455	358,829,819	$397.5	$1.11	1.0%	0.6%	$1.67
		PSE 09	2,951,708	$5.3	56,962	349,202,610	$419.4	$1.20	1.3%	0.8%	$1.78
Overall		**Median**	**1,185,207**	**$5.0**	**188,926**	**224,436,394**	**$300.1**	**$1.21**	**1.0%**	**0.4%**	**$4.34**
	Northwest	Avista 08	1,185,207	$5.1	144,173	183,031,646	$221.0	$1.21	2.3%	0.6%	$4.34
		Avista 09	1,354,553	$5.0	145,901	182,725,075	$200.2	$1.10	2.5%	0.7%	$3.67
		Cascade 08	436,946	$2.2	188,926	257,859,295	$302.3	$1.17	0.7%	0.2%	$5.01
		Cascade 09	539,080	$3.0	191,011	224,436,394	$300.1	$1.34	1.0%	0.2%	$5.47
		NW Natural 10	124,947	$0.6	67,731	69,290,047	$79.9	$1.15	0.7%	0.2%	$4.56
		PSE 08	3,652,112	$11.8	737,715	941,019,054	$1,150.6	$1.22	1.0%	0.4%	$3.24
		PSE 09	5,102,844	$16.5	746,396	929,219,388	$1,229.8	$1.32	1.3%	0.5%	$3.24

EXHIBIT B

EEAG Emails Regarding Navigant Report

From: Dyer, Ryan (UTC)
To: Gross, Jennifer;
cc: Reynolds, Deborah (UTC); Nightingale, David (UTC); Parvinen, Mike (UTC);
Subject: RE: EEAG - Navigant"s Benchmarking Study
Date: Thursday, March 31, 2011 11:58:43 AM

Jennifer,
Overall I thought the benchmarking study did an good job of evaluating NWN and the ETO's performance in the first pilot year. The evaluations and recommendations detailed in the study will be very helpful going forward. There were three specific areas that I thought the study could have done a better job of addressing:

1. The Study's "Assessments of Self-Delivery Costs for NW Natural" (section 6.1) did a good job of describing general criteria and reasoning for why continued use of the ETO would be better than a self-delivery model. More detail could have been provided to support the analysis of what a self-delivery residential and C&I programs would cost NWN. For example, section 6.1.2 estimates that NWN's self-delivery program costs for C&I and Residential programs would be $3.70/therm and $6.00/therm respectively. However, there isn't a lot of explanation of those figures were formulated beyond that their relativity to Avista's program costs. A more in-depth analysis of the calculations done to arrive at these estimates would have been helpful.

2. Also, since the final recommendations seems to be predicated on the ETO's effectiveness at delivering low cost C&I programs, relative to residential programs, more support should be given to the prediction that the C&I program will continue to comprise the majority of overall portfolio savings. Initially the EE plan forecasted residential savings to exceed C&I, but as we all know that wasn't the case. And while we've all been told in reviewing the annual report that the ratio of customer class savings should return to the original forecasted values, this study seems to be predicting that the disparity in savings will continue. These two sentiments should be reconciled.

3. Finally, the primary task of this study, as stated in the EE plan, was "to extrapolate what it might cost the Company to deliver its own DSM program, as well as potential costs to use a Washington-based DSM program administrator." While I think the study did an adequate job of evaluating the self-delivery element, I found little to know analysis on what

it might cost the company to employ a WA third party administrator model. There is Cascade program data provided in the body of the report, however, no analysis or recommendations are offered. This is a significant oversight and makes the study seem incomplete, I'd like to know how/why it occurred.

The reality is that no draft circulation of the benchmarking study was scheduled when this process was originally mapped out, meaning that we have to work with the report "as-is" (this may have been an oversight on all our parts). That being said I think the study provides a lot of valuable information for improving the ETO's delivery of NWN energy efficiency program as we move forward.

I look forward to our call on Tuesday.

Thanks,
Ryan

From: Gross, Jennifer [mailto:Jennifer.Gross@nwnatural.com]
Sent: Friday, March 25, 2011 9:29 AM
To: Chuck Eberdt; Reynolds, Deborah (UTC); Edmonds, Bill; Jessica Rose; Kate Hawley; Kimball, Mary (ATG); King, Onita; Kouchi, Roger (UTC); Lakin Garth; Daeschel, Lea (ATG); Meyer, Holly; Murray, Chuck (COM); Nightingale, David (UTC); Paula Pyron; Pete Catching (pete.catching@energytrust.org); peter@energytrust.org; Rock, Tif; Ronald Roseman; Dyer, Ryan (UTC); Scott Swearingen; 'Steve Lacey'; Steve Weiss; Yang, Jane
Subject: EEAG - Navigant's Benchmarking Study

EEAG –

Attached for your review is Navigant's benchmarking study which compares NW Natural's energy efficiency program with other programs offered in the state and considers the cost of having NW Natural deliver its own program.

We are scheduled to discuss this report via teleconference on **April 5th at 10 am**. This report will be used to inform the recommendation that will be filed with the WUTC regarding the future administration of NWN's energy efficiency program.

Please contact me if you have questions.

Jennifer Gross

Tariff and Regulatory Compliance, NW Natural
220 NW Second Ave
Portland, OR 97209
(503) 226-4211, ext. 3590

From: Daeschel, Lea (ATG)
To: Gross, Jennifer; Chuck Eberdt; Reynolds, Deborah (UTC); Edmonds, Bill; Jessica Rose; Kate Hawley; Kimball, Mary (ATG); King, Onita; Kouchi, Roger (UTC); Lakin Garth; Meyer, Holly; Murray, Chuck (COM); Nightingale, David (UTC); Paula Pyron; pete.catching@energytrust.org; peter@energytrust.org; Rock, Tif; Ronald Roseman; Dyer, Ryan (UTC); Scott Swearingen; Steve Lacey; Steve Weiss; Yang, Jane;
Subject: RE: EEAG - Navigant"s Benchmarking Study
Date: Monday, March 28, 2011 4:08:13 PM

Jennifer and EEAG-

Below are some initial questions/comments on the benchmarking study. I look forward to addressing these and any other additional questions on the April 5 call.

Comments

- In general, the analysis of what it might cost for NW Natural to use a Washington-based DSM program administrator (the Cascade model) as compared to using the Energy Trust, is lacking. It would be helpful to have a section that draws conclusions from the benchmarking results and attempts to identify what the costs would be for for NW Natural to use this model. Section 6.1 "Assessments of Self-Delivery Costs for NW Natural," provides this kind of discussion for the DSM self-delivery model.

- Performance results are reported for 2008 and 2009 for the utilities included in the benchmarking study and NW Natural's results are for the 1st program year (2009-2010). It's unclear when reviewing the various reported benchmarking results whether we should be comparing program years 2008 or 2009 to NW Natural's program year results and how the mismatch of program years my impact the comparison.

- It's unclear why a "median" was used to benchmark certain results but not others. For example cost per therm results include a median result to benchmark against but the % of program dollars spent on incentives and the cost-effectiveness test results are not reported in this manner. It would also be helpful to understand why a median was used as a benchmarking tool (instead of mean for example.)

- There is a lack of consistency in how all benchmarking results are reported. For example in comparing the results of the TRC for each utility some are reported on a total portfolio basis (Avista), others on customer class basis (Cascade) and still others on a program by program basis (PSE). This makes doing a direct comparison to NW Natural difficult.

- The metrics that were developed to track NW Natural's first year DSM performance in the energy efficiency plan should serve as the framework for the benchmarking performed. Many of the metrics *were* included in the benchmarking but the following were missing: levelized cost/therm and total therms saved.

- Costs and savings for the New Homes Program were not included in the data reported in the annual plan as these savings and program costs were not accounted for in initial target and budget setting developed in the energy efficiency plan. It appears that the results of the new homes program *is* included in the costs and savings reported in the benchmarking study (see Table 5-1) which creates an inconsistency in reported results and benchmarking results.

- NW Natural's cost per first year therms is reported as $4.56/ therm in the benchmarking study (see Table 5-1) and $4.35/therm in the annual report (see page 11). Which is correct?

- In estimating what it would cost for NW Natural to self-deliver its C&I program, Navigant estimates the costs to be "possibly about $3.70/therm" based on a comparison of Avista program characteristics. How was this figure calculated? Where is the supporting documentation? The same question goes to the residential program costs/therm figure which is estimated to be in the range of $5.00-$6.50 for self-delivery. (See page 61).

- In supporting it's view that it will be more cost-effective for ETO to continue to deliver NW Natural's programs, Navigant states that it is expected that savings from the C&I sector will continue to be larger than savings in the residential sector. What is this assumption based on? In the first program year residential programs were expected to realize more savings than commercial but for various reasons, the C&I program performed better in year one. Does the Company expect this trend to continue? If not, would this affect Navigant's overall

recommendation?

- Navigant refers to the Commercial program as the C&I (Commercial and Industrial) program throughout the report. This is confusing and should be changed because there is no industrial program offering currently.

- Under the recommendations section Navigant states that NW Natural would likely increase cost-effective savings by providing site specific custom measure programs for commercial and industrial programs. (See page 63) It was my understanding that custom measures were already offered under the commercial program. Please clarify.

Regards,

Lea Daeschel
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Office of the Washington State Attorney General
206-464-6380

"please save paper by printing only when necessary"

From: Gross, Jennifer [mailto:Jennifer.Gross@nwnatural.com]
Sent: Friday, March 25, 2011 9:29 AM
To: Chuck Eberdt; Reynolds, Deborah (UTC); Edmonds, Bill; Jessica Rose; Kate Hawley; Kimball, Mary (ATG); King, Onita; Kouchi, Roger (UTC); Lakin Garth; Daeschel, Lea (ATG); Meyer, Holly; Murray, Chuck (COM); Nightingale, David (UTC); Paula Pyron; Pete Catching(pete.catching@energytrust.org); peter@energytrust.org; Rock, Tif; Ronald Roseman; Dyer, Ryan (UTC); Scott Swearingen; 'Steve Lacey'; Steve Weiss; Yang, Jane
Subject: EEAG - Navigant's Benchmarking Study

EEAG –

Attached for your review is Navigant's benchmarking study which compares NW Natural's energy efficiency program with other programs offered in the state and considers the cost of having NW Natural deliver its own program.

We are scheduled to discuss this report via teleconference on **April 5th at 10 am**. This report will be used to inform the recommendation that will be filed with the WUTC regarding the future administration of NWN's energy efficiency program.

Please contact me if you have questions.

Jennifer Gross
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Ryan's Comments and Questions

1. The Study's "Assessments of Self-Delivery Costs for NW Natural" (section 6.1) did a good job of describing general criteria and reasoning for why continued use of the ETO would be better than a self-delivery model. More detail could have been provided to support the analysis of what a self-delivery residential and C&I programs would cost NWN. For example, section 6.1.2 estimates that NWN's self-delivery program costs for C&I and Residential programs would be $3.70/therm and $6.00/therm respectively. However, there isn't a lot of explanation of those figures were formulated beyond that their relativity to Avista's program costs. A more in-depth analysis of the calculations done to arrive at these estimates would have been helpful.

NW Natural has asked Navigant to provide their work papers supporting these cost estimates. The Company will forward their response to the EEAG.

2. Also, since the final recommendations seems to be predicated on the ETO's effectiveness at delivering low cost C&I programs, relative to residential programs, more support should be given to the prediction that the C&I program will continue to comprise the majority of overall portfolio savings. Initially the EE plan forecasted residential savings to exceed C&I, but as we all know that wasn't the case. And while we've all been told in reviewing the annual report that the ratio of customer class savings should return to the original forecasted values, this study seems to be predicting that the disparity in savings will continue. These two sentiments should be reconciled.

Navigant bases its assumption that the Company will continue to have more C&I savings than Residential on two things: 1) that NW Natural sells 20% more gas to C/I customers in WA than it does to Residential, and 2) that Cascade and PSE experience more savings in the commercial sector.

In spite of Navigant's assumptions, NW Natural and Energy Trust continue to forecast that residential savings will increase in a manner that is consistent with the Company's DSM projection in its 2011 IRP and as stated in the review of the Annual Report. The Company's assumptions are derived from the technical potential study performed for the IRP which looks at the housing stock and other demographical information and determines when available cost effective energy efficiency measures can be adopted by customers. The Company's technical potential study has been fairly accurate in the past few years for Oregon, and it follows that the study should prove relatively accurate for Washington.

The Company believes the residential sector acquired fewer than expected savings during the first year because this sector requires more marketing for initial uptake. Also as stated in the Annual Report, Energy Trust learned important lessons during this year regarding the Washington residential sector, including the finding that this group may be better served by offering an interview prior to having a scheduled home energy review (HER) to screen for available efficiency opportunities. When these program modifications are adopted and as the program continues to mature, the Company expects residential savings to exceed commercial savings. NW Natural' 2011 IRP assumes Residential savings will exceed commercial savings by 2014. Residential therm savings were cost effective in the first program year, and as more customers participate in the program, therm savings will continue to be cost effective as the program matures.

3. Finally, the primary task of this study, as stated in the EE plan, was "to extrapolate what it might cost the Company to deliver its own DSM program, as well as potential costs to use a Washington-based DSM program administrator." While I think the study did an adequate job of evaluating the self-delivery element, I found little to know analysis on what it might cost the company to employ a WA third party administrator model. There is Cascade program data provided in the body of the report, however, no analysis or recommendations are offered. This is a significant oversight and makes the study seem incomplete; I'd like to know how/why it occurred.

The RFP which was vetted with the EEAG asks the contractor to provide the following:

The study will gather the following information:

1. Estimation of costs that NW Natural would incur by independently setting up and implementing DSM programs for its Washington residential and commercial customers.
2. Information on NW Natural's Washington DSM programs (Residential, Commercial Retrofit and Low Income Energy Efficiency) and those offered by other natural gas providers in Washington state (Puget Sound Energy, Cascade Natural, and Avista):
   - Description of programs
   - Range of measures and services offered
   - Description of delivery program methods
   - Costs related to initiating a new program2
   - Cost of delivery of the program3
   - Gross savings resulting from the delivery of the program
   - Number, location, and years of experience of Trade Allies working with programs
   - Customer satisfaction with program services, incentives and delivery
   - Unique program characteristics that may provide additional benefits to customers, such as familiarity with local trade allies or experience in the market.

The third party contractor was not specifically required to estimate the cost for NW Natural to manage a WA based energy efficiency contractor. The EE plan (as paraphrased on page 1 of the report) says the benchmarking efforts will be used to "extrapolate what it might cost the Company to. . .use a Washington based DSM program administrator." The Company assumed the costs that would be provided to response to No. 2 (above) from the RFP would be sufficient to understand the staffing needed to manage a contractor. But the report does not explicitly state the number of FTE's NW Natural would have to hire to deliver its own program. The EEAG could work together to draw these conclusions based on what parties and the WUTC would require of the program and what would be allowed into rates. From this, the EEAG could extrapolate the costs it would incur for hiring a WA-based contractor, as initially planned.

The report does provide data for Cascade Natural Gas who is using a third party program administrator. NW Natural's overall first year costs of savings (see page 39), and C&I first year cost of savings were less expensive than Cascade's which demonstrates a different third party administrator may not cost less. NW Natural also has suggested that using Energy Trust will likely result in its programs saving therms more quickly than using a third-party program administrator. The Benchmarking study, when

comparing gas savings as a percent of sales (p. 38), suggests the NW Natural program is ramping up somewhat more quickly than the Cascade program.

4. The reality is that no draft circulation of the benchmarking study was scheduled when this process was originally mapped out, meaning that we have to work with the report "as-is" (this may have been an oversight on all our parts). That being said I think the study provides a lot of valuable information for improving the ETO's delivery of NWN energy efficiency program as we move forward.

Ryan, you're right. The schedule did not allow time to circulate the draft report. The one bid received back on the Company's RFP for this benchmarking report was higher than we had anticipated. We were able to negotiate the price down on the agreement that the Company manage the review process alone. Navigant's previous experience with advisory groups caused them to think that EEAG review of the draft would result in significantly more billing hours. Because Navigant has a good reputation, we thought it was in customers' best interest to manage cost by managing the process. We thought this was reasonable since the report was always intended to be the third parties' opinion – not the EEAG's—and it is one piece informing the whole process. The EEAG can also draw on its experience as the overseer of NW Natural's program, the quarterly and annual reports and each member's own expertise as program advisors and regulatory intervenors for other company's programs. However, if the EEAG is not satisfied with the report, the Company always has the option of hiring Navigant at additional cost to do more work.

Lea's Comments and Questions

5. In general, the analysis of what it might cost for NW Natural to use a Washington-based DSM program administrator (the Cascade model) as compared to using the Energy Trust, is lacking. It would be helpful to have a section that draws conclusions from the benchmarking results and attempts to identify what the costs would be for NW Natural to use this model. Section 6.1 "Assessments of Self-Delivery Costs for NW Natural," provides this kind of discussion for the DSM self-delivery model.

See the response to Question No. 3 above.

6. Performance results are reported for 2008 and 2009 for the utilities included in the benchmarking study and NW Natural's results are for the 1st program year (2009-2010). It's unclear when reviewing the various reported benchmarking results whether we should be comparing program years 2008 or 2009 to NW Natural's program year results and how the mismatch of program years my impact the comparison.

Navigant reported the most current information that was available to them for each program. Other utilities were not able to provide 2010 data, while NW Natural had only results for the 2009-10 program year.

7. It's unclear why a "median" was used to benchmark certain results but not others. For example cost per therm results include a median result to benchmark against but the % of program dollars spent on incentives and the cost-effectiveness test results are not reported in this manner. It would also be helpful to understand why a median was used as a benchmarking tool (instead of mean for example.)

Admittedly, a median of three data points is not particularly meaningful. However the full data set is provided in Appendix E.

8. There is a lack of consistency in how all benchmarking results are reported. For example in comparing the results of the TRC for each utility some are reported on a total portfolio basis (Avista), others on customer class basis (Cascade) and still others on a program by program basis (PSE). This makes doing a direct comparison to NW Natural difficult.

Navigant used the data that was either publicly available or provided to them by the utilities

9. The metrics that were developed to track NW Natural's first year DSM performance in the energy efficiency plan should serve as the framework for the benchmarking performed. Many of the metrics *were* included in the benchmarking but the following were missing: levelized cost/therm and total therms saved.

Total therms saved is provided in Appendix E. As stated on the bottom of page 6, Navigant did not use levelized cost per them because they did not have measure life and total savings for all other utilities measures.

10. Costs and savings for the New Homes Program were not included in the data reported in the annual plan as these savings and program costs were not accounted for in initial target and budget setting developed in the energy efficiency plan. It appears that the results of the new homes program *is* included in the costs and savings reported in the benchmarking study (see Table 5-1) which creates an inconsistency in reported results and benchmarking results.

Results for the New Homes Program were included in the Annual Report but they were not combined with the results for the total program portfolio. NW Natural asked Navigant to include the New Homes program in its analysis since it was an offering available during the first program year. The benchmarking study intends to compare utility offerings. NW Natural saw this as a unique and separate tool to be used in analyzing Energy Trust administration. The Company did not foresee that this report would need to elucidate the Annual Report.

11. NW Natural's cost per first year therms is reported as $4.56/therm in the benchmarking study (see Table 5-1) and $4.35/therm in the annual report (see page 11). Which is correct?

Both are correct for the perspectives shown. The benchmarking study was looking at the program offered during the first program year which included three months of the New Homes program (resulting in $4.56 per therm). The Annual Report showed the New Homes program results separately from the program that has been offered since October 1, 2009. The first year cost without the new homes program was $4.35 per therm.

12. In estimating what it would cost for NW Natural to self-deliver its C&I program, Navigant estimates the costs to be "possibly about $3.70/therm" based on a comparison of Avista program characteristics. How was this figure calculated? Where is the supporting documentation? The same question goes to the residential program costs/therm figure which is estimated to be in the range of $5.00-$6.50 for self-delivery. (See page 61).

See Question No. 1. We have asked Navigant for their work papers on this cost.

13. In supporting it's view that it will be more cost-effective for ETO to continue to deliver NW Natural's programs, Navigant states that it is expected that savings from the C&I sector will continue to be larger than savings in the residential sector. What is this assumption based on? In the first program year residential programs were expected to realize more savings than commercial but for various reasons, the C&I program performed better in year one. Does the Company expect this trend to continue? If not, would this affect Navigant's overall recommendation?

See response to Question No. 2 above.

14. Navigant refers to the Commercial program as the C&I (Commercial and Industrial) program throughout the report. This is confusing and should be changed because there is no industrial program offering currently.

While this could be clearer for NW Natural's current program, the term "C&I" is used because this more general term addresses the differences in how utilities classify their non-residential customers.

15. Under the recommendations section Navigant states that NW Natural would likely increase cost-effective savings by providing site specific custom measure programs for commercial and industrial programs. (See page 63) It was my understanding that custom measures were already offered under the commercial program. Please clarify.

Yes, custom measures for commercial customers became available January 1, 2011. Navigant was made aware of this offering but it is outside of the timeframe studied for NW Natural in this report.

From: Gross, Jennifer
To: Chuck Eberdt; Deborah Reynolds (DReynold@utc.wa.gov); Edmonds, Bill; Jessica Rose; Kate Hawley; Kimball, Mary (ATG); King, Onita; Kouchi, Roger (UTC); Lakin Garth; Lea Daeschel; Meyer, Holly; Murray, Chuck (COM); Nightingale, David (UTC); Paula Pyron; Pete Catching (pete.catching@energytrust.org); peter@energytrust.org; Rock, Tif; Ronald Roseman; Ryan Dyer; Scott Swearingen; "Steve Lacey"; Steve Weiss; Yang, Jane;
Subject: Response To Comments on Benchmarking Study
Date: Friday, April 01, 2011 4:58:46 PM
Attachments: Responses to Comments on Navigant Report_ 4.1.2011.docx

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EEAG –

We recently sent you the Navigant benchmarking study that compared NWN's energy efficiency program with other Washington utility programs. We received comments back from Public Counsel and WUTC Staff. In an effort to make our Tuesday phone call as productive as possible, we have compiled and attached our initial responses. We wanted to get these to you in advance so you had time to consider them. Granted, some will require additional conversation, but overall, we hope this is useful.

Have a good weekend. We look forward to talking with you Tuesday at 9am.

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