

EXHIBIT A

BEFORE THE
WASHINGTON UTILITIES & TRANSPORTATION COMMISSION

NW NATURAL
SUPPORTING MATERIALS

WA EE PROGRAM COSTS (AMORTIZATION)

NWN WUTC Advice No. 18-03 /
UG-180783 September 13, 2018

NW NATURAL

EXHIBIT A

Supporting Material

WA EE PROGRAM COSTS (AMORTIZATION)

NWN WUTC ADVICE NO. 18-03 / UG-180783

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NW Natural
Rates & Regulatory Affairs
2018-2019 PGA Filing - Washington: September Filing
Calculation of Increments Allocated on the EQUAL PERCENTAGE OF MARGIN BASIS

| Schedule | Block | PGA | | Billing | | WACOG & Demand from | | Temp from | | MARGIN | Volumetric | Customer | Customers | Total | R&C Energy Efficiency Programs | |
|----------|---------------------|------------|-------------|-----------|-----------|---------------------|-----------------|------------|----------|-----------------|------------|-------------|-----------|--------------|--------------------------------|----------|
| | | Column D | Column A | Column A | Column B | Column C | Column D | Column A | Column B | | | | | | Column C | Column D |
| | | A | B | C | D | E | F = E * A | G | H | I = (G*H*12)+F | J | K | L | | | |
| 7 | IR | 204,474 | \$1,093,344 | \$0,39196 | \$0,01700 | \$0,68448 | \$139,958.00 | \$3,47 | 875 | \$176,393.00 | 1.0 | \$11,064 | \$0,05411 | | | |
| 8 | IC | 38,632 | \$1,084,233 | \$0,39196 | \$0,00820 | \$0,68407 | \$26,421.00 | \$3,47 | 38 | \$28,009.00 | 1.0 | \$1,757 | \$0,04548 | | | |
| 9 | ZR | 51,583,578 | \$0,802,224 | \$0,39196 | \$0,00426 | \$0,41458 | \$21,383,456.00 | \$7,00 | 75,145 | \$27,695,636.00 | 1.0 | \$1,737,215 | \$0,03368 | | | |
| 10 | 3 CFS | 17,687,989 | \$0,801,877 | \$0,39196 | \$0,00867 | \$0,41858 | \$7,403,839.00 | \$15,00 | 6,038 | \$8,490,679.00 | 1.0 | \$532,580 | \$0,03011 | | | |
| 11 | 3 IFS | 479,219 | \$0,77510 | \$0,39196 | \$0,03531 | \$0,41845 | \$200,529.00 | \$15,00 | 28 | \$205,569.00 | 0.0 | \$0 | \$0,00000 | | | |
| 12 | 27 | 506,107 | \$0,63079 | \$0,39196 | \$0,01537 | \$0,25420 | \$128,652.00 | \$6,00 | 745 | \$182,292.00 | 1.0 | \$11,434 | \$0,02259 | | | |
| 13 | 41C Firm Sales | 1,945,641 | \$0,55691 | \$0,27038 | \$0,01511 | \$0,30164 | \$1,097,542.00 | \$250,00 | 86 | \$1,355,542.00 | 1.0 | \$85,027 | \$0,02337 | | | |
| 14 | Block 2 | 1,921,286 | \$0,51811 | \$0,27038 | \$0,01806 | \$0,26579 | \$0,00000 | \$0,00 | 0 | \$0,00 | 1.0 | \$0 | \$0,02219 | | | |
| 15 | 41C Interr Sales | 0 | \$0,57864 | \$0,27038 | \$0,00685 | \$0,30141 | \$0,00000 | \$0,00 | 0 | \$0,00 | 1.0 | \$0 | \$0,01955 | | | |
| 16 | Block 2 | 0 | \$0,54001 | \$0,27038 | \$0,00407 | \$0,26556 | \$0,00000 | \$0,00 | 0 | \$0,00 | 1.0 | \$0 | \$0,00000 | | | |
| 17 | 41 Firm Trans | 374,507 | \$0,30077 | \$0,00000 | \$0,00000 | \$0,30077 | \$267,788.00 | \$500,00 | 17 | \$369,788.00 | 0.0 | \$0 | \$0,00000 | | | |
| 18 | Block 2 | 585,464 | \$0,26500 | \$0,00000 | \$0,00000 | \$0,26500 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 19 | 41I Firm Sales | 319,562 | \$0,53626 | \$0,27038 | \$0,03580 | \$0,30168 | \$193,480.00 | \$250,00 | 15 | \$238,680.00 | 0.0 | \$0 | \$0,00000 | | | |
| 20 | Block 2 | 365,920 | \$0,49991 | \$0,27038 | \$0,03629 | \$0,26582 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 21 | 41I Interr Sales | 0 | \$0,55922 | \$0,27038 | \$0,01257 | \$0,30141 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 22 | Block 2 | 0 | \$0,52290 | \$0,27038 | \$0,01304 | \$0,26556 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 23 | 42C Firm Sales | 572,162 | \$0,36597 | \$0,27038 | \$0,02318 | \$0,11877 | \$125,411.00 | \$1,300,00 | 6 | \$219,011.00 | 1.0 | \$13,738 | \$0,01301 | | | |
| 24 | Block 2 | 452,310 | \$0,35176 | \$0,27038 | \$0,02494 | \$0,10632 | \$0,00000 | \$0,00 | 0 | \$0,00 | 1.0 | \$0 | \$0,01165 | | | |
| 25 | Block 3 | 113,398 | \$0,32347 | \$0,27038 | \$0,02845 | \$0,08154 | \$0,00000 | \$0,00 | 0 | \$0,00 | 1.0 | \$0 | \$0,00893 | | | |
| 26 | Block 4 | 1,826 | \$0,30485 | \$0,27038 | \$0,03076 | \$0,06523 | \$0,00000 | \$0,00 | 0 | \$0,00 | 1.0 | \$0 | \$0,00715 | | | |
| 27 | Block 5 | 0 | \$0,28003 | \$0,27038 | \$0,03383 | \$0,04348 | \$0,00000 | \$0,00 | 0 | \$0,00 | 1.0 | \$0 | \$0,00476 | | | |
| 28 | Block 6 | 0 | \$0,24900 | \$0,27038 | \$0,03768 | \$0,01630 | \$0,00000 | \$0,00 | 0 | \$0,00 | 1.0 | \$0 | \$0,00179 | | | |
| 29 | 42I Firm Sales | 1,138,365 | \$0,35161 | \$0,27038 | \$0,03748 | \$0,11871 | \$218,844.00 | \$1,300,00 | 12 | \$406,044.00 | 0.0 | \$0 | \$0,00000 | | | |
| 30 | Block 2 | 725,589 | \$0,33889 | \$0,27038 | \$0,03775 | \$0,10626 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 31 | Block 3 | 81,079 | \$0,31360 | \$0,27038 | \$0,03827 | \$0,08149 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 32 | Block 4 | 0 | \$0,29696 | \$0,27038 | \$0,03861 | \$0,06519 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 33 | Block 5 | 0 | \$0,27478 | \$0,27038 | \$0,03907 | \$0,04347 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 34 | Block 6 | 0 | \$0,24703 | \$0,27038 | \$0,03964 | \$0,01629 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 35 | 42 Firm Trans | 1,313,594 | \$0,11818 | \$0,00000 | \$0,00000 | \$0,11818 | \$532,047.00 | \$1,550,00 | 12 | \$755,247.00 | 0.0 | \$0 | \$0,00000 | | | |
| 36 | Block 2 | 1,609,433 | \$0,10579 | \$0,00000 | \$0,00000 | \$0,10579 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 37 | Block 3 | 1,138,813 | \$0,08112 | \$0,00000 | \$0,00000 | \$0,08112 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 38 | Block 4 | 1,522,236 | \$0,06490 | \$0,00000 | \$0,00000 | \$0,06490 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 39 | Block 5 | 355,242 | \$0,04327 | \$0,00000 | \$0,00000 | \$0,04327 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 40 | Block 6 | 0 | \$0,01622 | \$0,00000 | \$0,00000 | \$0,01622 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 41 | 42C Interr Sales | 250,151 | \$0,38133 | \$0,27038 | \$0,00761 | \$0,11856 | \$104,866.00 | \$1,300,00 | 3 | \$151,666.00 | 1.0 | \$9,573 | \$0,01076 | | | |
| 42 | Block 2 | 486,821 | \$0,36796 | \$0,27038 | \$0,00854 | \$0,10612 | \$0,00000 | \$0,00 | 0 | \$0,00 | 1.0 | \$0 | \$0,00963 | | | |
| 43 | Block 3 | 246,036 | \$0,34134 | \$0,27038 | \$0,01042 | \$0,08138 | \$0,00000 | \$0,00 | 0 | \$0,00 | 1.0 | \$0 | \$0,00738 | | | |
| 44 | Block 4 | 54,140 | \$0,32384 | \$0,27038 | \$0,01164 | \$0,06510 | \$0,00000 | \$0,00 | 0 | \$0,00 | 1.0 | \$0 | \$0,00591 | | | |
| 45 | Block 5 | 0 | \$0,30050 | \$0,27038 | \$0,01328 | \$0,04340 | \$0,00000 | \$0,00 | 0 | \$0,00 | 1.0 | \$0 | \$0,00394 | | | |
| 46 | Block 6 | 0 | \$0,27134 | \$0,27038 | \$0,01532 | \$0,01628 | \$0,00000 | \$0,00 | 0 | \$0,00 | 1.0 | \$0 | \$0,00146 | | | |
| 47 | 42I Interr Sales | 179,269 | \$0,37670 | \$0,27038 | \$0,01238 | \$0,11870 | \$36,173.00 | \$1,300,00 | 2 | \$67,373.00 | 0.0 | \$0 | \$0,00000 | | | |
| 48 | Block 2 | 140,180 | \$0,36381 | \$0,27038 | \$0,01282 | \$0,10625 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 49 | Block 3 | 0 | \$0,33817 | \$0,27038 | \$0,01369 | \$0,08148 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 50 | Block 4 | 0 | \$0,32130 | \$0,27038 | \$0,01426 | \$0,06518 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 51 | Block 5 | 0 | \$0,29879 | \$0,27038 | \$0,01504 | \$0,04345 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 52 | Block 6 | 0 | \$0,27069 | \$0,27038 | \$0,01599 | \$0,01630 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 53 | 42 Interr Trans | 906,535 | \$0,11818 | \$0,00000 | \$0,00000 | \$0,11818 | \$778,666.00 | \$1,550,00 | 11 | \$983,266.00 | 0.0 | \$0 | \$0,00000 | | | |
| 54 | Block 2 | 1,644,618 | \$0,10579 | \$0,00000 | \$0,00000 | \$0,10579 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 55 | Block 3 | 1,375,643 | \$0,08112 | \$0,00000 | \$0,00000 | \$0,08112 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 56 | Block 4 | 4,240,259 | \$0,06490 | \$0,00000 | \$0,00000 | \$0,06490 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 57 | Block 5 | 2,559,794 | \$0,04327 | \$0,00000 | \$0,00000 | \$0,04327 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 58 | Block 6 | 0 | \$0,01622 | \$0,00000 | \$0,00000 | \$0,01622 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 59 | 43 Firm Trans | 0 | \$0,00499 | \$0,00000 | \$0,00000 | \$0,00499 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 60 | 43 Interr Trans | 0 | \$0,00499 | \$0,00000 | \$0,00000 | \$0,00499 | \$0,00000 | \$0,00 | 0 | \$0,00 | 0.0 | \$0 | \$0,00000 | | | |
| 61 | Intentionally blank | | | | | | | | | | | | | | | |
| 62 | Totals | 97,119,890 | | | | | \$32,637,878 | | | \$41,325,195 | | | | \$38,299,228 | \$2,402,328 | |

Success for line 2 above:

Inputs page

Tariff Schedules:

Schedule #

Line 37

Column G

Sched 215

Note: Allocation to rate schedules or blocks with zero volumes is calculated on an overall margin percentage change basis.

NW Natural
 Rates & Regulatory Affairs
 2018-2019 PGA Filing - Washington: September Filing
 PGA Effects on Average Bill by Rate Schedule
 Calculation of Effect on Customer Average Bill by Rate Schedule [1]

| 1 | | Washington PGA Normalized Volumes page, Column D | Therms in Block | Normal Therms Monthly Average use | Minimum Monthly Charge | Current 11/1/2017 Billing Rates | 11/1/2017 Current Average Bill | Proposed 11/1/2018 R&C Energy Eff. Rates [2] | Proposed 11/1/2018 R&C Energy Eff. Average Bill | Proposed 11/1/2018 R&C Energy Eff. % Bill Change |
|----|---------------------|---|--------------------|--|------------------------------|--|--------------------------------------|---|--|---|
| 2 | Schedule | A | B | C | D | E | F=D+(C * E) | G | H=D+(C * G) | I |
| 3 | Block | | | | | | F | G | H | I |
| 4 | 1R | 204,474 | N/A | 19.0 | \$3.47 | \$1.09344 | \$24.25 | \$1.10007 | \$24.37 | 0.5% |
| 5 | 1C | 38,632 | N/A | 85.0 | \$3.47 | \$1.08423 | \$95.63 | \$1.08958 | \$96.08 | 0.5% |
| 6 | 2R | 51,583,578 | N/A | 57.0 | \$7.00 | \$0.80224 | \$52.73 | \$0.80616 | \$52.95 | 0.4% |
| 7 | 3 CFS | 17,687,989 | N/A | 244.0 | \$15.00 | \$0.80187 | \$210.66 | \$0.80589 | \$211.64 | 0.5% |
| 8 | 3 IFS | 479,219 | N/A | 1,426.0 | \$15.00 | \$0.77510 | \$1,120.29 | \$0.77510 | \$1,120.29 | 0.0% |
| 9 | 27 | 506,107 | N/A | 57.0 | \$6.00 | \$0.63079 | \$41.96 | \$0.63287 | \$42.07 | 0.3% |
| 10 | 41C Firm Sales | 1,945,641 | 2,000 | 3,747.0 | \$250.00 | \$0.55691 | | \$0.55955 | | |
| 11 | Block 2 | 1,921,286 | all additional | | | \$0.51811 | | \$0.52043 | | |
| 12 | TOTAL | | | | | | \$2,268.96 | | \$2,278.29 | 0.4% |
| 13 | 41C Interr Sales | 0 | 2,000 | 0.0 | \$250.00 | \$0.57864 | | \$0.58141 | | |
| 14 | Block 2 | 0 | all additional | | | \$0.54001 | | \$0.54245 | | |
| 15 | TOTAL | | | | | | \$250.00 | | \$250.00 | 0.0% |
| 16 | 41 Firm Trans | 374,507 | 2,000 | 4,706.0 | \$500.00 | \$0.30077 | | \$0.30077 | | |
| 17 | Block 2 | 585,464 | all additional | | | \$0.26500 | | \$0.26500 | | |
| 18 | TOTAL | | | | | | \$1,818.63 | | \$1,818.63 | 0.0% |
| 19 | 41I Firm Sales | 319,582 | 2,000 | 3,808.0 | \$250.00 | \$0.53626 | | \$0.53626 | | |
| 20 | Block 2 | 365,920 | all additional | | | \$0.49991 | | \$0.49991 | | |
| 21 | TOTAL | | | | | | \$2,226.36 | | \$2,226.36 | 0.0% |
| 22 | 41I Interr Sales | 0 | 2,000 | 0.0 | \$250.00 | \$0.55922 | | \$0.55922 | | |
| 23 | Block 2 | 0 | all additional | | | \$0.52290 | | \$0.52290 | | |
| 24 | TOTAL | | | | | | \$250.00 | | \$250.00 | 0.0% |
| 25 | 42C Firm Sales | 572,162 | 10,000 | 15,829.0 | \$1,300.00 | \$0.36597 | | \$0.36498 | | |
| 26 | Block 2 | 452,310 | 20,000 | | | \$0.35176 | | \$0.35087 | | |
| 27 | Block 3 | 113,398 | 20,000 | | | \$0.32347 | | \$0.32279 | | |
| 28 | Block 4 | 1,826 | 100,000 | | | \$0.30485 | | \$0.30431 | | |
| 29 | Block 5 | 0 | 600,000 | | | \$0.28003 | | \$0.27966 | | |
| 30 | Block 6 | 0 | all additional | | | \$0.24900 | | \$0.24887 | | |
| 31 | TOTAL | | | | | | \$7,010.11 | | \$6,995.02 | -0.2% |
| 32 | 42I Firm Sales | 1,138,365 | 10,000 | 13,507.0 | \$1,300.00 | \$0.35161 | | \$0.35161 | | |
| 33 | Block 2 | 725,589 | 20,000 | | | \$0.33889 | | \$0.33889 | | |
| 34 | Block 3 | 81,079 | 20,000 | | | \$0.31360 | | \$0.31360 | | |
| 35 | Block 4 | 0 | 100,000 | | | \$0.29696 | | \$0.29696 | | |
| 36 | Block 5 | 0 | 600,000 | | | \$0.27478 | | \$0.27478 | | |
| 37 | Block 6 | 0 | all additional | | | \$0.24703 | | \$0.24703 | | |
| 38 | TOTAL | | | | | | \$6,004.59 | | \$6,004.59 | 0.0% |
| 39 | 42 Firm Trans | 1,313,594 | 10,000 | 41,245.0 | \$1,550.00 | \$0.11818 | | \$0.11818 | | |
| 40 | Block 2 | 1,609,433 | 20,000 | | | \$0.10579 | | \$0.10579 | | |
| 41 | Block 3 | 1,138,813 | 20,000 | | | \$0.08112 | | \$0.08112 | | |
| 42 | Block 4 | 1,522,236 | 100,000 | | | \$0.06490 | | \$0.06490 | | |
| 43 | Block 5 | 355,242 | 600,000 | | | \$0.04327 | | \$0.04327 | | |
| 44 | Block 6 | 0 | all additional | | | \$0.01622 | | \$0.01622 | | |
| 45 | TOTAL | | | | | | \$5,759.79 | | \$5,759.79 | 0.0% |
| 46 | 42C Interr Sales | 250,151 | 10,000 | 28,810.0 | \$1,300.00 | \$0.38133 | | \$0.38463 | | |
| 47 | Block 2 | 486,821 | 20,000 | | | \$0.36796 | | \$0.37091 | | |
| 48 | Block 3 | 246,036 | 20,000 | | | \$0.34134 | | \$0.34360 | | |
| 49 | Block 4 | 54,140 | 100,000 | | | \$0.32384 | | \$0.32565 | | |
| 50 | Block 5 | 0 | 600,000 | | | \$0.30050 | | \$0.30171 | | |
| 51 | Block 6 | 0 | all additional | | | \$0.27134 | | \$0.27179 | | |
| 52 | TOTAL | | | | | | \$12,034.63 | | \$12,123.12 | 0.7% |
| 53 | 42I Interr Sales | 179,269 | 10,000 | 13,310.0 | \$1,300.00 | \$0.37670 | | \$0.37670 | | |
| 54 | Block 2 | 140,180 | 20,000 | | | \$0.36381 | | \$0.36381 | | |
| 55 | Block 3 | 0 | 20,000 | | | \$0.33817 | | \$0.33817 | | |
| 56 | Block 4 | 0 | 100,000 | | | \$0.32130 | | \$0.32130 | | |
| 57 | Block 5 | 0 | 600,000 | | | \$0.29879 | | \$0.29879 | | |
| 58 | Block 6 | 0 | all additional | | | \$0.27069 | | \$0.27069 | | |
| 59 | TOTAL | | | | | | \$6,271.21 | | \$6,271.21 | 0.0% |
| 60 | 42 Inter Trans | 906,535 | 10,000 | 81,264.0 | \$1,550.00 | \$0.11818 | | \$0.11818 | | |
| 61 | Block 2 | 1,644,618 | 20,000 | | | \$0.10579 | | \$0.10579 | | |
| 62 | Block 3 | 1,375,643 | 20,000 | | | \$0.08112 | | \$0.08112 | | |
| 63 | Block 4 | 4,240,259 | 100,000 | | | \$0.06490 | | \$0.06490 | | |
| 64 | Block 5 | 2,559,794 | 600,000 | | | \$0.04327 | | \$0.04327 | | |
| 65 | Block 6 | 0 | all additional | | | \$0.01622 | | \$0.01622 | | |
| 66 | TOTAL | | | | | | \$8,499.03 | | \$8,499.03 | 0.0% |
| 67 | 43 Firm Trans | 0 | N/A | 0.0 | \$38,000.00 | \$0.00499 | \$38,000.00 | \$0.00499 | \$38,000.00 | 0.0% |
| 68 | 43 Interr Trans | 0 | N/A | 0.0 | \$38,000.00 | \$0.00499 | \$38,000.00 | \$0.00499 | \$38,000.00 | 0.0% |
| 69 | Intentionally blank | | | | | | | | | |

[1] Rate Schedule 41 and 42 customers may choose demand charges at a volumetric rate or based on MDDV. For convenience of presentation, demand charges are not included in the calculations for those schedules.

[2] Proposed rates include the effect of removing the current Schedule 215 adjustment and applying the proposed Schedule 215 adjustment. The rate shown is for illustrative purposes only and assumes no other changes to rates occur November 1.

Sources:

| | | |
|---------------|------------|------------|
| Direct Inputs | per Tariff | per Tariff |
|---------------|------------|------------|

| | |
|------------------|----------|
| Rates in summary | Column A |
|------------------|----------|

NW Natural
 Rates & Regulatory Affairs
 2018-2019 PGA Filing - Washington: September Filing
 Summary of Deferred Accounts

| Account | A | B | C | D | E | F | G | H | I |
|--|-------------------|----------------------------|------------------|------------------------------|--|---|----------------------------------|--------------------------------|---|
| | Balance 8/31/2018 | Sep-Oct Estimated Activity | Sep-Oct Interest | Estimated Balance 10/31/2018 | Estimated Interest During Amortization | Total Estimated Amount for (Refund) or Collection | Amounts Excluded from PGA Filing | Amounts Included in PGA Filing | |
| DSM & LOW INCOME PROGRAMS | | | | | | | | | |
| 11 186310 WA Energy Efficiency General (2017 calendar only) | 94,112 | 0 | 758 | 94,870 | | | | | |
| 12 186312 WA Energy Efficiency Res & Comm (2017 calendar only) | 2,225,102 | 0 | 17,929 | 2,243,032 | | | | | |
| 13 186316 WA DSM AMORTIZATION | 93,868 | (195,136) | 115 | (101,153) | | | | | |
| | 2,413,083 | (195,136) | 18,803 | 2,236,750 | 60,548 | 2,297,298 | 1,858,894 | 2,297,298 | |

E = sum B thru D
 F = 4.96%
 G = E + F
 Excl. Rev Sens

Company: Northwest Natural Gas Company
State: Washington
Description: Washington Energy Efficiency Programs - General Admin
Account Number: 186310
Other Info: Program under Schedule G
Temp Increment under Schedule 215

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | | | | | | | | | | | |
|-------|-------------------|------------|------|-------------|-----------|---------------|----------|-------------------|------------------------|------------------------|------------------------|----------------|------------|-----------------------|-----------------------|-----------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|--|--|--|--|--|--|
| Debit | (Credit) | Month/Year | Note | Deferral | Transfers | Interest Rate | Interest | Calendar Interest | 2016 Calendar Interest | 2017 Calendar Interest | 2018 Calendar Interest | Total Activity | Balance | 2016 Calendar Balance | 2017 Calendar Balance | 2018 Calendar Balance | | | | | | | | | | | | | | | | | | | | | | | | |
| (a) | (b) | (c) | (d) | (e1) | (e2) | (e3) | (e4) | (e5) | (e6) | (f) | (g1) | (g2) | (g3) | (g4) | (g5) | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Beginning Balance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 107 | Jan-17 | 4,726.73 | | | | 3.50% | 85.78 | 78.88 | 6.90 | 4,812.51 | 31,858.51 | 27,124.88 | 4,733.63 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 108 | Feb-17 | 9,926.36 | | | | 3.50% | 107.40 | 79.11 | 28.29 | 10,033.76 | 41,892.27 | 27,203.99 | 14,688.28 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 109 | Mar-17 | 11,054.54 | | | | 3.50% | 138.31 | 79.34 | 58.97 | 11,192.85 | 53,085.12 | 27,283.33 | 25,801.79 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 110 | Apr-17 | 9,267.52 | | | | 3.71% | 178.45 | 84.35 | 94.10 | 9,445.97 | 62,531.09 | 27,367.68 | 35,163.41 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 111 | May-17 | 7,492.63 | | | | 3.71% | 204.91 | 84.61 | 120.30 | 7,697.54 | 70,228.63 | 27,452.29 | 42,776.34 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 112 | Jun-17 | 277.54 | | | | 3.71% | 217.55 | 84.87 | 132.68 | 495.09 | 70,723.72 | 27,537.16 | 43,186.56 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 113 | Jul-17 | 462.55 | | (1.26) | | 3.96% | 234.15 | 90.87 | 143.28 | 695.44 | 71,419.16 | 27,628.03 | 43,791.13 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 114 | Aug-17 | 22,348.15 | | | | 3.96% | 272.56 | 91.17 | 181.39 | 22,620.71 | 94,039.87 | 27,719.20 | 66,320.67 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 115 | Sep-17 | 5,438.83 | | | | 3.96% | 319.31 | 91.47 | 227.84 | 5,758.14 | 99,798.01 | 27,810.67 | 71,987.34 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 116 | Oct-17 | 1,033.87 | | | | 4.21% | 351.94 | 97.57 | 254.37 | 1,385.81 | 101,183.82 | 27,908.24 | 73,275.58 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 117 | Nov-17 | 11,557.93 | 1 | (27,902.45) | | 4.21% | 277.37 | 97.57 | 277.37 | (16,067.15) | 85,116.67 | | 85,116.67 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 118 | Dec-17 | 5,944.98 | | | | 4.21% | 309.05 | 309.05 | 309.05 | 6,254.03 | 91,370.70 | | 91,370.70 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 119 | Jan-18 | 11,022.12 | | | | 4.25% | 343.12 | 323.60 | 323.60 | 11,365.24 | 102,735.94 | | 102,735.94 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 120 | Feb-18 | 7,072.02 | | | | 4.25% | 376.38 | 324.75 | 324.75 | 7,448.40 | 110,184.34 | | 110,184.34 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 121 | Mar-18 | 2,120.03 | | | | 4.25% | 393.99 | 325.90 | 325.90 | 2,514.02 | 112,698.36 | | 112,698.36 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 122 | Apr-18 | 3,486.65 | | | | 4.47% | 426.30 | 343.98 | 343.98 | 3,912.95 | 116,611.31 | | 116,611.31 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 123 | May-18 | 4,127.70 | | | | 4.47% | 442.06 | 345.27 | 345.27 | 4,569.76 | 121,181.07 | | 121,181.07 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 124 | Jun-18 | 6,080.13 | | | | 4.47% | 462.72 | 346.55 | 346.55 | 6,542.85 | 127,723.92 | | 127,723.92 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 125 | Jul-18 | 3,647.95 | | | | 4.69% | 506.32 | 364.96 | 364.96 | 4,154.27 | 131,878.19 | | 131,878.19 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 126 | Aug-18 | 4,936.38 | | | | 4.69% | 525.07 | 366.39 | 366.39 | 5,461.45 | 137,339.64 | | 137,339.64 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 127 | Sep-18 | | | | | 4.69% | 536.77 | 367.82 | 367.82 | 536.77 | 137,876.41 | | 137,876.41 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 128 | Oct-18 | | | | | 4.96% | 569.89 | 390.52 | 390.52 | 569.89 | 138,446.30 | | 138,446.30 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

History truncated for ease of viewing

Notes:

- 1 - Transferred Dec 2016 deferral balance plus 2017 interest on the balance to account 186316 for amortization
- 2 - Transfer amount is for true-up to GL.

Company: Northwest Natural Gas Company
 State: Washington
 Description: Washington Energy Efficiency - Res & Comm
 Account Number: 186312
 Other Info: Program under Schedules G
 Temp Increment under Schedule 215

| Debit (Credit) | Month/Year | Note | Accumulation | Transfers | Interest Rate | Interest | Calendar Interest | Calendar Interest | Total Activity | Balance | 2016 Calendar Balance | 2017 Calendar Balance | 2018 Calendar Balance |
|----------------|-------------------|------|--------------|----------------|---------------|-----------|-------------------|-------------------|----------------|--------------|-----------------------|-----------------------|-----------------------|
| | (a) | (b) | (c) | (d) | (e1) | (e2) | (e4) | (e5) | (f) | (g1) | (g3) | (g4) | (g5) |
| 7 | Beginning Balance | | | | | | | | | | | | |
| 100 | Jan-17 | | 0.00 | | 3.50% | 5,738.69 | 5,738.69 | 0.00 | 5,738.69 | 1,973,288.52 | 1,973,288.52 | 0.00 | |
| 101 | Feb-17 | | 0.00 | | 3.50% | 5,755.42 | 5,755.42 | 0.00 | 5,755.42 | 1,979,043.94 | 1,979,043.94 | 0.00 | |
| 102 | Mar-17 | | 544,100.00 | | 3.50% | 6,565.69 | 5,772.21 | 793.48 | 550,665.69 | 2,529,709.63 | 1,984,816.15 | 544,893.48 | |
| 103 | Apr-17 | | 0.00 | | 3.71% | 7,821.02 | 6,136.39 | 1,684.63 | 7,821.02 | 2,537,530.65 | 1,990,952.54 | 546,578.11 | |
| 104 | May-17 | | 0.00 | | 3.71% | 7,845.20 | 6,155.36 | 1,689.84 | 7,845.20 | 2,545,375.85 | 1,997,107.90 | 548,267.95 | |
| 105 | Jun-17 | | 0.00 | | 3.71% | 7,869.45 | 6,174.39 | 1,695.06 | 7,869.45 | 2,553,245.30 | 2,003,282.29 | 549,963.01 | |
| 106 | Jul-17 | 2 | 538,367.00 | (1.18) | 3.96% | 9,314.01 | 6,610.83 | 2,703.18 | 547,679.83 | 3,100,925.13 | 2,009,893.12 | 1,091,032.01 | |
| 107 | Aug-17 | | 0.00 | | 3.96% | 10,233.05 | 6,632.65 | 3,600.40 | 10,233.05 | 3,111,158.18 | 2,016,525.77 | 1,094,632.41 | |
| 108 | Sep-17 | | 938,367.00 | | 3.96% | 11,815.13 | 6,654.54 | 5,160.59 | 950,182.13 | 4,061,340.31 | 2,023,180.31 | 2,038,160.00 | |
| 109 | Oct-17 | | 0.00 | | 4.21% | 14,248.54 | 7,097.99 | 7,150.55 | 14,248.54 | 4,075,588.85 | 2,030,278.30 | 2,045,310.55 | |
| 110 | Nov-17 | 1 | 0.00 | (2,029,856.81) | 4.21% | 7,177.11 | 7,097.99 | 7,177.11 | (2,022,679.70) | 2,052,909.15 | | 2,052,909.15 | |
| 111 | Dec-17 | | 100,000.00 | | 4.21% | 7,377.71 | 7,377.71 | 7,377.71 | 107,377.71 | 2,160,286.86 | | 2,160,286.86 | |
| 112 | Jan-18 | | 100,000.00 | | 4.25% | 7,828.10 | 7,828.10 | 7,651.02 | 107,828.10 | 2,268,114.96 | | 2,167,937.88 | 100,177.08 |
| 113 | Feb-18 | | 822,689.00 | | 4.25% | 9,489.75 | 9,489.75 | 7,678.11 | 832,178.75 | 3,100,293.71 | | 2,175,615.99 | 924,677.72 |
| 114 | Mar-18 | | 0.00 | | 4.25% | 10,980.21 | 10,980.21 | 7,705.31 | 10,980.21 | 3,111,273.92 | | 2,183,321.30 | 927,952.62 |
| 115 | Apr-18 | | 0.00 | | 4.47% | 11,589.50 | 11,589.50 | 8,132.87 | 11,589.50 | 3,122,863.42 | | 2,191,454.17 | 931,409.25 |
| 116 | May-18 | | 75,861.50 | | 4.47% | 11,773.96 | 11,773.96 | 8,163.17 | 87,635.46 | 3,210,498.88 | | 2,199,617.34 | 1,010,881.54 |
| 117 | Jun-18 | | 37,930.75 | | 4.47% | 12,029.75 | 12,029.75 | 8,193.57 | 49,960.50 | 3,260,459.38 | | 2,207,810.91 | 1,052,648.47 |
| 118 | Jul-18 | | 683,433.00 | | 4.69% | 14,078.50 | 14,078.50 | 8,628.86 | 697,511.50 | 3,957,970.88 | | 2,216,439.77 | 1,741,531.11 |
| 119 | Aug-18 | | 0.00 | | 4.69% | 15,469.07 | 15,469.07 | 8,662.59 | 15,469.07 | 3,973,439.95 | | 2,225,102.36 | 1,748,337.59 |
| 120 | Sep-18 | | 0.00 | | 4.69% | 15,529.53 | 15,529.53 | 8,696.44 | 15,529.53 | 3,988,969.48 | | 2,233,798.80 | 1,755,170.68 |
| 121 | Oct-18 | | 0.00 | | 4.96% | 16,487.74 | 16,487.74 | 9,233.04 | 16,487.74 | 4,005,457.22 | | 2,243,031.84 | 1,762,425.38 |

History truncated for ease of viewing

Notes:

1 - Transferred Dec 2016 deferral balance plus 2017 interest on the balance to account 186316 for amortization
 2 - Transfer amount is for true-up to GL.

Company: Northwest Natural Gas Company
 State: Washington
 Description: Washington DSM Amortization
 Account Number: 186316
 Program under Schedule G
 Temp Increment under Schedule 215

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|-------|----------|-------------------|------------|--------------|--------------|---------------|----------|--------------|--------------|----|----|----|
| Debit | (Credit) | Month/Year | Note | Amortization | Transfers | Interest Rate | Interest | Activity | Balance | | | |
| | | (a) | (b) | (c) | (d) | (e1) | (e2) | (f) | (g) | | | |
| | | Beginning Balance | | | | | | | | | | |
| 151 | | Nov-17 | new (1) | (66,287.54) | 2,057,759.26 | 4.21% | 7,103.03 | 1,998,574.75 | 1,709,231.13 | | | |
| 152 | | Dec-17 | | (269,421.45) | | 4.21% | 5,523.94 | (263,897.51) | 1,445,333.62 | | | |
| 153 | | Jan-18 | | (350,788.34) | | 4.25% | 4,497.70 | (346,290.64) | 1,099,042.98 | | | |
| 154 | | Feb-18 | | (250,201.22) | | 4.25% | 3,449.38 | (246,751.84) | 852,291.14 | | | |
| 155 | | Mar-18 | | (277,607.39) | | 4.25% | 2,526.93 | (275,080.46) | 577,210.68 | | | |
| 156 | | Apr-18 | | (201,019.24) | | 4.47% | 1,775.71 | (199,243.53) | 377,967.15 | | | |
| 157 | | May-18 | | (106,757.96) | | 4.47% | 1,209.09 | (105,548.87) | 272,418.28 | | | |
| 158 | | Jun-18 | | (71,637.39) | | 4.47% | 881.33 | (70,756.06) | 201,662.22 | | | |
| 159 | | Jul-18 | | (59,735.18) | | 4.69% | 671.43 | (59,063.75) | 142,598.47 | | | |
| 160 | | Aug-18 | | (49,191.31) | | 4.69% | 461.19 | (48,730.12) | 93,868.35 | | | |
| 161 | | Sep-18 | Forecasted | (59,072.14) | | 4.69% | 251.43 | (58,820.71) | 35,047.64 | | | |
| 162 | | Oct-18 | Forecasted | (136,064.06) | | 4.96% | (136.34) | (136,200.40) | (101,152.76) | | | |
| 163 | | | | | | | | | | | | |

History truncated for ease of viewing

Notes

1 - Transfer in amounts from accounts 186310 and 186312 approved for amortization.

Rates & Regulatory Affairs
2018-19 Washington: September Filing Updating Energy Efficiency Schedule 215
Tariff Advice 18-03: Schedule 215 Effects on Revenue

| | <u>Amount</u> | <u>Reference</u> |
|----|---------------|------------------|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |

| | | |
|--|--|---|
| | Temporary Increments | |
| | Removal of Current Temporary Increments | |
| | Amortization of Energy Efficiency Programs | (1,932,254) |
| | | NWN 2017-18 Washington PGA rate development file September.xlsx |
| | Addition of Proposed Temporary Increments | |
| | Amortization of Energy Efficiency Programs | 2,402,328 |
| | | NWN 2018-19 Washington PGA rate development file September.xlsx |
| | TOTAL OF ALL COMPONENTS OF RATE CHANGES | \$470,074 |
| | | |
| | 2017 Washington CBR Normalized Total Revenues | \$69,186,477 |
| | Effect of this filing, as a percentage change | 0.68% |

GAIL HAMMER
Tariffs and Regulatory Compliance
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Fax: 503.721.2516
Email: gail.hammer@nwnatural.com



VIA ELECTRONIC FILING

April 25, 2018

Steven King, Executive Director & Secretary
Washington Utilities and Transportation Commission
1300 S Evergreen Park Drive SW
Post Office Box 47250
Olympia, Washington 98504-7250

Re: UG-161259, 2017 Annual Report on NW Natural's Energy Efficiency (EE) Program

Dear Mr. King:

Northwest Natural Gas Company, dba NW Natural ("NW Natural" or the "Company") hereby files the 2017 Annual Report on the Company's Energy Efficiency program. This report is submitted in compliance with the Company's Energy Efficiency Plan ("EE Plan") which is by reference part of the "Company's" Tariff Schedule G, "Energy Efficiency Services and Programs – Residential and Commercial," and was filed and approved in Docket UG-161259.

In 2017, the Company's Energy Efficiency program for residential and commercial customers saved 391,606 therms at a cost of \$2,152,973. The Washington Low-Income Energy Efficiency program saved 6,132 therms at a cost of \$88,383. These two programs, in addition to \$74,526 for the Northwest Energy Efficiency Alliance natural gas market transformation pilot, saved 397,738 therms at a cost of \$2,315,882.

The Company's Energy Efficiency program is monitored by the interested parties who have formed the Energy Efficiency Advisory Group (EEAG) in compliance with the stipulated agreement approved in Order 04 in the Company's rate case, Docket UG-080546 and the Company's Energy Efficiency Plan.

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Washington Utilities & Transportation Commission
UG-161259, NW Natural's 2017 Annual EE Program Report
April 25, 2018, Page 2

If you have any questions, please call me at (503) 226-4211, extension 5865.

Respectfully submitted,

/s/ Gail Hammer

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Rates and Regulatory Consultant 2
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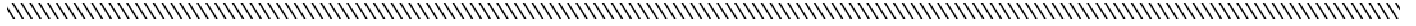
cc: EEAG

Enclosure
UG-161259-NWNs-2017-Energy-Efficiency-Program-ARpt-04-25-2018

2017 Annual Report

NW Natural Washington

INCENTIVE PROGRAM & NEEA MARKET TRANSFORMATION



ENERGY TRUST OF OREGON
APRIL 25, 2018

I. Introduction, background, oversight and goals

A. Introduction

This annual report covers 2017, the eighth full year that Energy Trust of Oregon provided services and incentives to residential and commercial customers of NW Natural in Washington. It addresses progress toward annual goals, information on expenditures, gas savings, projects completed, incentives paid during the year and highlights of program activity.

B. Background

At the request of NW Natural and following approval granted by the Washington Utilities and Transportation Commission (WUTC), Energy Trust began administering NW Natural's demand-side management programs in Southwest Washington on October 1, 2009. The first year was viewed as a pilot. Satisfied with results from the pilot year, in 2011 the WUTC approved Energy Trust's continued administration of conservation programs for NW Natural in Washington.

C. Oversight

The Energy Efficiency Advisory Group (EEAG) was created, at the direction of the WUTC, to provide advice and oversight for NW Natural and Energy Trust energy-efficiency offerings in Washington. The advisory group is comprised of representatives from NW Natural, Energy Trust, WUTC, Washington Public Counsel, Northwest Industrial Gas Users and the Northwest Energy Coalition.

D. Goals

NW Natural, in collaboration with the EEAG, established performance metrics for 2017. This report presents Energy Trust's performance against those goals. The total savings goal for the portfolio was 282,539 therms. This is comprised of 68,253 therms for Existing Homes, 57,761 therms for New Homes and Products, and 156,525 therms for Commercial.

II. Annual report highlights

A. General

- **In 2017, Energy Trust saved a total of 391,606 therms and achieved 139 percent of the annual portfolio goal.**
- **Gas efficiency measures installed in 2017** by NW Natural's Washington customers saved 391,606 total annual therms of natural gas—including 154,866 annual therms in the commercial sector, 123,724 annual therms in Existing Homes and 113,017 annual therms in New Homes and Products programs.
- **In total, savings achieved in 2017 were 18 percent higher than 2016 savings, due to a strong residential new construction market.** A strong local economy was likely a contributing factor in many homeowners' decisions to make home energy upgrades in 2017, including efficient gas furnace installations and window replacements.

B. Commercial sector highlights

- **The commercial sector achieved 99 percent of the annual goal.**
- **Approximately 70 percent of commercial savings were from boiler projects.** Savings from boilers increased 400 percent from 2016.
- **The standard track performed at 180 percent over goal,** due in large part to the high savings from boiler projects and consistent savings from foodservice equipment. The custom track only achieved 27 percent of goal, primarily due to the delay of eight schools projects from 2017 to 2018 that are expected to bring in 34,871 therms to the program.
- **The schools sector emerged as a significant source of savings in 2017.** The program expects savings from schools to remain significant in 2018 and beyond due to passage of bond measures funding construction of new school facilities.
- **The commercial program increased outreach and promotion of new commercial construction offerings to trade allies, architects and key customers.** The increased outreach resulted in achieving 95,624 therm savings, making up almost 62 percent of the commercial savings goal.

C. Residential sector highlights

- **The residential sector saved nearly double the annual goal of 126,014 therms.**

Existing Homes

- **Existing Homes saved 123,724 annual therms** in 2017, primarily through furnaces (33 percent of total Existing Homes savings), fireplaces with electronic ignition (21 percent), Energy Saver Kits (15 percent) and Nest Seasonal Savings (12 percent).
- **HVAC contributed 77 percent of Existing Homes savings in 2017.**
- **Furnace savings increased by 34 percent** compared to 2016 results, while fireplaces continued to decrease in volume as savings dropped by 27 percent compared to 2016.
- **On-bill repayment financing was used for 28 projects** in 2017, a 36 percent increase compared to 2016. Resulting in savings of 2,204 therms, all 28 projects were gas furnace upgrades. Energy Trust paid \$5,450 in incentives and customers took out \$225,517 in loans.

Financing with on-bill repayment reduces the upfront cost as a barrier to installing energy-efficient upgrades.

- **Existing Homes recognized 40 percent more smart thermostats** in 2017 compared to 2016. Smart thermostats were bolstered by increased customer awareness, simple online incentive applications and cross promotion with Clark Public Utilities.
- **Existing Homes shifted gas tank water heater incentives to a midstream approach.** Midstream incentives are provided to distributors and retailers to encourage stocking of energy-efficient equipment and reduce costs for customers.
- **The program introduced a new customer-facing tankless water heater incentive.**
- **Existing Homes launched measure-specific strategies to improve the overall incentive-to-delivery ratio and to lower the cost of gas savings.** Less expensive acquisition strategies succeeded in supporting the cost-effectiveness of the Washington portfolio. Strategies included promotion of several highly cost-effective savings strategies, including launching a marketing campaign promoting Energy Saver Kit, working with Nest Labs to launch Nest Seasonal Savings customer engagement, and claiming a full-year of gas fireplace electronic ignition sales data and savings.

New Homes and Products

- **More than 3,000 EPS and ENERGY STAR® homes have been recognized** through New Homes since program inception in 2010.
- **Despite a new residential energy code baseline, the New Homes Program exceeded savings** and participation expectations with nearly 200 more homes recognized in 2017 than originally forecasted. The total market share of energy-efficient homes is 55 percent.
- **New Homes and Products spent 76 percent more on incentives than budgeted** primarily due to the strong housing market and faster than expected adoption of EPS during a new code cycle year. The forecast and budget for 2018 reflects this higher level of adoption.
- **The New Homes program had one new verifier join the program** in 2017, bringing the total number of verifiers to five.
- **New Homes started working with four new EPS home builders** in Washington, bringing the total number of builders to 16. Five EPS verifiers also serve Washington.
- **Nearly 5,000 high-efficiency showerheads contributed 36 percent of New Homes and Products savings**, up from 8 percent of savings from showerheads in 2016. Strong savings can be attributed in part to Simple Steps, Smart Savings™ promotions that increased sales at participating retailers.

Trade Ally Network Highlights

- **By year-end, 236 trade allies served Washington, up from 207 in 2016**, for a net difference of 29. This includes 83 trade allies based in Washington.
- **Energy Trust enrolled 36 new trade allies serving Washington in 2017.**

Program evaluations

- No Washington focused evaluations were performed or completed in 2017.
- Energy Trust anticipates spending NW Natural Washington evaluation funds in 2018 as part of an Existing Buildings Process Evaluation that will include Washington.
- A Residential Process Evaluation, which will also include Washington, is planned for 2019.

Washington Utilities and Transportation Commission performance metrics

The table below compares quarterly results to 2017 goals, as established in NW Natural's Energy Efficiency Plan for Washington (filed December 2017).

2017 results compared to goals

| Metrics | Goal | 2017 YTD | Q1 results | Q2 results | Q3 results | Q4 results |
|------------------------------------|------------------|-------------|-------------------|-------------------|-------------------|-------------------|
| Therms Saved | 282,539 | 391,606 | 74,794 | 82,776 | 69,878 | 164,157 |
| Total Program Costs | \$1,975,211 | \$2,152,973 | \$442,268 | \$416,377 | \$557,266 | \$737,063 |
| Average Levelized Cost Per Measure | Less than \$0.65 | \$0.41 | \$0.40 | \$0.41 | \$0.56 | \$0.34 |
| Utility Costs at Portfolio Level | Greater than 1.0 | 1.69 | Reported annually | Reported annually | Reported annually | Reported annually |

- This table does not include savings goal or budget associated with NW Natural's Washington Low-Income Energy Efficiency (WA-LIEE) program delivery.
- Northwest Energy Efficiency Alliance (NEEA) gas market transformation activities are not included in this table.

2016 results compared to goals for reference

| Metrics | Goal | 2016 Actuals | Q1 results | Q2 results | Q3 results | Q4 results |
|------------------------------------|---------------------------|--------------|-------------------|-------------------|-------------------|-------------------|
| Therms Saved | 223,706 - 263,184 | 330,866 | 24,195 | 48,227 | 73,153 | 185,291 |
| Total Program Costs | \$1,441,218 - \$1,695,551 | \$1,818,821 | \$261,402 | \$331,106 | \$466,681 | \$759,633 |
| Average Levelized Cost Per Measure | Less than \$0.65 | \$0.41 | \$0.81 | \$0.54 | \$0.44 | \$0.31 |
| Utility Costs at Portfolio Level | Greater than 1.0 | 1.53 | Reported annually | Reported annually | Reported annually | Reported annually |

2017 Utility Cost and Total Resource Cost benefit cost ratios by program

| Program | Utility Cost Test benefit/cost ratio | Total Resource Cost Test benefit/cost ratio |
|--|--------------------------------------|---|
| Commercial | 1.90 | 2.50 |
| Existing Homes | 1.81 | 1.35 |
| New Homes and Products | 1.38 | 0.77 |
| Total NW Natural Washington portfolio | 1.69 | 1.25 |

- Does not include NEEA or WA-LIEE expenses.

2017 Total Utility Cost and Total Resource Cost benefit cost ratios

| Program | Utility Cost Test Benefit Cost Ratio | Total Resource Cost Test Benefit Cost Ratio |
|------------------------------------|---|--|
| NW Natural Washington Portfolio | 1.69 | 1.25 |
| NW Natural Washington Low Income | 1.02 | 0.75 |
| Total NW Natural Washington | 1.66 | 1.24 |
| Total Washington Portfolio* | 1.61 | 1.22 |

- * Includes NEEA expenses

III Annual Results

A. Activity highlights—sites served

| | Q1 | Q2 | Q3 | Q4 | Total |
|---|----|-----|-----|-----|-------|
| Commercial | | | | | |
| Boiler | 3 | 1 | 6 | 9 | 19 |
| Commercial laundry washer | - | - | - | - | - |
| Commercial tankless water heater | - | - | - | - | - |
| Condensing tank water heater | - | 4 | 2 | 11 | 17 |
| Custom building controls | - | 1 | - | - | 1 |
| Dishwasher | 1 | 4 | - | - | 5 |
| Gas convection oven | - | 2 | 1 | 1 | 4 |
| Gas combination oven | - | - | - | - | - |
| Gas fryer | - | 23 | 7 | 10 | 40 |
| Gas griddle | - | - | - | - | - |
| High-efficiency condensing furnace | - | - | - | - | - |
| High-efficiency condensing unit heater | - | - | - | - | - |
| Custom | - | 1 | - | 2 | 3 |
| Pipe insulation | - | - | - | - | - |
| Roof insulation | - | - | 1 | - | 1 |
| Studies | 3 | 1 | 7 | - | 11 |
| Wall insulation | - | - | - | - | - |
| Existing Homes | | | | | |
| Weatherization (insulation, air and duct sealing and windows) | 26 | 48 | 71 | 92 | 237 |
| Gas hearths | 9 | 28 | 10 | 16 | 63 |
| Energy Saver Kits | 14 | 64 | 39 | 618 | 735 |
| Smart thermostats | 54 | 59 | 60 | 144 | 317 |
| Gas Boilers | - | - | - | 1 | 1 |
| Gas furnaces | 65 | 118 | 137 | 187 | 507 |
| Water heaters | 1 | 1 | 3 | 5 | 10 |
| Online Home Energy Reviews | 64 | 50 | 39 | 35 | 188 |
| New Homes | | | | | |
| New EPS homes | 88 | 175 | 155 | 370 | 788 |

B. Revenue

| Source | Actual revenue | Budgeted revenue |
|---------------|----------------|------------------|
| NW Natural \$ | 2,120,834 \$ | 2,020,834 |

- Energy Trust requested that NW Natural distribute additional revenue at year-end to ensure adequate funds were available to support programs that performed above average.

C. Expenditures

| | | Actual | Budgeted | Variance |
|---------------------------|-----------------------------------|---------------------|---------------------|---------------------|
| | | expenditures | expenditures | |
| Commercial programs | Commercial | \$ 815,529 | \$ 813,201 | \$ (2,328) |
| | Commercial administration | \$ 33,314 | \$ 34,263 | \$ 949 |
| Commercial total | | \$ 848,843 | \$ 847,464 | \$ (1,379) |
| Residential programs | Existing Homes | \$ 502,567 | \$ 513,276 | \$ 10,710 |
| | Existing Homes administration | \$ 20,529 | \$ 21,626 | \$ 1,097 |
| | New Homes and Products | \$ 750,382 | \$ 568,799 | \$ (181,583) |
| | New Homes/products administration | \$ 30,652 | \$ 23,965 | \$ (6,687) |
| Residential total | | \$ 1,304,131 | \$ 1,127,667 | \$ (176,464) |
| NEEA | NEEA Commercial | \$ 14,320 | \$ 29,627 | \$ 15,307 |
| | NEEA Residential | \$ 57,281 | \$ 74,531 | \$ 17,250 |
| | NEEA administration | \$ 2,925 | \$ 4,389 | \$ 1,464 |
| NEEA total | | 74,526 | 108,546 | 34,021 |
| Total expenditures | | \$ 2,227,499 | \$ 2,083,677 | \$ (143,822) |

- The expressed budget differs from the filed NWN 2017 Energy Efficiency Plan by roughly \$100 due to variances related to small edits, rounding differences and slight differences in expected State of Washington taxes.
- Energy Trust allocated budget to NEEA for gas market transformation activities in 2017.

D. Incentives paid¹

| | | Actual | Actual | Percent incentives/ |
|--------------------------|-------------------------|---------------------|---------------------|---------------------|
| | | incentives | expenditures | expenditures |
| Commercial programs | Existing Buildings | \$ 449,814 | \$ 848,843 | 53% |
| | Commercial total | \$ 449,814 | \$ 848,843 | 53% |
| Residential programs | Existing Homes | \$ 254,633 | \$ 523,096 | 49% |
| | New Homes and Products | \$ 478,427 | \$ 781,035 | 61% |
| Residential total | | \$ 733,060 | \$ 1,304,131 | 56% |
| Total incentives | | \$ 1,182,874 | \$ 2,152,973 | 55% |

¹ NEEA expenditures excluded per NW Natural Washington's Energy Efficiency Plan.

E. Savings

| | | Therms saved YTD | Annual goal | Percent achieved YTD | Levelized cost/therm |
|----------------------|--------------------------|---------------------|----------------|-------------------------|-------------------------|
| Commercial programs | Existing Buildings | 154,866 | 156,525 | 99% | \$ 0.39 |
| | Commercial total | 154,866 | 156,525 | 99% | \$ 0.39 |
| Residential programs | Existing Homes | 123,724 | 68,253 | 181% | \$ 0.36 |
| | New Homes and Products | 113,017 | 57,761 | 196% | \$ 0.49 |
| | Residential total | 236,740 | 126,014 | 188% | \$ 0.42 |
| | Total savings | 391,606 | 282,539 | 139% | \$ 0.41 |

- Energy Trust allocated budget to NEEA for gas market transformation activities in 2017. While there were no associated savings to date, savings are expected in subsequent years.

NW Natural Appendix 1: 2017 energy efficiency measure counts and savings

Table 1: Residential sector measures

| Category | Measure | Measures installed | Total therms saved |
|----------------------------|--|--------------------|--------------------|
| Energy Saver Kits | Energy Saver Kits | 735 | 18,495 |
| | Energy Saver Kits total | 735 | 18,495 |
| Online Home Energy Reviews | Online Home Energy Reviews total | 188 | 0 |
| Weatherization | Ceiling insulation | 11 | 780 |
| | Duct Insulation | 2 | 25 |
| | Floor Insulation | 1 | 12 |
| | Wall insulation | 3 | 180 |
| | Windows | 220 | 8,201 |
| | Weatherization total | 237 | 9,198 |
| Space heating | Smart thermostats | 317 | 10,112 |
| | Seasonal Savings pilot | 917 | 14,672 |
| | Furnaces | 507 | 40,936 |
| | Gas Boilers | 1 | 44 |
| | Gas fireplaces | 67 | 3,864 |
| | Gas fireplace retailer & distributor SPIFs | 1,243 | 25,482 |
| | Space heating total | 3,052 | 95,110 |
| Water heating | Tank water heaters | 6 | 176 |
| | Tank water heater retailer & distributor SPIFs | 16 | 448 |
| | Tankless water heaters | 4 | 297 |
| | Water heating total | 26 | 921 |
| New homes and products | New EPS homes | 788 | 71,867 |
| | Water saving products | 4,986 | 41,150 |
| | New homes and products total | 5,774 | 113,017 |
| | Grand total | 10,012 | 236,740 |

Table 2: Commercial sector measures

| Category | Measures | Measures installed | Total therms saved |
|---|--|---------------------------|---------------------------|
| Commercial clothes washers | Clothes washer | - | - |
| Commercial clothes washers total | | - | - |
| Foodservice equipment | Dishwasher | 5 | 2,433 |
| | Gas convection oven | 4 | 1,510 |
| | Gas fryer | 40 | 22,760 |
| | Gas griddle | - | - |
| | Gas combination oven | - | - |
| Foodservice equipment total | | 49 | 26,703 |
| Shell insulation | Roof insulation | 1 | 675 |
| | Wall insulation | - | - |
| Shell insulation total | | 1 | 675 |
| Space heating | Gas-fired condensing boiler | 19 | 107,102 |
| | High-efficiency condensing furnace | - | - |
| | High-efficiency condensing unit heater | - | - |
| | Pipe insulation | - | - |
| Space heating total | | 19 | 107,102 |
| Water heating | Faucet aerators | - | - |
| | Commercial tankless water heater | - | - |
| | Condensing tank water heater | 17 | 4,132 |
| Water heating total | | 17 | 4,132 |
| Custom | Custom other | 3 | 16,254 |
| | Study | 11 | - |
| Custom total | | 14 | 16,254 |
| Grand Total | | 100 | 154,866 |

NW Natural Appendix 2: Customer satisfaction

In 2017, Energy Trust conducted short phone surveys of NW Natural customers in Washington to determine satisfaction with their participation in Energy Trust programs. Results from 176 residential customers and 10 commercial customers indicate a generally high level of customer satisfaction.

In 2017, more than 14.5 percent of residential customers submitted applications with missing information, delaying turnaround time to receive incentives. Energy Trust issued incentive checks for 99 percent of all completed applications within eight weeks, the time allowed in the service level agreement.

To improve customer satisfaction with incentive application forms and reduce turnaround time to receive incentives, Energy Trust enhanced paper and web forms to make them easier to complete. In addition, Energy Trust released a new website in 2017 featuring improvements to help Washington customers find appropriate forms faster and more easily.

To improve customer satisfaction in 2018, the program will focus on reducing incentive check wait times through a goal of cutting checks within four weeks of receiving a completed incentive application.

Table 1: NW Natural Washington residential customer satisfaction 2017

| Residential (n=176) | Dissatisfied | Neutral | Satisfied |
|--------------------------------------|--------------|---------|-----------|
| Overall satisfaction | 4% | 3% | 93% |
| Incentive application form | <1% | 6% | 94% |
| Turnaround time to receive incentive | 12% | 16% | 72% |

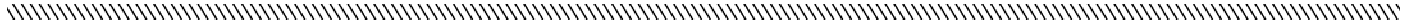
Energy Trust surveyed 10 commercial customers in Washington in 2017. Most respondents were satisfied with their overall program experience, incentive amount, ease of applying for the incentive and interaction with program representatives.

Table 2: NW Natural Washington commercial customer satisfaction 2017

| Commercial (n=10) | Dissatisfied | Neutral | Satisfied |
|---|--------------|---------|-----------|
| Overall satisfaction | 0 | 1 | 9 |
| Incentive amount | 0 | 0 | 10 |
| Ease of applying for incentive | 0 | 1 | 9 |
| Interaction with program representative | 0 | 0 | 9 |
| Performance of project or system | 0 | 1 | 9 |
| Turnaround time to receive incentive | 1 | 1 | 8 |

2017 Annual Report

NW Natural Washington



NW NATURAL MARKET TRANSFORMATION

NORTHWEST ENERGY EFFICIENCY ALLIANCE

APRIL 25, 2018



2017 Natural Gas Activities

INTRODUCTION

The Northwest Energy Efficiency Alliance (NEEA or "the alliance") is a non-profit organization working in collaboration with NW Natural and other natural gas utilities to accelerate the innovation and adoption of efficient natural gas products throughout the Northwest. With funding and direction from NW Natural and these other entities, the alliance intervenes in the market to create lasting change by removing barriers and leveraging opportunities to accelerate the adoption of cost-effective energy efficiency.

This report summarizes the alliance's 2017 natural gas business unit activities on behalf of NW Natural. For additional information about NEEA's natural gas programs, please visit neea.org.

NATURAL GAS MARKET TRANSFORMATION

By pooling resources through NEEA and working in collaboration with the region, NW Natural is accelerating the development and market adoption of efficient natural gas products, services, and practices in the Northwest. The goal of this effort is to deliver more energy efficiency options to NW Natural customers and increase the efficiency of natural gas use in the region.

Scanning: NEEA staff scan the market to identify promising new energy-efficient natural gas products, services and practices. In 2017, NEEA staff identified modulating residential furnaces as a possible new opportunity, vetted residential laundry ozone systems and investigated a gas variable-refrigerant flow evaluation project in conjunction with high-efficiency dedicated outdoor air supply systems.

Mid-Cycle Assessment/ Research: In 2017, the alliance conducted an independent mid-cycle assessment of the implementation and progress of the Natural Gas Business Plan and presented findings to the NEEA Board in September. Staff also completed Natural Gas Customer Segmentation Research to inform the design and strategy of natural gas market transformation programs, Hearth and rooftop HVAC market characterization studies. All published alliance reports are publicly available at: neea.org/resource-center.

- [NEEA Natural Gas Portfolio Mid-Cycle Assessment](#)
- [Market Characterization of the Northwest Natural Gas Hearth Market](#)
- [Natural Gas Segmentation Report](#)
- [Rooftop HVAC Market Characterization Report](#)

NATURAL GAS MARKET TRANSFORMATION PROGRAMS

Efficient Gas Water Heaters: In 2017, the natural gas collaborative revised the name of this program from “Gas-fired Heat Pump Water Heaters” to “Efficient Gas Water Heaters”. This change reflects the broad nature of the program, the importance of highlighting cost-effective efficiency shifts at multiple performance levels, and the need to remove perceived limitations on specific technology used to achieve more efficient gas water heating. In 2017, the alliance partnered with SaltX and Rheem to accelerate the development of a residential gas heat pump water heater and worked with A.O. Smith to develop and enhance its strategy for launching the first non-plug in ENERGY STAR gas water heater (overcoming a known market barrier and preparing the market for the introduction of higher efficiency products). The alliance also successfully influenced a gas technology developer to incorporate NEEA’s Advanced Water Heater Specification testing and performance criteria into its gas heat pump water heater product development plan. Integration of these elements will ensure the unit performs well in cooler climates and product requirements remain consistent as new products are developed, thus influencing manufacturer interest and commitment.

Combination Water and Space Heating Systems: In 2017, the alliance concluded a successful field study of internal combustion engine heat pump technology to understand the energy savings opportunity for commercial buildings. NEEA is leveraging the promising results of this study to partner with major HVAC manufacturers exploring combination system collaborations. The alliance also launched a project with Blue Mountain Energy and Oak Ridge National Labs to value-engineer a commercial gas heat pump for residential purposes and build and test proof-of-concept prototypes. The goal of this effort is to identify a clear channel for commercialization of a cost-competitive residential gas heat pump.

Super-Efficient Gas Clothes Dryers: The alliance is working to influence the introduction of super-efficient, natural gas-powered clothes dryers. In 2017, the alliance conducted a market characterization study in partnership with NEEA’s electric dryer program. Staff also updated the High Efficiency Residential Gas Dryers Specification Version 2.0 to include two additional tiers and kicked off lab testing of two ENERGY STAR qualified dryers to understand any changes made to the products since the last round of testing in 2015. At the request of Whirlpool, NEEA staff met with Whirlpool to discuss the potential for a Tier 3 (i.e., most efficient) product. NEEA will next develop a business case document for Whirlpool’s marketing and product development teams.

Rooftop HVAC: In 2017, the alliance completed a four-unit demonstration project of condensing rooftop HVAC units, which successfully validated manufacturer energy savings claims and revealed some issues with condensation management. Following the study, staff created a set of Condensate Management Installation best practice guides. NEEA staff also launched market channel development efforts focused on building and developing key manufacturer partnerships to accelerate the market adoption and acceptance of condensing rooftop units. In 2017, the program advanced through NEEA’s Initiative Start milestone following approval from NEEA’s Natural Gas Advisory Committee. Finally, staff began creating a road map for the development and implementation of a commercial gas furnace test method in partnership with representatives from Canada and United States to ensure cross-border consistency for manufacturer partners.

Hearth Products: In 2017, the alliance kicked off testing of a low-capacity hearth product in an effort to decrease gas consumption while maintaining a robust and aesthetically pleasing flame. NEEA staff submitted comments on Canadian Standards Association/ANSI gas fireplace safety standards that are being revised to remove allowances for standing pilot lights and published a report characterizing the Northwest market for natural gas hearths.

REGIONAL COLLABORATION

EFFICIENCY EXCHANGE – In May, 2017, the alliance co-hosted the annual Efficiency Exchange conference in collaboration with Bonneville Power Administration and the Northwest Power and Conservation Council. The regional conference, which provides a forum for energy efficiency professionals to share knowledge, explore emerging innovations and discuss the direction of utility efficiency programs, drew more than 400 attendees.

CONDUITNW.ORG – Developed in partnership with the Bonneville Power Administration, the Conduit online community facilitates information-sharing, coordination and collaboration among energy efficiency stakeholders in the Northwest. More than 3,100 energy efficiency professionals across the Northwest, including NW Natural staff, currently use Conduit.

REGIONAL COORDINATION

Alliance programs are coordinated through regional working groups and advisory committees, whose membership includes representatives from NW Natural. NEEA staff are grateful for the time and energy NW Natural staff have dedicated to participating in NEEA's Board and various sector advisory committees, including:

Natural Gas Advisory Committee:

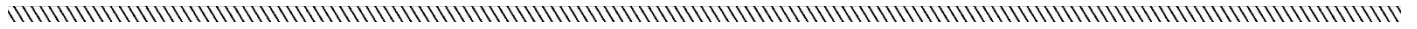
- Holly Braun, Manager, Energy Policy and Sustainability
- Gary Heikkinen, PE, Senior Engineer
- Rick Hodges, Energy Efficiency Programs Manager

ADDITIONAL INFORMATION

For additional information, NEEA's [2017 Quarterly Performance Reports](#) and the [2016 Annual Report](#) are available online. The alliance is committed to serving its regional stakeholders across diverse geographic areas and markets. NEEA staff encourage stakeholder participation and appreciate input at all NEEA board meetings, Advisory Committee meetings and energy efficiency events around the region. The next NEEA Board of Directors meeting is June 6 in Portland, OR. Meeting details will be posted on nea.org in advance.

2017 Annual Report

NW Natural Washington



NW NATURAL TRANSACTIONAL AUDIT 2017 PROGRAM COSTS

NW NATURAL
APRIL 25, 2018

Washington Energy Efficiency Program 2017 Transactional Audit Results

With the Washington Utilities and Transportation Commission (“WUTC”) review and approval of NW Natural’s (“NW Natural” or “Company”) request for amortization of 2013 energy efficiency program costs (Docket UG-143333), the Commission adopted the recommendation made by Commission Staff that NW Natural conduct a transactional audit of program costs relating to the Energy Trust of Oregon’s (“Energy Trust”) administration of the Company’s Washington energy efficiency programs. NW Natural agreed to the following audit schedule:

- By April 1 of each year, NW Natural will select a random sample of prior year program cost transactions from the Energy Trust. The sample size will be based on the population of transactions. A summary of the audit process and the Company’s findings or recommendations will be included in the April 25 Annual EE Report.
- IA noted that in future years, the audit will be done annually in April and cover the entire year, as agreed to by NW Natural and Energy Trust.

NW Natural’s Internal Audit Department (IA) completed a review of the Energy Trust of Oregon (ETO) expenditures billed for 7/30/2017 – 12/31/2017.

The assessment consisted of a review of ETO’s allocation and territory reporting policies, chart of accounts, and Report data relating to program effectiveness. IA Management and Staff reviewed with the Energy Trust Controller and the NW Natural Trade Ally Program Manager. Discussions included a review of the policies and procedures that were in place during the period under review as they related to the Management of NW Natural’s Washington EE program, the accounting processes and methodologies utilized by the Energy Trust, as well as efficiency measures that are obtained and reviewed by the Trade Ally Program Manager to ensure programs continue to be cost effective and beneficial.

Utilizing a statistical sampling model, based on a confidence level of 80% and a 10% margin of error, a representative sample of 41 line items were selected for detail review. The sample was inclusive of program, management, and incentive transactions, as well as accrual and correcting entries.

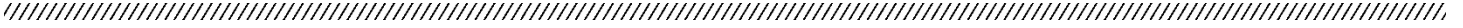
For selected transactions, IA verified balances were correctly captured within the proper period, transactions were appropriately classified and coded to NW Natural territories, allocations were completed per ETO policy and were related to NW Natural specific programs and territories, incentive details were properly captured, and management and program expenses appeared appropriate. Lastly, IA verified that programs captured within the detail testing were included within the annual report and reviewed for program effectiveness.

Based on the detail testing and interviews with Energy Trust Management, it appears that accounts properly reflect accumulated cost activity billed to the NW Natural Washington EE Program. Furthermore, programs billed have been assessed for cost effectiveness per the Energy Trust’s review process as outlined in the annual report.

2017 Annual Report

NW Natural Washington

WASHINGTON LOW INCOME ENERGY EFFICIENCY (WALIEE)



NW NATURAL
APRIL 25, 2018

Washington Low Income Energy Efficiency Program 2017 Program Results

NW Natural partners with Clark County’s Community Development Office and Washington Gorge Action Programs (WAGAP) serving Skamania and Klickitat counties to administer its Washington Low Income Energy Efficiency (WALIEE) program. While offerings are available in Skamania and Klickitat counties, the agency that serves these counties did not provide services to any customers through WALIEE during 2017. Results below are specific to Clark County’s Department of Community Services.

The WALIEE program continued to face headwinds this past year. In 2017, federal and state funding limitations slowed program uptake across the state. In addition to funding constraints, Clark County relies on referrals from an outside agency. Those referrals continue to be an issue that the Clark agency does not control.

In WAGAP’s territory, staffing and limited customers have been the historical challenge for the program’s gas efforts. In 2017 NW Natural engaged with new contacts at the agency, as well as the Energy Project and Washington Department of Commerce, to help address these issues and support gas customers in 2018.

The weatherization reimbursement cap increased to \$5,800 per home for the 2017 program year. There continues to be more efficiency efforts than WALIEE program funds cover. The agencies are allotted 15% of reimbursable job costs for administrative costs and allowed an average of \$1,000 per home for Health, Safety, and Repairs (HSR), which are not subject to cost effectiveness tests. A 2017 WALIEE job could cost the program no more than \$7,670 but averaged \$6,799 in 2017.

Measure Analysis:

The figure below provides a breakdown of weatherization occurrences by measure, as well as the associated annual therms savings. Floor insulation continues to be the highest total therm saving measure and ceiling insulation the most popular measure.

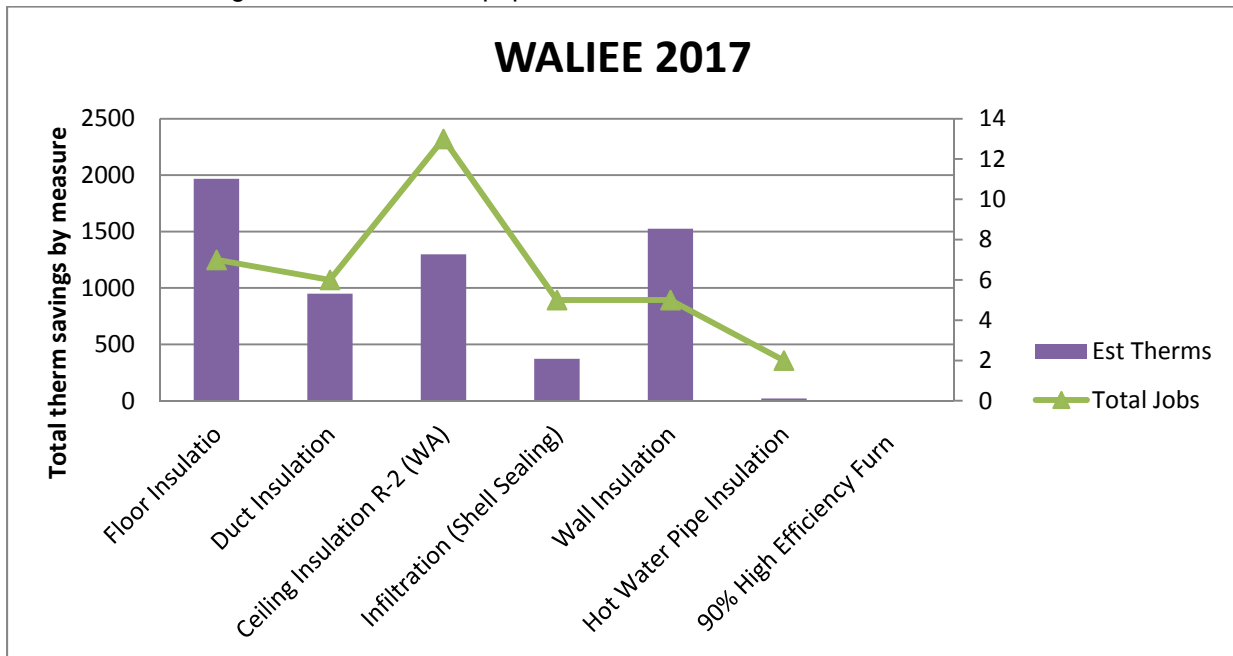


Figure 1: Measure Occurrence and Savings

2012-2017 Efficiency Results:

| Efficiency Metric | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 |
|--|----------|----------|----------|----------|----------|----------|
| Homes served | 13 | 16 | 9 | 10 | 20 | 8 |
| Average Reimbursement per home ² | \$5,305 | \$4,807 | \$4,313 | \$4,334 | \$3,984 | \$3,845 |
| Total Reimbursed | \$68,965 | \$76,918 | \$38,817 | \$43,339 | \$79,677 | \$30,761 |
| Average estimated therms saved per home ³ | 472 | 378 | 357 | 305 | 351 | 319 |
| Total estimated therms saved | 6,132 | 6,048 | 3,213 | 3,050 | 7,026 | 2,538 |
| Estimated Cost per therm | \$11.25 | \$12.72 | \$12.08 | \$14.21 | \$11.34 | \$12.12 |

Figure 2 Efficiency Metrics

| 2017 Performance Metric | Goal | Actual |
|---|-----------|----------|
| Homes served | 20 | 13 |
| Max reimbursement per home (Actual figure = avg per home) | \$5,800 | \$5,305 |
| Average estimated therms saved per home ⁴ | 366 | 472 |
| Total estimated therms saved | 7,320 | 6,132 |
| Total Expenditure | \$149,310 | \$88,383 |

Figure 3 Performance and Goal Metrics

Conclusion:

NW Natural is optimistic the work with stakeholders and better utilization of data will result in future growth of the WALIEE program. The progress to date has been slower than anticipated but development of the program continues to be positive and we look forward to continuing to grow in 2018.

² Note, reimbursed costs only reflect NWN's contribution for home weatherization. HSR and Admin are excluded.

³ An impact evaluation has not been conducted on these homes so the actual per therm savings has not been verified. The therm estimates are based on modeling software estimates.

⁴ See footnote 2