

EXHIBIT A

BEFORE THE
WASHINGTON UTILITIES & TRANSPORTATION COMMISSION

NW NATURAL
SUPPORTING MATERIALS

WA EE PROGRAM COSTS (AMORTIZATION)

NWN WUTC Advice No. 17-08 / UG-_____

September 12, 2017

NW NATURAL

EXHIBIT A

Supporting Materials

WA EE PROGRAM COSTS (AMORTIZATION)

NWN WUTC ADVICE NO. 17-08 / UG-_____

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NW Natural
Rates & Regulatory Affairs
2017-2018 PGA Filing - Washington: September Filing
Calculation of Increments Allocated on the EQUAL PERCENTAGE OF MARGIN BASIS

Schedule	Block	Billing		WACOG & Demand from		Temp from		MARGIN Rate	Volumetric Margin	Customer Charge	Customers	Total Margin	Proposed Amount: Revenue Sensitive Multiplier	R&C Energy Efficiency Programs	
		PGA Rate from	Rate from	Temp	Temp	Temp	Temp							1,847,776	Temporary Increments
Column D	Column A	Column B	Column C	Column D	Column E	Column F	Column G	Column H	Column I	Column J	Column K	Column L	Amount to Amortize:	Allocation to RS	Increment
Column D	Column A	Column B	Column C	Column D	Column E	Column F	Column G	Column H	Column I	Column J	Column K	Column L	Amount to Amortize:	Allocation to RS	Increment
7	IR	185,451	\$0.41759	\$0.41759	\$0.02141	\$0.68448	\$126,937.00	\$3.47	836	\$161,748.00	8,806	\$0.04748	1,847,776	Temporary Increments	
8	IC	29,901	\$0.41759	\$0.41759	\$0.01326	\$0.68407	\$20,454.00	\$3.47	38	\$22,036.00	1,200	\$0.04013			
9	2R	46,288,430	\$0.83216	\$0.41759	\$0.00034	\$0.41454	\$19,188,406.00	\$7.00	72,820	\$25,305,286.00	1,377,709	\$0.02976			
10	3 CFS	17,409,108	\$0.83216	\$0.41759	\$0.00041	\$0.41858	\$7,287,104.00	\$15.00	5,857	\$8,341,364.00	454,133	\$0.02609			
11	3 IFS	441,191	\$0.80674	\$0.41759	\$0.02930	\$0.41845	\$184,913.00	\$15.00	26	\$189,593.00	0	\$0.00000			
12	27	421,152	\$0.66169	\$0.41759	\$0.01010	\$0.25420	\$107,057.00	\$6.00	717	\$158,681.00	8,639	\$0.02051			
13	41C Firm Sales	1,686,868	\$0.29379	\$0.29379	\$0.01094	\$0.30164	\$960,675.00	\$250.00	84	\$1,212,675.00	66,022	\$0.02073			
14	Block 2	1,700,017	\$0.54573	\$0.29379	\$0.01385	\$0.26579	\$0.00	\$250.00	0	\$0.00	0	\$0.01942			
15	41C Interr Sales	0	\$0.59214	\$0.29379	\$0.00306	\$0.30141	\$0.00	\$250.00	0	\$0.00	0	\$0.01711			
16	Block 2	0	\$0.55349	\$0.29379	\$0.00586	\$0.26556	\$0.00	\$500.00	17	\$373,814.00	0	\$0.00000			
17	41 Firm Trans	374,368	\$0.30077	\$0.00000	\$0.00000	\$0.30077	\$271,814.00	\$500.00	0	\$0.00	0	\$0.00000			
18	Block 2	600,813	\$0.26500	\$0.00000	\$0.00000	\$0.26500	\$153,412.00	\$250.00	14	\$195,412.00	0	\$0.00000			
19	41I Firm Sales	251,387	\$0.56538	\$0.29379	\$0.03009	\$0.30168	\$153,412.00	\$250.00	0	\$0.00	0	\$0.00000			
20	Block 2	291,828	\$0.52888	\$0.29379	\$0.03073	\$0.26582	\$0.00	\$250.00	0	\$0.00	0	\$0.00000			
21	41I Interr Sales	0	\$0.57388	\$0.29379	\$0.02132	\$0.30141	\$0.00	\$250.00	0	\$0.00	0	\$0.00000			
22	Block 2	0	\$0.53740	\$0.29379	\$0.02195	\$0.26556	\$0.00	\$1,300.00	6	\$173,877.00	9,466	\$0.01400			
23	42C Firm Sales	460,278	\$0.39054	\$0.29379	\$0.02202	\$0.11877	\$80,277.00	\$1,300.00	0	\$0.00	0	\$0.01254			
24	Block 2	215,032	\$0.37669	\$0.29379	\$0.02342	\$0.10632	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00000			
25	Block 3	33,692	\$0.34910	\$0.29379	\$0.02623	\$0.08154	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00961			
26	Block 4	0	\$0.33095	\$0.29379	\$0.02807	\$0.06523	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00769			
27	Block 5	0	\$0.30675	\$0.29379	\$0.03052	\$0.04348	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00513			
28	Block 6	0	\$0.27649	\$0.29379	\$0.03360	\$0.01630	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00192			
29	42I Firm Sales	988,918	\$0.37986	\$0.29379	\$0.03264	\$0.11871	\$199,678.00	\$1,300.00	12	\$386,878.00	0	\$0.00000			
30	Block 2	709,684	\$0.36712	\$0.29379	\$0.03293	\$0.10626	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00000			
31	Block 3	67,540	\$0.34176	\$0.29379	\$0.03352	\$0.08149	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00000			
32	Block 4	21,000	\$0.32508	\$0.29379	\$0.03390	\$0.06519	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00000			
33	Block 5	0	\$0.30284	\$0.29379	\$0.03442	\$0.04347	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00000			
34	Block 6	0	\$0.27502	\$0.29379	\$0.03506	\$0.01629	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00000			
35	42 Firm Trans	1,315,288	\$0.11818	\$0.00000	\$0.00000	\$0.11818	\$508,752.00	\$1,550.00	10	\$694,752.00	0	\$0.00000			
36	Block 2	1,569,454	\$0.10579	\$0.00000	\$0.00000	\$0.10579	\$0.00	\$1,550.00	0	\$0.00	0	\$0.00000			
37	Block 3	1,035,145	\$0.08112	\$0.00000	\$0.00000	\$0.08112	\$0.00	\$1,550.00	0	\$0.00	0	\$0.00000			
38	Block 4	1,393,721	\$0.06490	\$0.00000	\$0.00000	\$0.06490	\$0.00	\$1,550.00	0	\$0.00	0	\$0.00000			
39	Block 5	297,087	\$0.04327	\$0.00000	\$0.00000	\$0.04327	\$0.00	\$1,550.00	0	\$0.00	0	\$0.00000			
40	Block 6	0	\$0.01622	\$0.00000	\$0.00000	\$0.01622	\$0.00	\$1,550.00	0	\$0.00	0	\$0.00000			
41	42C Interr Sales	231,331	\$0.39614	\$0.29379	\$0.01621	\$0.11856	\$99,724.00	\$1,300.00	1	\$115,324.00	6,279	\$0.00746			
42	Block 2	459,142	\$0.38261	\$0.29379	\$0.01730	\$0.10612	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00000			
43	Block 3	223,176	\$0.35571	\$0.29379	\$0.01946	\$0.08138	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00512			
44	Block 4	83,116	\$0.33801	\$0.29379	\$0.02088	\$0.06510	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00410			
45	Block 5	0	\$0.31441	\$0.29379	\$0.02278	\$0.04340	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00273			
46	Block 6	0	\$0.28492	\$0.29379	\$0.02515	\$0.01628	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00103			
47	42I Interr Sales	165,010	\$0.39024	\$0.29379	\$0.02225	\$0.11870	\$35,013.00	\$1,300.00	5	\$113,013.00	0	\$0.00000			
48	Block 2	141,192	\$0.37734	\$0.29379	\$0.02270	\$0.10625	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00000			
49	Block 3	5,213	\$0.35166	\$0.29379	\$0.02361	\$0.08148	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00000			
50	Block 4	0	\$0.33477	\$0.29379	\$0.02420	\$0.06518	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00000			
51	Block 5	0	\$0.31225	\$0.29379	\$0.02499	\$0.04345	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00000			
52	Block 6	0	\$0.28411	\$0.29379	\$0.02598	\$0.01630	\$0.00	\$1,300.00	0	\$0.00	0	\$0.00000			
53	42I Interr Trans	829,148	\$0.11818	\$0.00000	\$0.00000	\$0.11818	\$765,890.00	\$1,550.00	11	\$970,490.00	0	\$0.00000			
54	Block 2	1,626,861	\$0.10579	\$0.00000	\$0.00000	\$0.10579	\$0.00	\$1,550.00	0	\$0.00	0	\$0.00000			
55	Block 3	1,295,797	\$0.08112	\$0.00000	\$0.00000	\$0.08112	\$0.00	\$1,550.00	0	\$0.00	0	\$0.00000			
56	Block 4	4,175,476	\$0.06490	\$0.00000	\$0.00000	\$0.06490	\$0.00	\$1,550.00	0	\$0.00	0	\$0.00000			
57	Block 5	2,766,172	\$0.04327	\$0.00000	\$0.00000	\$0.04327	\$0.00	\$1,550.00	0	\$0.00	0	\$0.00000			
58	Block 6	0	\$0.01622	\$0.00000	\$0.00000	\$0.01622	\$0.00	\$1,550.00	0	\$0.00	0	\$0.00000			
59	43 Firm Trans	0	\$0.00499	\$0.00000	\$0.00000	\$0.00499	\$0.00	\$38,000.00	0	\$0.00	0	\$0.00000			
60	43 Interr Trans	0	\$0.00499	\$0.00000	\$0.00000	\$0.00499	\$0.00	\$38,000.00	0	\$0.00	0	\$0.00000			
61	intentionally blank														
62	Totals	89,789,697					\$29,990,106			\$38,414,943			\$35,490,991	\$1,932,254	

63	Source for line 2 above:														
64	Inputs page														
65	Tariff Schedules:														
66	Schedule #														
67															
68															

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

NW Natural
 Rates & Regulatory Affairs
 2017-2018 PGA Filing - Washington: September Filing
 PGA Effects on Average Bill by Rate Schedule
 Calculation of Effect on Customer Average Bill by Rate Schedule [1]

		Washington PGA Normalized Volumes page, Column D	Therms in Block	Normal Therms Monthly Average use	Minimum Monthly Charge	Current 11/1/2016 Billing Rates	11/1/2016 Current Average Bill	Proposed 11/1/2017 R&C Energy Eff. Rates [2]	Proposed 11/1/2017 R&C Energy Eff. Average Bill	Proposed 11/1/2017 R&C Energy Eff. % Bill Change
		A	B	C	D	E	F=D+(C * E)	G	H=D+(C * G)	I
Schedule	Block									
1R		185,451	N/A	18.0	\$3.47	\$1.12348	\$23.69	\$1.12657	\$23.75	0.3%
1C		29,901	N/A	66.0	\$3.47	\$1.11492	\$77.05	\$1.11701	\$77.19	0.2%
2R		46,288,430	N/A	53.0	\$7.00	\$0.83247	\$51.12	\$0.83429	\$51.22	0.2%
3 CFS		17,409,108	N/A	248.0	\$15.00	\$0.83216	\$221.38	\$0.83371	\$221.76	0.2%
3 IFS		441,901	N/A	1,416.0	\$15.00	\$0.80674	\$1,157.34	\$0.80674	\$1,157.34	0.0%
27		421,152	N/A	49.0	\$6.00	\$0.66169	\$38.42	\$0.66241	\$38.46	0.1%
41C Firm Sales	Block 1	1,686,868	2,000	3,360.0	\$250.00	\$0.58449		\$0.58609		
	Block 2	1,700,017	all additional			\$0.54573		\$0.54714		
	TOTAL						\$2,161.17		\$2,166.29	0.2%
41C Interr Sales	Block 1	0	2,000	0.0	\$250.00	\$0.59214		\$0.59330		
	Block 2	0	all additional			\$0.55349		\$0.55451		
	TOTAL						\$250.00		\$250.00	0.0%
41 Firm Trans	Block 1	374,368	2,000	4,780.0	\$500.00	\$0.30077		\$0.30077		
	Block 2	600,813	all additional			\$0.26500		\$0.26500		
	TOTAL						\$1,838.24		\$1,838.24	0.0%
41I Firm Sales	Block 1	251,387	2,000	3,233.0	\$250.00	\$0.56538		\$0.56538		
	Block 2	291,828	all additional			\$0.52888		\$0.52888		
	TOTAL						\$2,032.87		\$2,032.87	0.0%
41I Interr Sales	Block 1	0	2,000	0.0	\$250.00	\$0.57388		\$0.57388		
	Block 2	0	all additional			\$0.53740		\$0.53740		
	TOTAL						\$250.00		\$250.00	0.0%
42C Firm Sales	Block 1	460,278	10,000	9,847.0	\$1,300.00	\$0.39054		\$0.39406		
	Block 2	215,032	20,000			\$0.37669		\$0.37985		
	Block 3	33,692	20,000			\$0.34910		\$0.35152		
	Block 4	0	100,000			\$0.33095		\$0.33289		
	Block 5	0	600,000			\$0.30675		\$0.30804		
	Block 6	0	all additional			\$0.27649		\$0.27697		
	TOTAL						\$5,145.65		\$5,180.31	0.7%
42I Firm Sales	Block 1	988,918	10,000	12,411.0	\$1,300.00	\$0.37986		\$0.37986		
	Block 2	709,684	20,000			\$0.36712		\$0.36712		
	Block 3	67,540	20,000			\$0.34176		\$0.34176		
	Block 4	21,000	100,000			\$0.32508		\$0.32508		
	Block 5	0	600,000			\$0.30284		\$0.30284		
	Block 6	0	all additional			\$0.27502		\$0.27502		
	TOTAL						\$5,983.73		\$5,983.73	0.0%
42 Firm Trans	Block 1	1,315,288	10,000	46,756.0	\$1,550.00	\$0.11818		\$0.11818		
	Block 2	1,569,454	20,000			\$0.10579		\$0.10579		
	Block 3	1,035,145	20,000			\$0.08112		\$0.08112		
	Block 4	1,393,721	100,000			\$0.06490		\$0.06490		
	Block 5	297,087	600,000			\$0.04327		\$0.04327		
	Block 6	0	all additional			\$0.01622		\$0.01622		
	TOTAL						\$6,206.85		\$6,206.85	0.0%
42C Interr Sales	Block 1	231,331	10,000	83,064.0	\$1,300.00	\$0.39614		\$0.39551		
	Block 2	459,142	20,000			\$0.38261		\$0.38205		
	Block 3	223,176	20,000			\$0.35571		\$0.35528		
	Block 4	83,116	100,000			\$0.33801		\$0.33767		
	Block 5	0	600,000			\$0.31441		\$0.31418		
	Block 6	0	all additional			\$0.28492		\$0.28484		
	TOTAL						\$31,203.76		\$31,166.42	-0.1%
42I Interr Sales	Block 1	165,010	10,000	5,190.0	\$1,300.00	\$0.39024		\$0.39024		
	Block 2	141,192	20,000			\$0.37734		\$0.37734		
	Block 3	5,213	20,000			\$0.35166		\$0.35166		
	Block 4	0	100,000			\$0.33477		\$0.33477		
	Block 5	0	600,000			\$0.31225		\$0.31225		
	Block 6	0	all additional			\$0.28411		\$0.28411		
	TOTAL						\$3,325.35		\$3,325.35	0.0%
42 Inter Trans	Block 1	829,148	10,000	81,011.0	\$1,550.00	\$0.11818		\$0.11818		
	Block 2	1,626,861	20,000			\$0.10579		\$0.10579		
	Block 3	1,295,797	20,000			\$0.08112		\$0.08112		
	Block 4	4,175,476	100,000			\$0.06490		\$0.06490		
	Block 5	2,766,172	600,000			\$0.04327		\$0.04327		
	Block 6	0	all additional			\$0.01622		\$0.01622		
	TOTAL						\$8,482.61		\$8,482.61	0.0%
43 Firm Trans		0	N/A	0.0	\$38,000.00	\$0.00499	\$38,000.00	\$0.00499	\$38,000.00	0.0%
43 Interr Trans		0	N/A	0.0	\$38,000.00	\$0.00499	\$38,000.00	\$0.00499	\$38,000.00	0.0%
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[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
 2017-2018 PGA Filing - Washington: September Filing
 Summary of Deferred Accounts

Account	A	B	C	D	E	F	G	H	I
	Balance 8/31/2017	Sep-Oct Estimated Activity	Sep-Oct Interest	Estimated Balance 10/31/2017	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									
186310 WA Energy Efficiency General (2016 calendar only)	27,719	0	183	27,902					
186312 WA Energy Efficiency Res & Comm (2016 calendar only)	2,016,526	0	13,331	2,029,857					
186316 WA DSM AMORTIZATION	(70,208)	(177,873)	(936)	(249,016)					
	<u>1,974,037</u>	<u>(177,873)</u>	<u>12,579</u>	<u>1,808,744</u>	<u>39,032</u>	<u>1,847,776</u>	<u>1,808,744</u>	<u>1,847,776</u>	

E = sum B thru D
 F = 3.96%
 G = E + F
 Excl. Rev Sens

1
 2
 3
 4
 5
 6

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

	(a)	(b)	(c)	(d)	(e1)	(e2)	(e3)	(e4)	(e5)	(f)	(g1)	(g2)	(g3)	(g4)
	Month/Year	Note	Deferral	Transfers	Interest Rate	Interest	Calendar Interest	Calendar Interest	Calendar Interest	Total Activity	Balance	Calendar Balance	Calendar Balance	Calendar Balance
			(c)	(d)	(e1)	(e2)	(e3)	(e4)	(e5)	(f)	(g1)	(g2)	(g3)	(g4)
1	Debit	(Credit)												
2														
3														
4														
5														
6														
7	Beginning Balance													
93	Nov-15	1	223.43	(9,749.63)	3.25%	21.54	21.54			(9,504.63)	8,087.41	8,087.41		
94	Dec-15		536.23		3.25%	22.63	22.63			558.89	8,646.30	8,646.30		
95	Jan-16		342.64		3.25%	23.88	23.42	0.46		366.55	9,012.85	8,669.72	343.13	
96	Feb-16		813.77		3.25%	25.51	23.48	2.03		839.31	9,852.17	8,693.20	1,158.97	
97	Mar-16		1,368.15		3.25%	28.54	23.54	5.00		1,396.72	11,248.89	8,716.74	2,532.15	
98	Apr-16		929.15		3.46%	33.78	25.14	8.64		962.96	12,211.85	8,741.88	3,469.97	
99	May-16	2	1,548.59	0.14	3.46%	37.45	25.21	12.24		1,586.21	13,798.07	8,767.09	5,030.98	
100	Jun-16		132.74		3.46%	39.98	25.28	14.70		172.75	13,970.82	8,792.37	5,178.45	
101	Jul-16		442.46		3.50%	41.39	25.64	15.75		483.89	14,454.71	8,818.01	5,636.70	
102	Aug-16		1,681.31		3.50%	44.61	25.72	18.89		1,725.96	16,180.66	8,843.73	7,336.93	
103	Sep-16		1,460.09		3.50%	49.32	25.79	23.53		1,509.45	17,690.11	8,869.52	8,820.59	
104	Oct-16		1,681.32		3.50%	54.05	25.87	28.18		1,735.41	19,425.51	8,895.39	10,530.12	
105	Nov-16	1	7,526.55	(8,895.39)	3.50%	41.69	41.69			(1,327.15)	18,098.36	18,098.36		
106	Dec-16		8,881.90		3.50%	65.74	65.74			8,947.64	27,046.00	27,046.00		
107	Jan-17		4,726.73		3.50%	85.78	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	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	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	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	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	217.55	84.87	132.68	495.09	70,723.72	27,537.16	43,186.56	
113	Jul-17	2	462.55	(1.26)	3.96%	234.15	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	272.56	91.17	181.39	22,620.71	94,039.87	27,719.20	66,320.67	
115	Sep-17				3.96%	310.33	310.33	91.47	218.86	310.33	94,350.20	27,810.67	66,539.53	
116	Oct-17				3.96%	311.36	311.36	91.78	219.58	311.36	94,661.56	27,902.45	66,759.11	
117														
118														
119														
120														
121														
122														
123														

History truncated for ease of viewing

Notes:

- 1 - Transferred Dec 2014 deferral balance plus 2015 interest on the balance to account 186316 for amortization
- 2 - Transferred Dec 2015 deferral balance plus 2016 interest on the balance to account 186316 for amortization

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	14	15	16	17	18	19	20	
Debit	(Credit)	Month/Year	Note	Amortization	Transfers	Interest Rate	Interest	Activity	Balance											
		(a)	(b)	(c)	(d)	(e1)	(e2)	(f)	(g)											
		Nov-15	new (1)	(39,471.98)	1,112,287.65	3.25%	2,958.99	1,075,774.66	1,286,990.80											
		Dec-15		(201,294.68)		3.25%	3,213.01	(198,081.67)	1,088,909.13											
		Jan-16		(243,216.83)		3.25%	2,619.77	(240,597.06)	848,312.07											
		Feb-16		(160,551.01)		3.25%	2,080.10	(158,470.91)	689,841.16											
		Mar-16		(135,715.14)		3.25%	1,684.54	(134,030.60)	555,810.56											
		Apr-16		(99,950.78)		3.46%	1,458.49	(98,492.29)	457,318.27											
		May-16		(60,320.33)		3.46%	1,231.64	(59,088.69)	398,229.58											
		Jun-16		(51,989.00)		3.46%	1,073.28	(50,915.72)	347,313.86											
		Jul-16		(41,160.74)		3.50%	952.97	(40,207.77)	307,106.09											
		Aug-16		(35,650.98)		3.50%	843.74	(34,807.24)	272,298.85											
		Sep-16		(38,896.56)		3.50%	737.48	(38,159.08)	234,139.77											
		Oct-16		(57,154.78)		3.50%	599.56	(56,555.22)	177,584.55											
		Nov-16	old	(51,481.49)		3.50%	442.88	(51,038.61)	126,545.94											
		Nov-16	new (1)	(46,204.58)	1,507,284.52	3.50%	4,328.86	1,465,408.80	1,591,954.74											
		Dec-16		(240,372.94)		3.50%	4,292.66	(236,080.28)	1,355,874.46											
		Jan-17		(415,290.31)		3.50%	3,349.00	(411,941.31)	943,933.15											
		Feb-17		(311,707.27)		3.50%	2,298.57	(309,408.70)	634,524.45											
		Mar-17		(241,358.67)		3.50%	1,498.71	(239,859.96)	394,664.49											
		Apr-17		(171,859.47)		3.71%	954.50	(170,904.97)	223,759.52											
		May-17		(122,246.58)		3.71%	502.82	(121,743.76)	102,015.76											
		Jun-17		(73,486.36)		3.71%	201.80	(73,284.56)	28,731.20											
		Jul-17		(54,113.05)		3.96%	5.53	(54,107.52)	(25,376.32)											
		Aug-17		(44,673.76)		3.96%	(157.45)	(44,831.21)	(70,207.53)											
		Sep-17	Forecasted	(53,832.49)		3.96%	(320.51)	(54,153.00)	(124,360.53)											
		Oct-17	Forecasted	(124,040.15)		3.96%	(615.06)	(124,655.21)	(249,015.74)											

History truncated for ease of viewing

Notes

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

Rates & Regulatory Affairs
2017-18 Washington: September Filing Updating Energy Efficiency Schedule 215
Tariff Advice 17-08: Schedule 215 Effects on Revenue

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

	<u>Amount</u>	<u>Reference</u>
Temporary Increments		
<u>Removal of Current Temporary Increments</u>		
Amortization of Energy Efficiency Programs	(1,759,382)	NWN 2016-17 Washington PGA rate development file September.xlsx
<u>Addition of Proposed Temporary Increments</u>		
Amortization of Energy Efficiency Programs	<u>1,932,254</u>	NWN 2017-18 Washington PGA rate development file September.xlsx
TOTAL OF ALL COMPONENTS OF RATE CHANGES	<u><u>\$172,872</u></u>	
2016 Washington CBR Normalized Total Revenues	\$65,337,329	
Effect of this filing, as a percentage change	0.26%	

GAIL HAMMER
Tariffs and Regulatory Compliance
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VIA ELECTRONIC FILING

April 25, 2017

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-152349, 2016 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 2016 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-152349.

In 2016, the Company's Energy Efficiency program for residential and commercial customers saved 330,866 therms at a cost of \$1,818,821. The Washington Low-Income Energy Efficiency program saved 6,048 therms at a cost of \$94,735. These two programs, in addition to \$93,560 for the Northwest Energy Efficiency Alliance natural gas market transformation pilot, saved 336,914 therms at a cost of \$2,007,116.

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 last rate case, Docket UG-080546 and the Company's Energy Efficiency Plan.

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

Respectfully submitted,

/s/ Gail Hammer

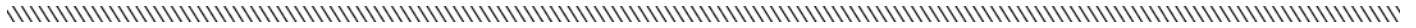
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cc:
EEAG

Enclosure
UG-152349-NWN's 2016 Annual EE Report_04-25-2017

2016 Annual Report

NW Natural Washington



ENERGY TRUST OF OREGON
APRIL 25, 2017

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I. Introduction, background, oversight and goals

A. Introduction

This annual report covers 2016, the seventh 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 revenues and expenditures, number of completed measures, 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 2016. This report presents Energy Trust's performance against those goals.

II. Annual report highlights

A. Summary

- **Total¹ 2016 savings were approximately 126 percent of the 2016 annual performance metric** of 263,184 therms in NW Natural's 2016 Energy Efficiency Plan submitted to the WUTC.²
- **Gas efficiency measures installed in 2016** by NW Natural's Washington customers saved 330,866 total annual therms of natural gas—including 112,709 annual therms in Existing Buildings, 66,106 annual therms in Existing Homes and 152,051 annual therms in New Homes programs.
- **In total, savings achieved in 2016 were 64 percent higher than 2015 savings, due to a strong residential new construction market.** A strong local economy was likely a contributing factor in many homeowners' decision to make home energy upgrades in 2016, including efficient gas furnace installations and window replacements.
- **Existing Buildings program fell short of goal, due to low natural gas costs** that made it challenging to attract and complete Existing Buildings projects and the delay of one large custom project.

B. Commercial sector highlights

Existing Buildings

- **Existing Buildings saved 112,709 annual therms** in 2016, 75 percent of the goal of 151,056 annual therms.
- **Low natural gas costs made it more challenging to attract and complete custom and standard projects.** Although Existing Buildings increased incentive levels for custom projects and some standard commercial offerings in Q1 2016, market uptake was slower than expected.
- **To help boost year-end savings, Existing Buildings launched a midyear bonus for foodservice equipment,** executed a direct marketing campaign for all gas measures in Q4 and expanded outreach staff with a new team member.
- **The program expanded prescriptive measure offers** to the new construction market to create new savings opportunities for commercial customers.
- **Standard projects provided the majority of the year's savings,** primarily from upgrades to foodservice equipment, tank and tankless water heaters, boilers and furnaces. Energy Trust completed 69 standard projects in 2016, up from 33 in 2015.
- **Eight custom projects also contributed savings in 2016,** nearly all from building controls. One large custom project was delayed and is expected to complete in 2017. Eight additional custom projects and four custom studies are in the pipeline for 2017.
- **Energy Trust began serving its first large grocery customer with multiple stores in Washington,** representing a new market sector and expanding savings opportunities for 2017.

¹ Energy Trust delivered program, excludes WALIEE

² Energy Trust's 2016 board-approved budgeted goal for NW Natural territory in Washington differs slightly due to timing. 2016 savings were approximately 125 percent of Energy Trust's 2016 budgeted goal of 265,079 therms.

- **Existing Buildings launched a new offering to replace failed steam traps at dry cleaners** and laundry facilities, although market uptake has been slow. Under the new offering, the program will pay to replace failed steam traps at no cost to the customer.
- **The program developed new measures to launch in 2017**, including g-force washers that use less water and also remove more water from clothes to facilitate efficient drying, and moisture-sensing dryers that turn off when adequate dryness is sensed.
- **Existing Buildings continued to coordinate outreach efforts with Clark Public Utilities** to serve customers exploring and executing projects resulting in gas and electric savings. This coordination often allows customers to receive gas and electric incentives ensuring a greater internal rate of return.
- **The program promoted market adoption of a Building Operator Certificate**, a professional development program created by NEEA and available to eligible professionals working in Washington. Certification for building operators helps them identify and increase savings opportunities.

C. Residential sector highlights

- **The residential sector saved 218,156 annual therms** in 2016, nearly doubling the annual goal of 112,128 therms.

Existing Homes

- **Existing Homes saved 66,106 annual therms** in 2016, primarily through efficient gas furnaces, gas fireplaces, smart thermostats, Energy Saver Kits and LivingWise kits.
- **HVAC measures contributed 60 percent of Existing Homes savings**, primarily from gas furnaces. The remaining savings were from gas hearths and smart thermostats.
- **Smart thermostats contributed significant savings in 2016**, following the addition of the new measure in late 2015. Smart thermostats were bolstered by Energy Trust incentives and education, increased consumer awareness, simple online purchasing options and seasonal manufacturer promotions.
- **Energy Trust partnered with Clark Public Utilities to distribute 776 LivingWise kits** to sixth-grade students—more than double the number in 2015. LivingWise kits contain efficient showerheads, faucet aerators, and LEDs (supported by Clark Public Utilities) and are delivered with an energy efficiency curriculum to students through participating schools.
- **Energy Trust promoted its on-bill financing repayment offering to trade allies**, reducing upfront costs as a barrier to installing energy-efficient upgrades.
- **On-Bill Repayment financing was utilized by 18 projects in Washington** in 2016, resulting in savings of 1,479 therms. Customers installed \$136,384.36 of measures and took out \$127,949.74 in loans.

New Homes and Products

- **New Homes and Products saved 152,051 annual therms in 2016**, primarily through construction of new energy-efficient homes, including ENERGY STAR® certified homes and Energy Performance Score (EPS) homes. EPS is an energy performance scoring tool that measures a newly built home's energy consumption, carbon footprint and utility costs.

- **Energy Trust engaged a thriving residential new construction market to complete 664 Energy Performance Score (EPS) homes**, nearly all built between 20 and 40 percent above code. In 2016, 2,600 residential new construction permits were issued in Clark County. The total Clark County market share of program homes reached 34 percent, up from 18 percent in 2015. EPS is an energy performance score that helps homebuyers understand and compare the energy efficiency of newly built homes.
- **New Homes and Products discontinued its ENERGY STAR® offering for new homes and completed transition to an Energy Performance Score (EPS) offering.** The successful transition from a flat incentive for home certification to the performance-based EPS rating gives builders a greater variety of energy-efficiency measures to build into their homes.
- **The program started working with a new high-volume builder** to build EPS homes in Washington.
- **Energy Trust collaborated with the Building Industry Association of Clark County** to coordinate and sponsor the first ever Green Homes Street Fair, which featured two EPS homes.

Trade Ally Network highlights

- **By year-end, 207 trade allies served Washington, up from 191 in 2015, for a net difference of 16.** This includes 75 trade allies based in Washington.
- **Energy Trust enrolled 35 new trade allies serving Washington in 2016.**
- **Energy Trust held two large trade ally events** in Portland's Jantzen Beach area. This venue was specifically chosen based on its proximity to the Washington border, to promote attendance of Washington trade allies.
- **Approximately 25 trade allies, distributors, program representatives, utility representatives and other stakeholders** attended a biannual trade ally networking event, hosted in collaboration with Clark Public Utilities.
- **In 2016 Existing Buildings added an additional trade ally coordinator** to support Washington trade allies.

Program evaluations

- **In Q3, Energy Trust completed an Existing Homes process evaluation** featuring residential programs in Washington, including installation rates of energy-saving showerheads and faucet aerators and associated customer experience. The evaluation provided recommendations on key program focus areas: trade allies, incentives, instant-savings measures and marketing. The full Existing Homes process evaluation is available on Energy Trust's website: https://www.energytrust.org/wp-content/uploads/2017/02/Existing_Homes_Process_Evaluation_FINAL_wSR.pdf.
- **Recommendations include:**
 - **Trade Allies:** Consider further tailoring communications to reflect trade allies' unique businesses, level of program activity, star rating, geography and/or target market. Continue efforts to reach out individually with trade allies to raise awareness of the availability of marketing tools and information resources.
 - **Incentive Structures and Midstream:** Continue to explore different incentive structures that will motivate distributors to sell more efficient equipment to their contractors while reducing administrative processes.

- **Kits and Instant Savings Measures:** Explore customers' experiences and decisions around the number of items received, without actual or intended installation, including experience with the online order form. Consider changing the Energy Saver Kit order form to engage customers more directly on the number of items requested.
- **Marketing:** With the availability of cash-incentives reduced, additional program and marketing approaches may need to be considered.

D. Washington Utilities and Transportation Commission performance metrics

The table below compares 2016 quarterly and annual results to goals, as established in NW Natural's Energy Efficiency Plan for Washington (filed December 2015).

2016 results compared to goals^{3, 4, 5}

Metrics	Goal	2016 YTD	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
Dollars Spent Per Therm Saved	Less than \$6.50	\$5.50	\$10.80	\$6.87	\$6.38	\$4.10
Utility Costs at Portfolio Level	Greater than 1.0	1.53	Reported annually	Reported annually	Reported annually	Reported annually

2016 Utility Cost and Total Resource Cost benefit cost ratios by program⁶

Program	Utility Cost Test benefit/cost ratio	Total Resource Cost Test benefit/cost ratio
Existing Buildings	1.18	2.16
Existing Homes	1.43	1.34
New Homes and Products	2.02	0.69
Total NW Natural Washington portfolio	1.61	0.99

2016 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	1.61	0.99
NW Natural Washington Low Income	0.89	0.74
Total	1.58	0.99

³ Achievement of metrics were calculated excluding spending on Northwest Energy Efficiency Alliance gas efforts in Washington.

⁴ In 2016 annual budget and quarterly reports, Energy Trust applied a discount rate of 4.5 percent. This annual report is calculated using a 5.53 percent discount rates. The 5.53 discount rate will be used in 2017 quarterly and annual reports.

⁵ Total program costs exclude Northwest Energy Efficiency Alliance and WALIEE.

⁶ While Energy Trust is required to report the Total Resource Cost benefit cost ratio, it is not included as a performance metric for utility costs at the portfolio level.

III. Annual Results

A. Activity highlights—sites served

	Q1	Q2	Q3	Q4	Total
Existing Commercial					
Boiler	-	-	-	3	3
Commercial laundry washer	-	-	-	1	1
Commercial tankless water heater	-	-	-	6	6
Condensing tank water heater	-	1	-	4	5
Dishwasher	-	-	-	3	3
Gas convection oven	-	2	1	3	6
Gas combination oven	1	-	-	3	4
Gas fryer	4	12	5	20	41
Gas griddle	-	-	-	1	1
High-efficiency condensing furnace	-	-	-	2	2
High-efficiency condensing unit heater	-	-	1	1	2
Custom	-	-	-	8	8
Pipe insulation	-	-	-	1	1
Roof insulation	-	-	-	4	4
Studies	2	1	-	7	10
Wall insulation	-	-	-	2	2
Existing Homes					
Weatherization (insulation, air and duct sealing and windows)	29	36	37	59	161
Gas hearths	27	20	14	15	76
Energy Saver Kits	8	23	10	8	49
LivingWise Kits distributed through schools	-	360	-	416	776
Smart thermostats	19	29	46	89	183
Gas furnaces	61	74	66	134	335
Water heaters	5	3	8	6	22
Online Home Energy Reviews	22	19	18	25	84
New Homes and Products					
ENERGY STAR home certification	97	58	76	-	231
Clothes washers	-	10	-	-	10
New EPS homes	-	67	293	304	664

B. Revenue

Source	Actual revenue	Budgeted revenue
NW Natural \$	1,937,679 \$	1,741,236

C. Expenditures

		Actual expenditures	Budgeted expenditures	Variance
Commercial programs	Existing Buildings	\$ 581,984	\$ 689,045	\$ 107,061
	NEEA commercial	\$ 25,524	\$ 26,766	\$ 1,242
	Commercial total	\$ 607,508	\$ 715,811	\$ 108,302
Residential programs	Existing Homes	\$ 387,830	\$ 448,583	\$ 60,752
	New Homes and Products	\$ 786,642	\$ 418,230	\$ (368,412)
	NEEA residential	\$ 64,827	\$ 63,998	\$ (830)
	Residential total	\$ 1,239,299	\$ 930,810	\$ (308,489)
Administration	Program administration	\$ 62,365	\$ 57,768	\$ (4,598)
	NEEA administration	\$ 3,208	\$ 3,370	\$ 162
	Administration total	65,573	61,138	(4,436)
Total expenditures		\$ 1,912,381	\$ 1,707,758	\$ (204,622)

Energy Trust allocated budget to NEEA for gas market transformation activities in 2016.

- **Energy Trust spent more on incentives than expected due to increased demand** for EPS homes, furnaces, smart thermostats and electronic ignition fireplaces than originally planned.

D. Incentives paid⁷

		Actual incentives	Actual expenditures	Percent incentives/expenditures
Commercial programs	Existing Buildings	\$ 308,582	\$ 610,012	51%
	Commercial total	\$ 308,582	\$ 610,012	51%
Residential programs	Existing Homes	\$ 192,075	\$ 394,237	49%
	New Homes and Products	\$ 531,469	\$ 814,572	65%
	Residential total	\$ 723,544	\$ 1,208,810	60%
Total incentives		\$ 1,032,126	\$ 1,818,821	57%

- **Incentives paid account for approximately 57⁸ percent of year-to-date incentive program expenses**, or 63 percent of year-to-date program expenses when total program expense is adjusted down by 15 percent to account for costs that a utility-delivered program would recover through rates.

⁷ Excludes NEEA and WALIEE

⁸ Excludes NEEA and WALIEE

E. Savings⁹

		Therms saved YTD	Annual goal	Percent achieved YTD	\$/therm	Levelized cost/therm
Commercial programs	Existing Buildings	112,709	151,056	75%	\$ 5.41	\$ 0.48
	Commercial total	112,709	151,056	75%	\$ 5.41	\$ 0.48
Residential programs	Existing Homes	66,106	55,054	120%	\$ 5.96	\$ 0.46
	New Homes and Products	152,051	57,074	266%	\$ 5.36	\$ 0.37
	Residential total	218,156	112,128	195%	\$ 5.54	\$ 0.39
	Total savings	330,866	263,184	126%	\$ 5.50	\$ 0.41

Energy Trust allocated budget to NEEA for gas market transformation activities in 2016. While there were no associated savings in 2016, savings are expected in subsequent quarters. Savings also exclude WALIEE.

⁹ In 2016 annual budget and quarterly reports, Energy Trust applied a discount rate of 4.5 percent. This annual report is calculated using a 5.53 percent discount rates. The 5.53 discount rate will be used in 2017 quarterly and annual reports. The new discount rate comes as a result of a new IRP released by NW Natural in 2016.

NW Natural Appendix 1: 2016 energy efficiency measure counts and savings

Table 1: Residential sector measures

Category	Measure	Measures installed	Total therms saved
Energy Saver Kits	Energy Saver Kits	49	2,036
	LivingWise kits distributed through schools	776	8,924
Energy Saver Kits total		825	10,960
Online Home Energy Reviews	Online Home Energy Reviews total	84	0
Weatherization	Air sealing	2	51
	Ceiling insulation	15	1,320
	Floor Insulation	6	220
	Duct Insulation	3	37
	Wall insulation	4	299
	Windows	181	6,608
Weatherization total		211	8,535
Space heating	Smart thermostats	183	5,824
	Furnaces	337	27,116
	Gas fireplaces	76	4,962
	Gas fireplace retailer & distributor SPIFs	510	10,455
Space heating total		1,106	48,357
Water heating	Tank water heaters	22	550
Water heating total		22	550
New homes and products	ENERGY STAR home certification	231	26,334
	High-efficiency clothes washers	10	39
	New EPS homes	664	110,864
	Water saving products	1,517	12,517
New homes and products total		2,422	149,755
Grand total		4,670	218,156

Table 2: Commercial sector measures

Category	Measures	Measures installed	Total therms saved
Commercial clothes washers	Clothes washer	1	554
Commercial clothes washers total		1	554
Foodservice equipment	Dishwasher	3	1,027
	Gas convection oven	13	3,926
	Gas fryer	57	32,433
	Gas griddle	1	147
	Gas combination oven	6	1,740
Foodservice equipment total		82	39,273
Shell insulation	Roof insulation	4	3,756
	Wall insulation	2	394
Shell insulation total		6	4,149
Space heating	Gas-fired condensing boiler	4	19,950
	High-efficiency condensing furnace	57	4,156
	High-efficiency condensing unit heater	5	3,321
	Pipe insulation	1	1,480
Space heating total		67	28,908
Water heating	Faucet aerators	25	478
	Commercial tankless water heater	17	2,401
	Condensing tank water heater	7	1,671
Water heating total		49	4,550
Custom	Custom other	8	35,276
	Study	10	0
Custom total		18	35,276
Grand Total		223	112,709

NW Natural Appendix 2: Customer satisfaction

In 2016, Energy Trust conducted short phone surveys of NW Natural customers in Washington to determine satisfaction with their participation in Energy Trust programs. Results from 118 residential customers and fifteen commercial customers indicate a generally high level of customer satisfaction with moderate satisfaction regarding turnaround time to receive an incentive.

In 2016, more than 10 percent of 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 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.

Table 1: NW Natural Washington residential customer satisfaction 2016

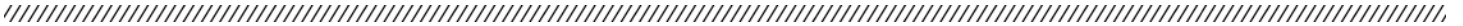
Residential (n=118)	Dissatisfied	Neutral	Satisfied
Overall satisfaction	2%	7%	91%
Incentive application form	5%	10%	85%
Turnaround time to receive incentive	12%	17%	71%

Energy Trust surveyed fifteen commercial customers in 2016. 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 2016

Commercial (n=15)	Dissatisfied	Neutral	Satisfied
Overall satisfaction	0	1	14
Incentive amount	0	2	13
Ease of applying for incentive	0	1	13
Interaction with program representative	0	0	11
Performance of project or system	0	0	14
Turnaround time to receive incentive	1	1	13

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WASHINGTON LOW INCOME ENERGY EFFICIENCY (WALIEE)

NW NATURAL
APRIL 25, 2017

Washington Low Income Energy Efficiency Program 2016 Program Results

NW Natural partners with Clark County's Community Development Office and Skamania-Klickitat Community Action 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 rarely sees gas customers and did not provide services to any through WALIEE during 2016. Results below are specific to Clark County's Department of Community Services.

In previous program years, WALIEE had reimbursed up to 90% of all cost-effective measures up to the cap for that program year. After working with Clark County staff and EEAG to identify areas for improving the program, the 90% cap was removed and the reimbursement cap was adjusted to \$5,200 per home for the 2016 program year. The program changes implemented for 2016 resulted in a significant increase in total project completions.

Additionally, the agencies are allotted 15% of reimbursable job costs for administrative costs and allowed an average of \$440 per home for Health, Safety, and Repairs (HSR), which are not subject to cost effectiveness tests. A 2016 WALIEE job could cost the program no more than \$6,420.

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. Duct Insulation brought in the second most therm savings and saw the second highest number of projects.

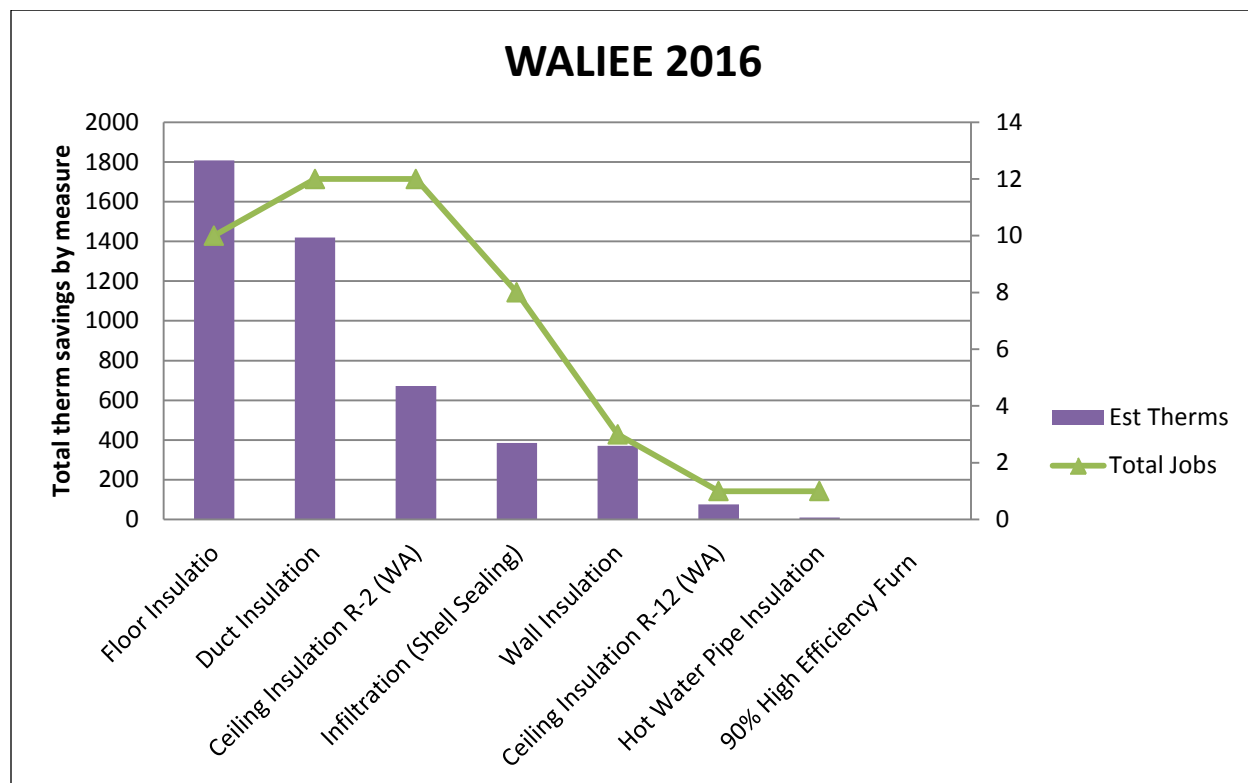


Figure 1: measure occurrence and savings

2012-2016 Efficiency Results:

Efficiency Metric	2016	2015	2014	2013	2012
Homes served	16	9	10	20	8
Average Reimbursement per home ¹	\$4,807	\$4,313	\$4,334	\$3,984	\$3,845
Total Reimbursed	\$76,918	\$38,817	\$43,339	\$79,677	\$30,761
Average estimated therms saved per home ²	378	357	305	351	319
Total estimated therms saved	6,048	3,213	3,050	7,026	2,538
Estimated Cost per therm	\$12.72	\$12.08	\$14.21	\$11.34	\$12.12

Figure 2 Efficiency Metrics

2016 Performance Metric	Goal	Actual
Homes served	15	16
Max reimbursement per home (Actual figure = avg per home)	\$5,200	\$4,807
Average estimated therms saved per home ³	343	378
Total estimated therms saved	5,145	6,048
Total Expenditure	\$96,300	\$94,735

Figure 3 Performance and Goal Metrics

Social Media Campaign:

From September 2016 to December 2016, NW Natural introduced advertising through two key social media channels to increase awareness of energy-efficiency assistance available to qualifying low-income customers. Twitter and Facebook ads were geo-targeted to the greater Clark County area and segmented for audience groups that met the low-income profile and live in homes heated with natural gas. This audience primarily included customers of Russian, Ukrainian, Eastern European ethnic groups, living in homes built between 1951 and 2000.

A social media campaign targeting low-income customers to take action is unprecedented in our industry.

Channel	Ad impressions	Link clicks	Click through rate	Cost per click
Facebook	98.5% to goal	132% to goal	134% to goal	\$0.37 compared to goal of \$0.7 (above goal)
Twitter	283% to goal	161% to goal	56% to goal	\$2.68 compared to goal of \$1.60 (below goal)

Figure 4 Social Media Results

¹ Note, reimbursed costs only reflect NWN's contribution for home weatherization. HSR and Admin are excluded.

² 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.

³ See footnote 2



Figure 5 Highest performing ad for both Facebook and Twitter

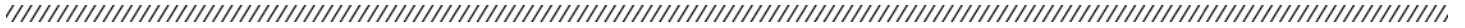
For this campaign, Facebook was more effective in targeting people whom we wanted to take action. Compared to Twitter which has the shortest shelf life, we now know Facebook is better suited for content accompanied by images, and is proven to provide a more substantial and diverse reach.

The most successful together with the image (Figure 5) address direct home issues related to ventilation and moisture—as well as potentially heating and other weatherization issues. The other messages—weatherize before it gets cold, stay warm and comfortable, lower your energy costs, stay warm for less—may not be direct enough. (Messaging and imaging was a result of working collaboratively with Clark County.) For future low-income campaigns, we recommend the most direct messaging possible with related images.

Conclusion:

NW Natural is pleased by the progress and development of the program and looks forward to continuing to grow in 2017. The success today is a result of the dedication and support of the Clark County weatherization team. We look forward to adjusting the program over time to provide opportunities to service greater numbers of customers.

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NW NATURAL TRANSACTIONAL AUDIT 2016 PROGRAM COSTS

NW NATURAL
APRIL 25, 2017

Washington Energy Efficiency Program 2016 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.
- By August 1 of each year, NW Natural will select a random sample of program cost transactions from the Energy Trust for the current year January through June 30 time period. 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 August 25th second quarter EE Report.

NW Natural's Internal Audit Department (IA) has completed a review of the Energy Trust of Oregon (ETO) expenditures billed for 07/01/2016 – 12/31/2016.

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 visited the ETO Offices and met with employees. Additionally, IA obtained the 2016 Financial Statements audited by Moss Adams noting an unqualified opinion, which included a limited review of the internal controls environment as it related to financial reporting.

Utilizing a statistical sampling model a representative sample of 41 (based on 85% confidence level and a 10% margin of error) transactions were selected for detail review.

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.

IA noted no issues as a result of the review. All expenditures reviewed appear to be appropriate.