# Appendix 1

Program and Portfolio Level Cost-Effectiveness

# MEMORANDUM

To: Don Jones, Jr., Nancy Goddard, and Elaine Prause, Pacific Power

From: Eli Morris, AEG

Date: October 9, 2020

Re: Washington Portfolio Level Cost-Effectiveness Analysis – 2020-2021 Biennium

AEG estimated the cost-effectiveness of Pacific Power's overall energy efficiency portfolio and individual programs in the state of Washington based on Program Year (PY) 2020 and PY2021 costs and savings estimates provided by Pacific Power.[1] The memo provides analysis inputs and results in the following tables:



[1] Consistent with Section 480-109-100 (10) (b) of the Washington Administrative Code, the Low-Income Weatherization program is excluded from this analysis.

Table 18: Wattsmart Business Non-Energy Impacts - PY2020 and PY2021

The following assumptions were utilized in the analysis:

- Avoided Costs: developed from a draft run of Portfolio "P-18 v06292019" in PacifiCorp's 2019 Integrated Resource Plan IRP),[2] converted into annual values using load shapes from the same IRP.
- Modeling Inputs: measure savings, costs, non-energy impacts (NEIs), measure lives, incentive levels, program delivery, and portfolio costs were based on estimates provided by PacifiCorp.
- Net-to-Gross (NTG): ratios are assumed to be 1.0, consistent with condition (8)(a) to Order 01 in Docket UE-152072.
- Retail Rates: 2018 rates provided by PacifiCorp and escalated by inflation for future years.

The following tables summarize cost-effectiveness assumptions and results for the Washington portfolio and associated programs.

*Table 1: Utility Inputs*

| Parameter | Value |
|---|---|
| Discount Rate[3] | 6.920% |
| Residential Line Loss | 7.676% |
| Commercial Line Loss | 7.602% |
| Industrial Line Loss | 6.815% |
| Irrigation Line Loss | 7.676% |
| Residential Energy Rate ($/kWh) | $0.0836 |
| Commercial Energy Rate ($/kWh) | $0.0717 |
| Industrial Energy Rate ($/kWh) | $0.0887 |
| Irrigation Energy Rate ($/kWh) | $0.1327 |
| Inflation Rate[4] | 2.280% |

*Table 2: Portfolio-Level Costs, Nominal - PY2020 and PY2021*

| Category | PY2020 | PY2021 |
|---|---|---|
| Be wattsmart, Begin at Home | $64,523 | $64,523 |
| Customer Outreach/Communication | $250,000 | $250,000 |
| Program Evaluations (& Savings Verification) | $549,524 | $259,662 |
| Potential Study Update/Analysis | $120,115 | $95,368 |
| System Support | $157,735 | $148,543 |
| End Use Load Research & RTF Funding | $109,500 | $85,500 |
| **Total** | **$1,251,397** | **$903,596** |

[2] Proxy decrement study aligned with P-18 proxy portfolio.

[3] Consistent with draft assumptions for PacifiCorp's 2019 Integrated Resource Plan.

[4] Future rates determined using a 2.28% annual escalator.

*Table 3: Program Costs, Nominal - PY2020 and PY2021*

| Program | Program Delivery | Utility Admin | Incentives | Total Utility Budget | Gross Customer Costs |
|---|---|---|---|---|---|
| Home Energy Savings | $3,432,050 | $135,022 | $3,317,467 | $6,884,539 | $6,793,542 |
| Home Energy Reports | $499,000 | $55,000 | $0 | $554,000 | $0 |
| Wattsmart Business | $5,743,812 | $1,118,891 | $7,135,924 | $13,998,627 | $15,792,687 |
| NEEA | $1,618,777 | $55,000 | $0 | $1,673,777 | $0 |
| **Total (excluding Portfolio-Level)** | **$11,293,639** | **$1,363,913** | **$10,453,391** | **$23,110,943** | **$22,586,229** |

*Table 4: Savings by Program - PY2020 and PY2021*

| Program | Gross kWh Savings at Site | Realization Rate | Adjusted Gross kWh Savings at Site | Net to Gross Ratio | Net kWh Savings at Site | Average Measure Life |
|---|---|---|---|---|---|---|
| Home Energy Savings | 9,724,900 | 81% | 7,838,078 | 100% | 7,838,078 | 13 |
| Home Energy Reports | 4,452,000 | 100% | 4,452,000 | 100% | 4,452,000 | 2 |
| Wattsmart Business | 59,814,000 | 96% | 57,178,784 | 100% | 57,178,784 | 9 |
| NEEA[5] | 6,852,424 | 100% | 6,852,424 | 100% | 6,852,424 | 14 |
| **Total Program** | **80,843,324** | **94%** | **76,321,286** | **100%** | **76,321,286** | **9** |

*Table 5: Portfolio-Level Benefit/Cost Ratios - PY2020 and PY2021*

| Program | PTRC | TRC | UCT | PCT | RIM |
|---|---|---|---|---|---|
| Total Portfolio | 1.56 | 1.41 | 2.14 | 2.40 | 0.75 |
| Total Portfolio with NEIs | 1.59 | 1.45 | 2.14 | 2.45 | 0.75 |
| Total Portfolio with NEEA | 1.69 | 1.54 | 2.28 | 2.65 | 0.77 |
| Total Portfolio with NEEA and NEIs | 1.72 | 1.57 | 2.28 | 2.70 | 0.77 |

*Table 6: Total Portfolio Cost-Effectiveness Results - PY2020 and PY2021*

| Cost-Effectiveness Test | Levelized $/kWh | Costs | Benefits | Net Benefits | Benefit/Cost Ratio |
|---|---|---|---|---|---|
| Total Resource Cost Test (PTRC) + Conservation Adder | $0.0747 | $32,240,430 | $50,166,658 | $17,926,228 | 1.56 |
| Total Resource Cost Test (TRC) No Adder | $0.0747 | $32,240,430 | $45,606,053 | $13,365,623 | 1.41 |
| Utility Cost Test (UCT) | $0.0493 | $21,282,233 | $45,606,053 | $24,323,820 | 2.14 |
| Participant Cost Test (PCT) | | $20,363,751 | $48,883,969 | $28,520,217 | 2.40 |
| Rate Impact Test (RIM) | | $60,760,647 | $45,606,053 | ($15,154,594) | 0.75 |
| Lifecycle Revenue Impacts ($/kWh) | | | | | $0.0011650 |
| Discounted Participant Payback (years) | | | | | 3.39 |

[5] NEEA savings are adjusted to exclude C&S outside CPA potential consistent with PY2020 and PY2021 Business Plan.

*Table 7: Total Portfolio Including NEIs Cost-Effectiveness Results - PY2020 and PY2021*

| Cost-Effectiveness Test | Levelized $/kWh | Costs | Benefits | Net Benefits | Benefit/Cost Ratio |
|---|---|---|---|---|---|
| Total Resource Cost Test (PTRC) + Conservation Adder | $0.0747 | $32,240,430 | $51,230,875 | $18,990,446 | 1.59 |
| Total Resource Cost Test (TRC) No Adder | $0.0747 | $32,240,430 | $46,670,270 | $14,429,841 | 1.45 |
| Utility Cost Test (UCT) | $0.0493 | $21,282,233 | $45,606,053 | $24,323,820 | 2.14 |
| Participant Cost Test (PCT) | | $20,363,751 | $49,948,186 | $29,584,435 | 2.45 |
| Rate Impact Test (RIM) | | $60,760,647 | $45,606,053 | ($15,154,594) | 0.75 |
| Lifecycle Revenue Impacts ($/kWh) | | | | | $0.0011650 |
| Discounted Participant Payback (years) | | | | | 3.30 |

*Table 8: Total Portfolio Including NEEA Cost-Effectiveness Results - PY2020 and PY2021*

| Cost-Effectiveness Test | Levelized $/kWh | Costs | Benefits | Net Benefits | Benefit/Cost Ratio |
|---|---|---|---|---|---|
| Total Resource Cost Test (PTRC) + Conservation Adder | $0.0696 | $33,754,886 | $57,142,432 | $23,387,546 | 1.69 |
| Total Resource Cost Test (TRC) No Adder | $0.0696 | $33,754,886 | $51,947,665 | $18,192,780 | 1.54 |
| Utility Cost Test (UCT) | $0.0470 | $22,796,689 | $51,947,665 | $29,150,976 | 2.28 |
| Participant Cost Test (PCT) | | $20,363,751 | $53,981,831 | $33,618,079 | 2.65 |
| Rate Impact Test (RIM) | | $67,372,965 | $51,947,665 | ($15,425,300) | 0.77 |
| Lifecycle Revenue Impacts ($/kWh) | | | | | $0.0012918 |
| Discounted Participant Payback (years) | | | | | 3.19 |

*Table 9: Total Portfolio Including NEIs and NEEA Cost-Effectiveness Results - PY2020 and PY2021*

| Cost-Effectiveness Test | Levelized $/kWh | Costs | Benefits | Net Benefits | Benefit/Cost Ratio |
|---|---|---|---|---|---|
| Total Resource Cost Test (PTRC) + Conservation Adder | $0.0696 | $33,754,886 | $58,206,649 | $24,451,764 | 1.72 |
| Total Resource Cost Test (TRC) No Adder | $0.0696 | $33,754,886 | $53,011,883 | $19,256,997 | 1.57 |
| Utility Cost Test (UCT) | $0.0470 | $22,796,689 | $51,947,665 | $29,150,976 | 2.28 |
| Participant Cost Test (PCT) | | $20,363,751 | $55,046,048 | $34,682,297 | 2.70 |
| Rate Impact Test (RIM) | | $67,372,965 | $51,947,665 | ($15,425,300) | 0.77 |
| Lifecycle Revenue Impacts ($/kWh) | | | | | $0.0012918 |
| Discounted Participant Payback (years) | | | | | 3.11 |

*Table 10: Benefit/Cost Ratios by Program - PY2020 and PY2021*

| Program | PTRC | TRC | UCT | PCT | RIM |
|---|---|---|---|---|---|
| Home Energy Savings | 0.78 | 0.71 | 1.07 | 1.42 | 0.56 |
| Home Energy Savings with NEIs | 0.88 | 0.81 | 1.07 | 1.57 | 0.56 |
| Home Energy Reports | 2.01 | 1.83 | 1.83 | 0.00 | 0.67 |
| Wattsmart Business | 2.05 | 1.86 | 3.01 | 2.76 | 0.84 |
| Wattsmart Business with NEIs | 2.05 | 1.87 | 3.01 | 2.77 | 0.84 |
| NEEA | 4.61 | 4.19 | 4.19 | 0.00 | 0.96 |

*Table 11: Home Energy Savings Cost-Effectiveness Results - PY2020 and PY2021*

| Cost-Effectiveness Test | Levelized $/kWh | Costs | Benefits | Net Benefits | Benefit/Cost Ratio |
|---|---|---|---|---|---|
| Total Resource Cost Test (PTRC) + Conservation Adder | $0.1652 | $9,303,642 | $7,244,981 | ($2,058,661) | 0.78 |
| Total Resource Cost Test (TRC) No Adder | $0.1652 | $9,303,642 | $6,586,346 | ($2,717,296) | 0.71 |
| Utility Cost Test (UCT) | $0.1097 | $6,179,544 | $6,586,346 | $406,802 | 1.07 |
| Participant Cost Test (PCT) | | $6,092,601 | $8,636,034 | $2,543,433 | 1.42 |
| Rate Impact Test (RIM) | | $11,847,074 | $6,586,346 | ($5,260,728) | 0.56 |
| Lifecycle Revenue Impacts ($/kWh) | | | | | $0.0002271 |
| Discounted Participant Payback (years) | | | | | 7.82 |

*Table 12: Home Energy Savings Including NEIs Cost-Effectiveness Results - PY2020 and PY2021*

| Cost-Effectiveness Test | Levelized $/kWh | Costs | Benefits | Net Benefits | Benefit/Cost Ratio |
|---|---|---|---|---|---|
| Total Resource Cost Test (PTRC) + Conservation Adder | $0.1652 | $9,303,642 | $8,159,841 | ($1,143,801) | 0.88 |
| Total Resource Cost Test (TRC) No Adder | $0.1652 | $9,303,642 | $7,501,207 | ($1,802,435) | 0.81 |
| Utility Cost Test (UCT) | $0.1097 | $6,179,544 | $6,586,346 | $406,802 | 1.07 |
| Participant Cost Test (PCT) | | $6,092,601 | $9,550,894 | $3,458,293 | 1.57 |
| Rate Impact Test (RIM) | | $11,847,074 | $6,586,346 | ($5,260,728) | 0.56 |
| Lifecycle Revenue Impacts ($/kWh) | | | | | $0.0002271 |
| Discounted Participant Payback (years) | | | | | 6.75 |

*Table 13: Home Energy Reports Cost-Effectiveness Results - PY2020 and PY2021*

| Cost-Effectiveness Test | Levelized $/kWh | Costs | Benefits | Net Benefits | Benefit/Cost Ratio |
|---|---|---|---|---|---|
| Total Resource Cost Test (PTRC) + Conservation Adder | $0.0508 | $502,013 | $1,009,392 | $507,380 | 2.01 |
| Total Resource Cost Test (TRC) No Adder | $0.0508 | $502,013 | $917,629 | $415,617 | 1.83 |
| Utility Cost Test (UCT) | $0.0508 | $502,013 | $917,629 | $415,617 | 1.83 |
| Participant Cost Test (PCT) | | $0 | $864,896 | $864,896 | n/a |
| Rate Impact Test (RIM) | | $1,366,908 | $917,629 | ($449,279) | 0.67 |
| Lifecycle Revenue Impacts ($/kWh) | | | | | $0.0001324 |
| Discounted Participant Payback (years) | | | | | 0.00 |

*Table 14: Wattsmart Business Cost-Effectiveness Results - PY2020 and PY2021*

| Cost-Effectiveness Test | Levelized $/kWh | Costs | Benefits | Net Benefits | Benefit/Cost Ratio |
|---|---|---|---|---|---|
| Total Resource Cost Test (PTRC) + Conservation Adder | $0.0560 | $20,473,953 | $41,912,285 | $21,438,332 | 2.05 |
| Total Resource Cost Test (TRC) No Adder | $0.0560 | $20,473,953 | $38,102,077 | $17,628,124 | 1.86 |
| Utility Cost Test (UCT) | $0.0346 | $12,639,854 | $38,102,077 | $25,462,223 | 3.01 |
| Participant Cost Test (PCT) | | $14,271,150 | $39,383,039 | $25,111,889 | 2.76 |
| Rate Impact Test (RIM) | | $45,585,842 | $38,102,077 | ($7,483,765) | 0.84 |
| Lifecycle Revenue Impacts ($/kWh) | | | | | $0.0012226 |
| Discounted Participant Payback (years) | | | | | 3.27 |

*Table 15: Wattsmart Business Including NEIs Cost-Effectiveness Results - PY2020 and PY2021*

| Cost-Effectiveness Test | Levelized $/kWh | Costs | Benefits | Net Benefits | Benefit/Cost Ratio |
|---|---|---|---|---|---|
| Total Resource Cost Test (PTRC) + Conservation Adder | $0.0560 | $20,473,953 | $42,061,642 | $21,587,689 | 2.05 |
| Total Resource Cost Test (TRC) No Adder | $0.0560 | $20,473,953 | $38,251,434 | $17,777,481 | 1.87 |
| Utility Cost Test (UCT) | $0.0346 | $12,639,854 | $38,102,077 | $25,462,223 | 3.01 |
| Participant Cost Test (PCT) | | $14,271,150 | $39,532,396 | $25,261,246 | 2.77 |
| Rate Impact Test (RIM) | | $45,585,842 | $38,102,077 | ($7,483,765) | 0.84 |
| Lifecycle Revenue Impacts ($/kWh) | | | | | $0.0012226 |
| Discounted Participant Payback (years) | | | | | 3.24 |

*Table 16: NEEA Cost-Effectiveness Results - PY2020 and PY2021*

| Cost-Effectiveness Test | Levelized $/kWh | Costs | Benefits | Net Benefits | Benefit/Cost Ratio |
|---|---|---|---|---|---|
| Total Resource Cost Test (PTRC) + Conservation Adder | $0.0283 | $1,514,456 | $6,975,774 | $5,461,318 | 4.61 |
| Total Resource Cost Test (TRC) No Adder | $0.0283 | $1,514,456 | $6,341,613 | $4,827,156 | 4.19 |
| Utility Cost Test (UCT) | $0.0283 | $1,514,456 | $6,341,613 | $4,827,156 | 4.19 |
| Participant Cost Test (PCT) | | $0 | $5,097,862 | $5,097,862 | n/a |
| Rate Impact Test (RIM) | | $6,612,318 | $6,341,613 | ($270,705) | 0.96 |
| Lifecycle Revenue Impacts ($/kWh) | | | | | $0.0001268 |
| Discounted Participant Payback (years) | | | | | 0.00 |

*Table 17: Home Energy Savings Non-Energy Impacts - PY2020 and PY2021*

| Measure | Annual Non-Energy Impacts per Measure | Total Installs | Measure Life | Total Present Value NEIs |
|---|---|---|---|---|
| Clothes Dryer - Ventless_UCEF 3.20 to 3.39 - WA | $4.06 | 4 | 12 | $121 |
| Clothes Dryer - Ventless_UCEF 3.40 to 3.59 - WA | $3.88 | 4 | 12 | $116 |
| Clothes Dryer - Ventless_UCEF 3.60 to 3.79 - WA | $3.72 | 6 | 12 | $170 |
| Clothes Dryer - Ventless_UCEF 3.80 to 4.19 - WA | $3.52 | 5 | 12 | $131 |
| Clothes Dryer - Ventless_UCEF 4.20 to 4.69 - WA | $3.27 | 2 | 12 | $52 |
| Clothes Dryer - Ventless_UCEF 7.20 to 8.00 - WA | $2.31 | 4 | 12 | $74 |
| Clothes Washers - CEE Advanced Tier - Electric DHW & Electric Dryer - WA | $22.16 | 4 | 14 | $729 |
| Clothes Washers - CEE Advanced Tier - Electric DHW & Gas Dryer - WA | $22.16 | 4 | 14 | $729 |
| Clothes Washers - CEE Advanced Tier - Gas DHW & Electric Dryer - WA | $22.16 | 4 | 14 | $729 |
| Clothes Washers - CEE Tier 1 - Electric DHW & Electric Dryer - WA | $19.02 | 6 | 14 | $960 |
| Clothes Washers - CEE Tier 1 - Electric DHW & Gas Dryer - WA | $19.02 | 4 | 14 | $625 |
| Clothes Washers - CEE Tier 1 - Gas DHW & Electric Dryer - WA | $19.02 | 4 | 14 | $625 |
| Clothes Washers - CEE Tier 2 - Electric DHW & Electric Dryer - WA | $17.91 | 58 | 14 | $9,088 |
| Clothes Washers - CEE Tier 2 - Electric DHW & Gas Dryer - WA | $17.91 | 6 | 14 | $904 |
| Clothes Washers - CEE Tier 2 - Gas DHW & Electric Dryer - WA | $17.91 | 4 | 14 | $589 |
| Clothes Washers - CEE Tier 3 - Electric DHW & Electric Dryer - WA | $22.16 | 10 | 14 | $1,947 |
| Clothes Washers - CEE Tier 3 - Electric DHW & Gas Dryer - WA | $22.16 | 1 | 14 | $195 |
| Clothes Washers - CEE Tier 3 - Gas DHW & Electric Dryer - WA | $22.16 | 3 | 14 | $584 |
| Ductless Heat Pump - eFAF to DHP 9.0 to 9.4 - WA | $158.08 | 44 | 15 | $59,738 |
| Ductless Heat Pump - eFAF to DHP 9.5 and above - WA | $172.22 | 46 | 15 | $69,255 |
| Ductless Heat Pump - Zonal to DHP 11.1 to 12.5 - WA | $50.10 | 56 | 15 | $25,030 |
| Ductless Heat Pump - Zonal to DHP 12.6 and above - WA | $50.10 | 14 | 15 | $6,065 |
| Ductless Heat Pump - Zonal to DHP 9.0 to 11.0 - WA | $50.10 | 78 | 15 | $35,119 |
| Energy Savings Kit - Best - 1 Bathroom - WA | $56.23 | 600 | 9 | $220,561 |
| Energy Savings Kit - Best - 2 Bathrooms - WA | $86.73 | 250 | 9 | $141,744 |
| Energy Savings Kit - LED - WA | $0.77 | 2,600 | 5 | $8,226 |
| Fixture - Bathroom Vanity - 1000 to 1999 Lumens - WA | $0.79 | 216 | 9 | $1,049 |
| Fixture - Bathroom Vanity - 2000 to 3999 Lumens - WA | $1.53 | 209 | 9 | $1,964 |
| Fixture - Bathroom Vanity - 250 to 499 Lumens - WA | $0.23 | 200 | 7 | $233 |
| Fixture - Bathroom Vanity - 500 to 999 Lumens - WA | $0.44 | 200 | 8 | $493 |
| Fixture - Ceiling & Wall Flush Mount - 1000 to 1999 Lumens - WA | $0.70 | 2,108 | 6 | $6,834 |
| Fixture - Ceiling & Wall Flush Mount - 2000 to 3999 Lumens - WA | $1.36 | 468 | 6 | $2,957 |
| Fixture - Ceiling & Wall Flush Mount - 4000 to 7999 Lumens - WA | $2.52 | 211 | 6 | $2,381 |
| Fixture - Ceiling & Wall Flush Mount - 500 to 999 Lumens - WA | $0.39 | 552 | 5 | $885 |
| Fixture - Downlight - 2000 to 3999 Lumens - WA | $1.95 | 367 | 4 | $2,341 |
| Fixture - Downlight - 4000 to 7999 Lumens - WA | $3.61 | 200 | 4 | $2,291 |
| Fixture - Exterior Porch - 1000 to 1999 Lumens - WA | $1.24 | 200 | 3 | $610 |
| Fixture - Exterior Porch - 2000 to 3999 Lumens - WA | $2.39 | 200 | 3 | $1,175 |
| Fixture - Exterior Porch - 4000 to 7999 Lumens - WA | $4.42 | 200 | 3 | $2,173 |
| Fixture - Exterior Porch - 500 to 999 Lumens - WA | $0.68 | 316 | 3 | $565 |
| Fixture - Exterior Security - 1000 to 1999 Lumens - WA | $0.90 | 211 | 9 | $1,163 |
| Fixture - Exterior Security - 2000 to 3999 Lumens - WA | $1.73 | 272 | 9 | $2,930 |

| Measure | Annual Non-Energy Impacts per Measure | Total Installs | Measure Life | Total Present Value NEIs |
|---|---|---|---|---|
| Fixture - Exterior Security - 250 to 499 Lumens - WA | $0.26 | 237 | 9 | $381 |
| Fixture - Exterior Security - 4000 to 7999 Lumens - WA | $3.20 | 200 | 8 | $3,585 |
| Fixture - Exterior Security - 500 to 999 Lumens - WA | $0.49 | 216 | 9 | $650 |
| Fixture - Track - 1000 to 1999 Lumens - WA | $0.93 | 200 | 8 | $1,042 |
| Fixture - Track - 2000 to 3999 Lumens - WA | $1.80 | 212 | 8 | $2,146 |
| Fixture - Track - 4000 to 7999 Lumens - WA | $3.33 | 200 | 8 | $3,731 |
| Fixture - Track - 500 to 999 Lumens - WA | $0.51 | 200 | 8 | $571 |
| Heat Pump - Conversion to 9.0+ HSPF - Convert FAF without CAC - WA | $23.98 | 50 | 18 | $11,346 |
| Heat Pump - Conversion to 9.0+ HSPF with Best Practice Install & Sizing - Convert FAF without CAC - WA | $23.98 | 30 | 15 | $6,585 |
| Heat Pump - Conversion to Federal Standard HSPF - Convert FAF w/out CAC - WA | $23.98 | 50 | 18 | $11,346 |
| Heat Pump - Conversion with Best Practice Install & Sizing - Convert FAF without CAC - WA | $23.98 | 52 | 15 | $11,415 |
| Heat Pump - Conversion with Best Practice Install & Sizing - Convert Federal FAF w/out CAC - WA | $23.98 | 2 | 15 | $439 |
| Insulation - Attic - eFAF - R11 to R49 - WA | $0.01 | 46,000 | 45 | $6,320 |
| Insulation - Attic - Gas Heated - R11 to R49 - WA | $0.01 | 37,854 | 45 | $5,201 |
| Insulation - Attic - Zonal or DHP - R11 to R49 - WA | $0.01 | 12,362 | 45 | $1,663 |
| Insulation - Floor - eFAF - R0 to R30 - WA | $0.02 | 6,972 | 45 | $1,893 |
| Insulation - Floor - Zonal or DHP - R0 to R30 - WA | $0.02 | 7,354 | 45 | $2,021 |
| Insulation - Wall - eFAF - R0 to R13 - WA | $0.04 | 840 | 45 | $462 |
| Insulation - Wall - Zonal or DHP - R0 to R13 - WA | $0.03 | 4,012 | 45 | $1,654 |
| LEDs - Decorative & Mini-Base - 250 to 1049 Lumens - WA | $0.56 | 13,775 | 2 | $13,963 |
| LEDs - General Purpose & Three-Way - 1050 to 1489 Lumens - WA | $0.70 | 24,100 | 4 | $55,401 |
| LEDs - General Purpose & Three-Way - 1490 to 2600 Lumens - WA | $0.31 | 13,156 | 2 | $7,382 |
| LEDs - General Purpose & Three-Way - 250 to 1049 Lumens - WA | $0.24 | 76,200 | 2 | $33,102 |
| LEDs - Globe - 250 to 1049 Lumens - WA | $0.41 | 10,285 | 2 | $7,633 |
| LEDs - MR 250 to 499 Lumens (Pin Base) - WA | $0.27 | 200 | 4 | $171 |
| LEDs - MR 500 to 999 Lumens (Pin Base) - WA | $0.41 | 100 | 3 | $101 |
| LEDs - Non-MR Bi-Pin 250 to 499 Lumens (Pin Base) - WA | $0.36 | 546 | 11 | $1,384 |
| LEDs - Non-MR Bi-Pin 500 to 999 Lumens (Pin Base) - WA | $0.51 | 100 | 9 | $312 |
| LEDs - Reflectors & Outdoor - 1050 to 1489 Lumens - WA | $0.24 | 4,793 | 2 | $2,015 |
| LEDs - Reflectors & Outdoor - 1490 to 2600 Lumens - WA | $0.82 | 403 | 3 | $840 |
| LEDs - Reflectors & Outdoor - 250 to 1049 Lumens - WA | $0.20 | 24,927 | 1 | $4,542 |
| Manufactured Home - Ductless Heat Pump - eFAF to DHP 9.0 to 9.4 - WA | $29.62 | 24 | 15 | $6,121 |
| Manufactured Home - Ductless Heat Pump - eFAF to DHP 9.5 and above - WA | $32.28 | 22 | 15 | $6,080 |
| Manufactured Home - Ductless Heat Pump - Zonal to DHP 11.1 to 12.5 - WA | $50.10 | 24 | 15 | $10,354 |
| Manufactured Home - Ductless Heat Pump - Zonal to DHP 12.6 and above - WA | $50.10 | 12 | 15 | $5,147 |
| Manufactured Home - Ductless Heat Pump - Zonal to DHP 9.0 to 11.0 - WA | $50.10 | 2 | 15 | $917 |

| Measure | Annual Non-Energy Impacts per Measure | Total Installs | Measure Life | Total Present Value NEIs |
|---|---|---|---|---|
| Manufactured Home - Heat Pump - Conversion to 9.0+ HSPF - Convert FAF w/out CAC - WA | $35.97 | 21 | 18 | $7,148 |
| Manufactured Home - Heat Pump - Conversion to Federal Standard HSPF - Convert FAF w/out CAC - WA | $35.97 | 35 | 18 | $11,913 |
| Manufactured Home - Heat Pump - Conversion with Best Practice Install & Sizing - Convert FAF w/out CAC - WA | $35.97 | 8 | 15 | $2,634 |
| Manufactured Home - Windows - Ufactor > 0.30 to Ufactor <= 0.25 - Electric Resistance - WA | $0.01 | 3,000 | 25 | $329 |
| Manufactured Home - Windows - Ufactor 30 to Ufactor 25 - Electric Resistance - WA | $0.01 | 65 | 25 | $8 |
| Multifamily - Ductless Heat Pump - eFAF to DHP 9.5 and above - WA | $57.65 | 42 | 15 | $20,730 |
| Multifamily - Ductless Heat Pump - Zonal to DHP 11.1 to 12.5 - WA | $27.38 | 24 | 15 | $5,658 |
| Multifamily - Ductless Heat Pump - Zonal to DHP 12.6 and above - WA | $27.38 | 0 | 15 | $0 |
| Multifamily - Ductless Heat Pump - Zonal to DHP 9.0 to 11.0 - WA | $27.38 | 44 | 15 | $10,347 |
| New Manufactured Home - Ecorated - Any Electric - WA | $17.53 | 10 | 42 | $2,381 |
| New Manufactured Home - ENERGY STAR - Any Electric - WA | $17.28 | 35 | 44 | $7,958 |
| Windows - Ufactor 30 to Ufactor 25 - eFAF - WA | $0.04 | 626 | 45 | $344 |
| Windows - Ufactor 30 to Ufactor 25 - Heat Pump - WA | $0.02 | 972 | 45 | $267 |

*Table 18: Wattsmart Business Savings Non-Energy Impacts - PY2020 and PY2021*

| Measure | Annual Non-Energy Impacts per Measure | Total Installs | Measure Life | Total Present Value NEIs |
|---|---|---|---|---|
| Water distribution measures-Rotating sprinkler | $497.20 | 2 | 4 | $3,265 |
| Water distribution measures-Impact sprinkler, New or Rebuilt | $1,984.40 | 2 | 4 | $13,032 |
| Water distribution measures-Nozzle | $145.77 | 2 | 4 | $957 |
| Water distribution measures-Gasket for wheel line, hand line, or portable main line | $225.50 | 2 | 5 | $1,793 |
| Water distribution measures-Drain for wheel line, hand line, portable main line, pivot, or linear | $124.10 | 2 | 5 | $987 |
| Water distribution measures-Pipe repair | $693.00 | 2 | 8 | $8,033 |
| Water distribution measures-Wheel line leveler | $56.40 | 2 | 5 | $448 |
| Water distribution measures-Pressure regulator | $508.50 | 2 | 5 | $4,044 |
| Water distribution measures-Low pressure sprinkler replacing worn low pressure sprinkler | $505.11 | 2 | 5 | $4,017 |
| Decorative and Mini-Base_500 to 699 lumens - MID - WA | $18.29 | 53 | 1 | $1,753 |
| Downlight Retrofit Kit_1100 to 1800 lumens - MID - WA | $17.90 | 60 | 2 | $2,803 |
| Downlight Retrofit Kit_450 to 624 lumens - MID - WA | $9.27 | 100 | 2 | $1,653 |
| Downlight Retrofit Kit_625 to 1099 lumens - MID - WA | $10.88 | 100 | 2 | $1,886 |
| Globe_350 to 499 lumens - MID - WA | $7.23 | 53 | 1 | $694 |
| Globe_500 to 574 lumens - MID - WA | $20.48 | 53 | 1 | $1,963 |
| Globe_575 to 649 lumens - MID - WA | $21.45 | 50 | 1 | $1,941 |

| Measure | Annual Non-Energy Impacts per Measure | Total Installs | Measure Life | Total Present Value NEIs |
|---|---|---|---|---|
| Globe_650 to 1099 lumens - MID - WA | $19.14 | 60 | 1 | $2,070 |
| Pin-base Reflector_21 to 45W equivalent - MID - WA | $21.68 | 90 | 1 | $3,443 |
| Pin-base Reflector_46 to 59W equivalent - MID - WA | $23.80 | 87 | 1 | $3,748 |
| Pin-base Reflector_60 to 80W equivalent - MID - WA | $35.23 | 60 | 1 | $3,820 |
| Reflectors_1100 to 1590 lumens - BR - MID - WA | $46.47 | 65 | 1 | $2,822 |
| Reflectors_1100 to 1590 lumens - PAR - MID - WA | $16.60 | 100 | 1 | $1,494 |
| Reflectors_450 to 624 lumens - BR - MID - WA | $13.37 | 53 | 1 | $663 |
| Reflectors_450 to 624 lumens - PAR - MID - WA | $7.15 | 53 | 1 | $354 |
| Reflectors_625 to 1099 lumens - BR - MID - WA | $6.78 | 57 | 1 | $361 |
| Reflectors_625 to 1099 lumens - PAR - MID - WA | $7.19 | 53 | 1 | $356 |
| T8 TLED Lamp Type A, A/B Dual Mode - MID - Relamp - WA | $44.65 | 215 | 7 | $76,574 |
| HID Replacement Lamp <40 W - MID - WA | $17.92 | 6 | 12 | $858 |
| LED HID Replacement Lamp <40 W - MID - WA | $7.60 | 103 | 6 | $3,498 |
| Pin-base Reflector_20W equivalent - MID - WA | $1.29 | 10 | 1 | $22 |
| Decorative and Mini-Base_300 to 499 lumens - MID - WA | $1.06 | 3 | 1 | $5 |