

2024 CPCN/Tariff filing

System year 1 is 2025

Case: Cold Climate Heat Pump/Geothermal

High Efficiency Heat Pump Program: Cold Climate Heat Pump/Geothermal

The High Efficiency Heat Pump Program offers an incentive to Residential end-use members for purchasing an energy efficient heat pump rather than a standard efficiency heat pump. This program has two Tiers for Air Source Heat Pumps: ENERGY STAR® and cold-climate heat pump/geothermal, There is a separate incentive for purchasing a Heat Pump Water Heater rather than a standard electric water heater.

| <u>Assumption</u> | <u>Source</u> |
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| Load Impacts Before Participant 6,865 kWh, 8.12 kW (coinc. with winter system peak), 1.84 kW (summer) Savings: 1,583 kWh 2.381 kW (winter), 0.442 kW (summer) After Participant 5,282 kWh, 5.74 kW (coinc. with winter system peak), 1.40 kW (summer) | Federal Standard efficiency new heat pump: SEER 15, HSPF 8.8 (equivalent to 14.3 SEER2, 7.5 HSPF2) GDS kWh savings Cold Climate ASHP 18,1 SEER2, HP baseline. kW impacts based on planning load profile Before participant net of savings |
| Lifetime of savings Discount rate for TRC and RIM Generation Capacity Cost - \$174.60 per kW-year (no escalation). 73% winter 27% summer. Avoided Electricity Energy Costs - PJM Market, AEP-Dayton hub, \$45.96 /MWh in 2025 Transmission Capacity Cost - OATT tariff \$ 35.76 per kW-year in 2025 Distribution Capacity Cost - \$ 4.93 per kW-year in 2025 Participant Costs \$ 2,546.. 2% esc. Tax credit (benefit): \$2,000 | 16 Years 5 percent per EKPC financial data; 3.5 % societal test from Mercatus Center report Avoided costs of a RICE unit. Updated escalators to match. Allocation is 73% winter 27% summer. Summer values based on PJM capacity performance market December 2023 with IHS Markit forecast, start year is 2024. based on December 26, 2023 ACES Forward prices for AEP_Dayton hub. \$45.96 /MWh in 2025. DSMore Scenario 9, 0.587 esc in 2025 Network rate, 2023-24. 2.8 % escalation rate based on 10 yr PPI.. Applied to winter coincident peak. Based on marginal cost of distribution. 2.8 % escalation rate based on 10 yr PPI. . Applied to winter coincident peak. GDS costs for measure bundle 30% of heat pump cost less utility subsidy , subject to a limit of \$2,000 per year |
| Administrative Cost EK \$8,600 (2025 value) fixed annual (2025-2039). 2% esc Co-op \$180 per new participant | Program admin - 2018 value of \$6,885 adjusted to 2025.. Based on proposed tariff |
| Rate Schedule - Retail Median Residential Rate for Co-ops Cust chrg \$16.09 , Energy Rate \$.088229 Rate Schedule - Wholesale East Kentucky E-2 rate. | Current rates in effect as of January 2024.. includes Environmental Surcharge and FAC Current rates in effect as of January 2024. includes Environmental Surcharge and FAC |
| Participation - 2025: 0. 2026-2039: 416 per year. 0% Free Riders | 2025 - existing programs based on 2023 annual report. New programs - 0 (they begin in 2026).. 2026-2039 based on proposed new budget |
| Rebates Co-op to Participant \$ 1,000 , 2% esc EK to Co-op \$1,248 , 2% esc | Proposed for new program design. Based on proposed tariff. Reimburse for rebate, 50% of admin costs, plus compensation for lost margins. |