

SINGLE-FAMILY HOME OPERATING COSTS: NATURAL GAS VS. RESIDENTIAL HEATING OIL, PROPANE AND ELECTRIC¹

Average costs for a three person, 2,300 square foot single-family home in the DC metropolitan region utilizing space heating, water heating, cooking and drying.

Equipment Description	Estimated Annual Operating Costs			Savings if Converted to Natural Gas			Percent savings		
	DC ^{2,6}	MD ³	VA ⁴	DC ^{2,6}	MD ³	VA ⁴	DC ^{2,6}	MD ³	VA ⁴
Space Heating									
Natural Gas - Average Furnace, 80% AFUE	\$701	\$695	\$581	-	-	-	-	-	-
Residential Heating Oil (#2) - Average Furnace, 83% AFUE	\$1,276	\$1,276	\$1,403	\$575	\$581	\$822	45%	46%	59%
Propane - Average Furnace, 80% AFUE	\$1,329	\$1,329	\$1,461	\$628	\$634	\$880	47%	48%	60%
Electric - Standard Efficiency Heat Pump, 8.7 HSPF	\$854	\$958	\$965	\$153	\$263	\$384	18%	27%	40%
Natural Gas - High Efficiency Furnace, 92% AFUE									
Natural Gas - High Efficiency Furnace, 92% AFUE	\$610	\$604	\$505	-	-	-	-	-	-
Residential Heating Oil (#2) - High Efficiency Furnace, 85% AFUE	\$1,246	\$1,246	\$1,370	\$636	\$642	\$865	51%	52%	63%
Propane - High Efficiency Furnace, 92% AFUE	\$1,155	\$1,155	\$1,271	\$545	\$551	\$766	47%	48%	60%
Electric - High Efficiency Heat Pump, 10 HSPF	\$769	\$865	\$872	\$159	\$261	\$367	21%	30%	42%
Water Heating									
Natural Gas - Standard Water Heater, 0.62 EF	\$190	\$189	\$143	-	-	-	-	-	-
Residential Heating Oil (#2) - Standard Water Heater, 0.62 EF	\$359	\$359	\$359	\$169	\$170	\$216	47%	47%	60%
Propane - Standard Water Heater, 0.62 EF	\$361	\$361	\$361	\$171	\$172	\$218	47%	48%	60%
Electric - Standard Water Heater, 0.9 EF	\$445	\$465	\$419	\$255	\$276	\$276	57%	59%	66%
Natural Gas - Condensing Tankless Water Heater, 0.95 EF									
Natural Gas - Condensing Tankless Water Heater, 0.95 EF	\$124	\$123	\$94	-	-	-	-	-	-
Propane - Condensing Tankless Water Heater, 0.95 EF	\$235	\$235	\$235	\$111	\$112	\$141	47%	48%	60%
Electric - High-Performing Water Heater, 0.95 EF	\$442	\$440	\$397	\$298	\$317	\$303	71%	72%	76%
Cooking									
Natural Gas - Standard Cooktop, 40% Efficient	\$56	\$56	\$42	-	-	-	-	-	-
Electric - Standard Cooktop, 74% Efficient	\$103	\$108	\$97	\$47	\$52	\$55	46%	48%	57%
Clothes Drying⁵									
Natural Gas - Standard Dryer, 2.67 EF	\$42	\$41	\$32	-	-	-	-	-	-
Electric - Standard Dryer, 3.01 EF	\$126	\$131	\$119	\$84	\$90	\$87	67%	69%	73%

Notes:
 1 All costs are obtained from the Energy Solutions Center, Inc. (ESC) Residential Energy Calculation, as of 6/20/2024 (<https://esc.energydepot.com/user-information/home>)
 2 Washington, DC data obtained by selecting District of Columbia/Washington in calculator
 3 Maryland data obtained by selecting Maryland/Baltimore in calculator
 4 Virginia data obtained by selecting Virginia/Sterling in the calculator
 5 Clothes drying costs are based on usage of 8 loads per week
 6 Propane costs in DC are included for comparative purposes only

