Methodology for Net Cost Analysis
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For SPUR's article, "With Subsidies, Pollution-Preventing Heat Pump Upgrades Can Be Affordable for Low-Income Bay Area Households," we used figures for total costs of like-for-like gas appliance replacements and comparable heat pumps from the Air District's staff report on Proposed Amendments to Building Appliance Rules, Appendix C: Socioeconomic Analysis .

For heat pump costs, the Air District's report reviewed three sources: a Lawrence Berkeley National Laboratory review of national data, an E3 study for California, and (for heat pump water heaters) a Sacramento Municipal Utility District study. Of those three studies, the one with the highest total costs for heat pumps and the greatest cost differential between heat pumps and gas appliances was the E3 study. In the spirit of generating a more conservative estimate (that is, a higher-end estimate of heat pump costs compared with gas appliance costs), we used E3's mean cost for ducted split heat pumps, gas furnaces and central AC, heat pump water heaters, and gas-fired tank water heaters. Because E3 didn't provide an estimate of a gas furnace installation without AC, we used data collected from BayREN's Home+ program. The average cost for a gas furnace installation in BayREN's Home+ program was $6,500.

We then compiled incentive data from TECH Clean California and BayREN's Home+ Rebates. We took data on HEEHR incentives from Rewiring America's Guide to the Inflation Reduction Act and the American Council for an Energy-Efficient Future's overview of Home Energy Upgrade Incentives. Assuming that households and multifamily buildings qualified for the low-income HEERH incentives, we calculated maximum realized incentives: households and multifamily building owners cannot receive a rebate larger than the total cost of their clean appliance intervention, and they cannot exceed per-program rebate caps ($14,000 for HEERH's rebates per single-family home or multifamily unit and $5,000 for BayREN's rebates for single-family homes).

Net costs for converting from a gas furnace and hot water heater to heat pumps for low-income households.

Appliance at end of life	**Replace like-for-like SF or MF**	**Replace with a heat pump SF**	**Replace with a heat pump MF**	**Incentives for clean appliance measure SF**	**Incentives for clean appliance measure MF**	**Net cost/ (savings) SF**	**Net cost/ (savings) MF**
Central ducted gas furnace for home heating	$6,500	$13,000	$13,000	$12,500	$11,500	($6,000)	($5,000)

Gas tank water heater	$2,300	$3,850	$3,850	$6,350	$4,650	($4,800)	($3,100)
Electric panel	-	$4,256	$2,744	$4,000	$2,744	$256	-
Net cost for electrification measures						($10,544)	($8,100)

SF: Single Family; MF: Multifamily

Net costs for converting from a gas furnace with central air conditioning and a hot water heater to heat pumps for low-income households.

Home with central AC	Replace like-for-like SF or MF	Replace with a heat pump SF	Replace with a heat pump MF	Incentives for clean appliance measure SF	Incentives for clean appliance measure MF	Net cost/ (savings) SF	Net cost/ (savings) MF
Central ducted gas furnace for home heating and central AC for home cooling	$18,000	$13,000	$13,000	$12,500	$11,500	($17,500)	($16,500)
Gas tank water heater	$2,300	$3,850	$3,850	$6,350	$4,650	($4,800)	($3,100)
Electric panel	-	$4,256	$2,744	$4,000	$2,744	$256	-
Net cost for electrification measures						($22,044)	($19,600)

SF: Single Family; MF: Multifamily