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Heat pumps are currently uneconomic because of electricity transmission costs and how they are allocated

While heat pumps are good for decarbonization, they are expensive to operate compared to gas heat, mainly because of the electricity transmission/distribution cost charges. As things are now, I would have to warn folks of the high energy cost that goes with heat pumps. This issue, the diseconomy of using heat pumps, could be rectified if the utilities and State changed the allocation of distribution/transmission costs.

For a case in point, my last utility bill (Nov 2023) shows that a unit of electricity (delivered, including generation, transmission, and distribution) cost me $0.392/kwh, and an equivalent amount of gas (1 Therm = 29.3 kwh) cost $0.079. I.e. electricity cost 5x as much as gas per unit of energy.

Take into account that the average coefficient of performance for a heat pump operating under my climate circumstances is about 2.9, and it is costing me about 1.7x (5/2.9) as much to heat with the heat pump as to burn gas. Allowing for some electricity usage to run a gas furnace blower, it is 1.5 to 1.6 times as expensive to heat with an heat pump.

As previously noted, the high cost of electricity (delivered) is very much influenced by how delivery/transmission costs are allocated among consumers. The State could and should look to ways to make it cost effective to use the environmentally beneficial heat pump, and the way to do that is to address the distribution cost allocation problem. Until this is done, the State should not encourage low income utility customers to convert to heat pumps.

Among the ways to reallocate transmission/distribution costs:
1. Charge out a large part of the transmission costs to users at a flat rate. If you need to be connected, then you need to pay a fair share.
2. Charge homes with solar a larger cost (not net) because if one has solar, one is always either feeding in or drawing off. Charge based on the electricity fed in both directions.
3. Charge more to the rural/wildland user where use is less dense and distribution costs are higher. This would place costs where they are incurred, and would be an incentive for some in the wildlands to go off-grid, which would be efficient and lower distribution costs overall while reducing wildfire risk.