

# nbi new buildings institute

This spreadsheet shows the annual energy savings in kilowatt hours (kWh) between a heat pump water heater and an electric resistance water heater. It also shows the solar panel system size necessary to produce the saved kWh of electricity and how many panels that equates to in two cities, Portland, Oregon and Columbus, Ohio.

Water Heater Type	Annual kWh Usage	Annual HPWH kWh Savings
Electric Resistance	<a href="#">3493</a>	2627
Heat Pump	<a href="#">866</a>	
Average watts per solar panel in 2020		
	<a href="#">318</a>	
	Solar system size (in kW) necessary to produce 2627 kWh	Number of panels to produce 2627 kWh
City and state for example		
Portland, Oregon	<a href="#">2.35</a>	7.4
Columbus, Ohio	2.02	6.4

If you have any questions, please [email Joe Wachunas](#), NBI Project Manager.