Solar PV vs. Solar Air Furnace:

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	SOLAR PV	SOLAR Air Furnace	RREAL Air Furnace
Description:	$5/watt * 1kW	4'x10' SPF 40	(2) 4x8 SPF32
Cost:	$5,000	$5,000	(Based on example system on RREAL website)
Predicted Seasonal Output (Mbtu) (**heat**):	--	6,875,000	11,000,000
Predicted Seasonal Output (kWh) (equivalent):	1300	2015	--
Comparitive Difference:	65%	155%	--
Cost per kWh Equiv.:	$3.85	$2.48	--
Crossover-point cost required for PV to be at parity with RREAL (on a kWh Equiv. output basis):	**$3.23**	--	--
Predicted Seasonal Output (Mbtu) (**heat**): *When used with heat-pump	**13,307,970**	6,875,000	--
Cost of PV required to produce an equivalent amount of heat Btu's using a 3:1 heat-pump powered by solar PV.	**$2,583**	--	--
With a ~20% oversizing factor for the PV per **, and $5/watt, would expect to require a 0.62 kW PV system paired with a heat-pump to equal the SPF40.	**$3,100**	--	--

This simple comparison shows that the SPF40 RREAL Solar Furnace can in fact out produce a comparable ($5000) investment in solar PV -on an annualized basis, and that for the cost per "kWh Equivalent" to match the solar furnace, the PV cost would need to be closer to $3.25/watt.

On the other hand, when you consider the limited "predictability" of the solar furnace to produce energy WHEN it is actually wanted, versus the PV system which will produce electricity whenever it can (for use whenever you want) the PV system looks like a better fit for an intermittent duty application. Also any "surplus" electricity production can be used for other useful purposes such as lighting, where as surplus heat from a solar furnace cannot be effectively stored, or used for other purposes.

*Alternatively, when the 1kW PV is used to operate a 3:1 eff. Ratio heat-pump, the result is a **tripling** of heat output, which will permit a smaller PV system.

**NOTE: Since air-to-air heat pumps are only efficient above about 20-degrees F, they require back-up resistive heating for temperatures below 20 deg-F (which will use energy at a 1:1 ratio), so a slightly larger PV system (i.e. 20%) should be specified and paired with the heat-pump if solar electricity is to cover the complete energy usage.