



SunPump vs. Solar Thermal - Comparison

SunPump		Solar Tubes/Flat Plates
✓	Provides to <u>100%</u> domestic hot water & space	Solar fraction to <u>50%</u> domestic pre-heat only
✓	Stand-alone - <u>no backup</u> system required	Pre-heat <u>requires backup</u> heating for shortfall
✓	<u>Replace</u> boiler, furnace and heat pump	<u>Requires</u> a primary central heating system
✓	Saves ~ <u>70-80%</u> of combined heating expense	Saves ~ <u>50%</u> of just domestic hot water
✓	Works 100% ~365 days – <u>not seasonal</u>	Works 90% in summer <u>seasonal</u> 10% in winter
✓	Works in <u>All Weather</u> – Sun, rain, snow, wind	Works <u>poorly</u> in rain, snow, wind, or clouds
✓	Heats efficiently <u>24 hours</u> even dark of Night	No night-time heat, only~ <u>6hr</u> sunny mid-days
✓	<u>Cannot freeze</u> , stagnate, or corrode system	<u>Failure can freeze</u> , stagnate, scale, or corrode
✓	Reliable Aluminum SunPanel <u>is durable</u>	Glass <u>can break</u> , crack, fog, & have dirt loss
✓	SunPanels weigh only <u>7 kg</u> .	Glazed collectors weigh <u>30-75 kg</u> .
✓	SunPanels conducts heat <u>2-sides front & back</u>	Solar collectors only gain on <u>1-sunny side</u>
✓	<u>Flexible</u> mount to wall, roof, or flat surface	<u>Limited</u> mount to a roof or a inclined rack
✓	Face <u>East, South, or West</u> ; even North works	<u>Face South</u> , loses performance to East-West
✓	Efficient down to <u>-20C</u> ambient temperature	Efficiency falls below 40C to zero at <u>0C</u>
✓	Virtually <u>maintenance free</u>	Requires <u>annual service</u> and Glycol ea. 2yrs
✓	Life cycle more than <u>25 year warranty</u>	Life cycle is more than <u>10 year warranty</u>
✓	<u>DIY or pro</u> renovator, HVAC trades, plumber	CanSIA/NABCEP <u>certified installer only</u>
✓	Time to install = <u><8 hours</u> for 1 person	Time to install = <u>>40 hours</u> for 2 persons
✓	Retail for 2 panels, 4kw, S/S tank = <u>\$4000</u>	Retail of 2 panels, 3kw, glass tank = <u>\$6000</u>
✓	labor 8 hr x \$30-55 = <u>\$240 - 440</u>	Labor 40 hrs x 60-75 = <u>2,400 - 3,000</u>
✓	Total estimated cost = <u>\$ 4340</u>	Total estimated cost = <u>\$ 8700 (double)</u>
	6000 kw-h/yr DHW load x 100% = <u>\$600yr</u>	6000 kw-h/yr DHW load x 50% = <u>\$300yr</u>
	Minus 1.5kw compressor x 800hr = <u><\$120></u>	Minus 75w pump x 1000hr = <u><\$75+\$75 glycol></u>
✓	Annual Net savings = <u>\$480</u>	Annual Net savings = <u>\$150</u>
✓	Break-even 4340/480 = <u>9 years</u>	Break-even 8700/150 = <u>58 years</u>

Conclusion: SunPump is ½ the installed cost of a solar glycol system, produces 2x the domestic water heating, saves about 3x the net monthly electrical expense, is expected to last 2x longer, and payback in 1/6 the time. Compelling. Keep in mind, Solaris makes and knows both systems.

Assumptions: Family of 4-5 using 6000 kw-h annually just for hot water. Space heating has been omitted to make more comparable. Cost of electrical is \$0.10 kw-h. Cost of Glycol replacement is \$150 every 2nd year = \$75/yr avg. Solar pump on mid-speed is 75 watts and runs 1000 hrs/yr. = \$75. Labor rates averaged without/with installer monopoly.

SunPump is a Trademark and Patent Pending BC Innovation. <http://www.solar-hot-water.ca/sunpump/>