

Comparison of Terraso Solutions Home & Standard Construction
Including Estimates of Annual Home Electric Demand, Savings
and Construction Costs of a One Story Home

ARIZONA - ONE STORY HOME COMPARISON

Arizona - Average Utility Rate of 10.34 Cents / Kwh

The following creates only estimates. Actual results will vary depending upon home usage, climate, air conditioning equipment, etc.

Heating & Cooling Home Electric Loads

All Homes are Single Story Homes

House Type	Approximate Energy Loads	2 X 4 Walls R-11 Batts R-30 Lid	2 X 6 Walls R-22 Batts R-30 Lid	2 X 4 Walls 3.5" Foam 3.5" Foam Lid	2 X 6 Walls 5.5" Foam 5.5" Foam
Standard Home	Max. Cooling Load (Btu/h)	113,504	107,278	65,484	59,217
	Max. Heating Load (Btu/h)	43,564	40,081	22,325	18,010
	Annual Htg/Clg Use (kWh)	31,247	29,449	17,810	15,936
Terraso Solution Home	Max. Cooling Load (Btu/h)	35,225	35,225	35,225	35,225
	Max. Heating Load (Btu/h)	8,089	8,089	8,089	8,089
	Annual Htg/Clg Use (kWh)	9,276	9,276	9,276	9,276
Percent Savings with Terraso Solution Home		70.31%	68.50%	47.92%	41.79%

Additional House Electric Loads

Standard Home	Annual Appliance & Lighting Use (kWh)	4,650 Same for each home
Efficient Home	Annual Appliance & Lighting Use (kWh)	3,000 Same for each home

Total Annual Energy Usage (kWh)

Standard Home	35,897	34,099	22,460	20,586
Terraso Solution Home	12,276	12,276	12,276	12,276
Percent Savings with Terraso Solution Home		65.80%	64.00%	45.34%
Percent Savings with Terraso Solution Home		65.80%	64.00%	40.37%

Average Monthly Electric Bill (\$) @ .1034 Cents / Kwh - Av State Rate				
Standard Home	329.30	313.80	213.50	197.40
Terraso Solution Home	125.80	125.80	125.80	125.80
Monthly Savings	203.50	188.00	87.70	71.60
Annual Savings	2,442	2,256	1,052	859
Increased Value of Home *	48,840	45,120	21,048	17,184
* Value calculated at \$20 per \$1 saved annually				

Assumptions				
<p>Inside home temperatures: 75F (summer), 70F (winter) 8% of wall area is window, evenly distributed Double pane windows used in each case, low-e windows used on Terraso Home Roof pitch is 5 in 12 or less ASHRAE minimum efficiencies for HVAC equipment A family of four with normal activities Average Electric cost of \$0.1/kWh Value of Home is Increased \$20/Each Dollar Saved Annually Solar Options (typically roof mounted):</p>				

Estimated <i>Photovoltaic Energy</i> Required To Meet Annual Electric Demand: After Solar Hot Water Heater:					
Standard Home	Estimated kW	17.54	16.66	10.98	10.06
	Estimated Net Cost (\$) *	45,664	43,327	28,197	25,761
	Approx Roof Area Required	1,754	1,666	1,098	1,006
Terraso Solution Home	Estimated kW	6.00	6.00	6.00	6.00
	Estimated Net Cost (\$) *	14,958	14,958	14,958	14,958
	Approx Roof Area Required	600	600	600	600
*Out of Pocket Cost = Total System Cost - \$3/Watt rebate from utility (up to 20kW) - 30% Fed. tax credit - 10% state tax credit					

Carbon Footprint Savings with Terraso Solution Home and homes listed above				
Pounds of Carbon Dioxide Per Year - Saved	34,731	31,889	13,490	10,528
Pounds of Nitrogen Oxide Per Year - Saved	87	80	34	26
Pounds of Sulfur Oxide Per Year - Saved	72	66	28	22
Pounds of particulates Per Year - Saved	5.0	4.6	1.9	1.5

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