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## Energy Conservation

### Estimating Swimming Pool Gas Heating Costs and Savings

The table below estimates annual costs by location, by water temperature, and with or without using a pool cover.

Courtesy of the U.S. Department of Energy

Table1. Costs of Outdoor Pool Gas Heating by Location\*

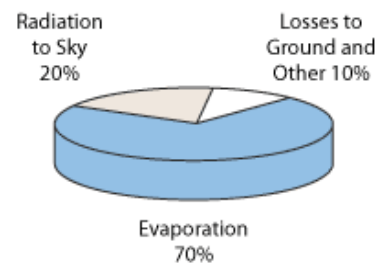
Location	Season	Temperature		
		78°	80°	82°
<b>Miami</b>	1/1-12/31	\$2136	\$2848	\$3600
<b>w/ cover</b>	1/1-12/31	\$416	\$584	\$800
<b>Phoenix</b>	3/1-10/31	\$1384	\$1776	\$2216
<b>w/ cover</b>	3/1-10/31	\$96	\$168	\$256
<b>Dallas</b>	4/1-10/31	\$1512	\$1920	\$2456
<b>w/ cover</b>	4/1-10/31	\$184	\$280	\$408
<b>Atlanta</b>	4/1-10/31	\$1704	\$2248	\$2880
<b>w/ cover</b>	4/1-10/31	\$320	\$424	\$592
<b>Los Angeles</b>	5/1-10/31	\$1864	\$2376	\$2904
<b>w/ cover</b>	5/1-10/31	\$168	\$304	\$472
<b>Kansas City</b>	5/1-10/31	\$1434	\$1872	\$2384
<b>w/ cover</b>	5/1-10/31	\$288	\$416	\$544
<b>New York</b>	5/1-9/30	\$1448	\$1904	\$2384
<b>w/ cover</b>	5/1-9/30	\$208	\$296	\$400
<b>Chicago</b>	5/1-9/30	\$1621	\$2072	\$2536
<b>w/ cover</b>	5/1-9/30	\$216	\$296	\$384
<b>Denver</b>	5/1-8/31	\$1757	\$2120	\$2498
<b>w/ cover</b>	5/1-8/31	\$123	\$168	\$243
<b>Boston</b>	5/1-8/31	\$1712	\$2096	\$2504
<b>w/ cover</b>	5/1-8/31	\$232	\$328	\$461
<b>Minneapolis</b>	6/1-9/30	\$1331	\$1776	\$2176
<b>w/ cover</b>	6/1-9/30	\$192	\$248	\$384
<b>San Francisco</b>	6/1-8/31	\$1560	\$1856	\$2168
<b>w/ cover</b>	6/1-8/31	\$192	\$320	\$472
<b>Seattle</b>	6/1-8/31	\$1525	\$1784	\$2056
<b>w/ cover</b>	6/1-8/31	\$304	\$424	\$552

**“Covering a pool when it is not in use is the single most effective means of reducing pool heating costs. Savings of 50% - 70% are possible.”** U.S. Department of Energy

Swimming pools lose energy in a variety of ways, but evaporation is by far the largest source of energy loss. Water that is evaporating uses a tremendous amount of energy. It only takes 1 Btu to raise 1 pound of water 1 degree, but each pound of 80°F water that evaporates takes a whopping 1,048 Btu of heat out of the pool.

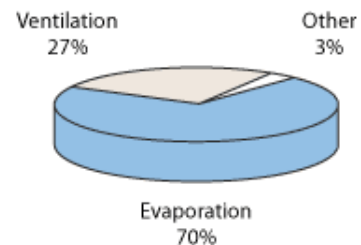
The evaporation rate from an outdoor pool varies depending on the pool's temperature, air temperature and humidity, and the wind speed at the pool surface. The higher the pool temperature, wind speed, and lower the humidity, the greater the evaporation rate.

### Outdoor Pool Energy Loss Characteristics



Indoor pools aren't subjected to the environment, but they still can lose a lot of energy from evaporation. They even require room ventilation to control indoor humidity caused by the large amount of evaporation. The ventilated air also must be conditioned, which adds to the energy costs.

### Indoor Pool Energy Loss Characteristics



\*Figures based on a 1,000 square-foot, outdoor pool heated with an 80% efficient natural gas heater at \$.50 per therm.