

How To Calculate Pool Heating Costs

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Introduction

This special report will teach you how to calculate your swimming pool heating costs. It includes a detailed and comprehensive swimming pool energy study done in early 1988. The output of this study is a bar graph that visually compares the actual costs of heating a swimming pool with different types of swimming pool heaters. Little has changed in the overall energy cost picture since this study was conducted. Especially in the comparative results of the study. However, since energy costs differ in different geographical areas, your exact costs will depend upon your actual local energy costs, trends, etc.

There is no need to study this entire report. FOR EXAMPLE: If you already own a gas heater and simply want to calculate how much it costs to operate—you can turn to the appropriate page and put in the numbers. Likewise, templates are supplied to calculate the energy costs for all basic swimming pool heaters.

The conclusion you will arrive at if you read this entire report is that a remarkable new pool heating technology is now in use. It gives your pool solar energy without having to use solar panels. It also provides a fast and immediate payback against any existing swimming pool heater. This means you can purchase this new heater and the savings from not using your existing heater will pay for the system. Read on to discover how much pool heating can cost you with different types of pool heaters.

Your Real Costs

Knowing the real costs of energy for heating your swimming pool is important! Without such information, you would not be able to make an informed decision about swimming pool heating products.

Choices

Up to now, your main choices have been limited to fossil fuel products, solar panel products, or heat pump products. Our new pool heating product, the PCS1, offers a dramatic departure from these older products.

The PCS1 will heat your swimming pool at a fraction of the cost of either a gas heater or a heat pump. It may even surprise you that there is little difference between the operating costs of running a heat pump or a **new** natural gas heater [one with an 80% efficiency rating]. Why would people buy an expensive heat pump over a gas heater then? Logistics mainly. People in certain areas have no natural gas distribution lines. Often, the choice is then restricted to either an "expensive fossil fuel product", a heat pump, or a solar panel system.

Heat pumps are chosen over solar panel systems in cases where the people do not want "solar panels" mounted on their roofs. Solar panels often take up a large area of the roof presenting an "ugly and obtrusive" appearance.

Environmental Concerns

Anyone who is listening to the news, recognizes that energy is not going to get any cheaper. Calls for conversion to natural gas from other dirtier fuels have already begun using up the capacity of our natural gas distribution system. With the increased demand, prices will rise! Larger cutbacks in the use of dirtier fuels [such as coal & oil] are needed to solve the "greenhouse" problem. All fossil fuel swimming pool heaters like those using natural gas are polluting our environment!

No Solution in Heat Pumps

Heat pump swimming pool heaters, which use CFC chemicals, are not a solution. Already, globally planned cutbacks in the use of these CFC chemicals are underway to help solve the "ozone" problem. The CFC chemicals used in swimming pool heat pumps are polluting our environment!

Prohibitions

Cities, States, and Countries are beginning to ban or restrict the use of products that damage our environment. As a luxury user of energy [heating a swimming pool], you can expect little sympathy from lawmakers. Would you like swimming in a cold pool because a law was passed saying you couldn't use your gas or other fossil fuel heater? Don't believe this could ever happen? Think again, and consider the city of Los Angeles. In a recent segment of the ABC news program 20/20, it was reported that as part of Los Angeles' pollution control plan, all swimming pools would have to use solar heating.

Undesirable Choices

Until now, you have had three undesirable choices for heating your swimming pool: A) contribute to the "greenhouse" problem by purchasing a natural gas or other type of fossil fuel burning product; B) contribute to the "ozone" problem by purchasing a heat pump product; or, C) purchasing a "solar panel system" and having to live with its inherent "ugliness". I say until now -- because, lawmakers are actively and aggressively thinking of ways to further restrict these choices for you. I cite the city of Los Angeles! I would also point out that the City of Irvine, CA has banned the use of CFC chemicals [heat pumps].

Today's Energy

Do you get the picture of what is happening in the energy field today? Higher costs and restricted choices! In the case of luxury users of energy -- **bans** of fossil fuel use and products using CFC's. Heating a swimming pool is a luxury use of energy!

A New Option

The PCS1 eliminates the high operating costs of natural gas heaters. It also eliminates the high environmental costs of these heaters so you can feel good about not polluting our environment. The PCS1 is a solar based device. It is a heat exchanger that physically sits inside of your attic structure. Your own roof functions like a massive solar collector. The PCS1 then exchanges this free heat from your attic air into your swimming pool. No use of CFC's like heat pumps! No burning of fossil fuels like natural gas heaters! No roof mounted solar panels like typical solar systems.

Anytime you don't think it gets hot in your attic, stick your head up there! If you've taken extraordinary steps to cool the attic down -- these can easily and inexpensively be reversed.

PCS1 Operating Costs

With the PCS1, you can heat your pool for approximately \$11.00 per month in an environmentally safe way! The graph on the following page shows the dramatic results of this comparative energy study. This data represents the actual cost for a therm of heat [100,000 btu's] going into the swimming pool after product efficiencies are taken into consideration. This is measured in actual dollars. *If you're heating your pool, you don't have to buy the PCS1 -- it will simply pay for itself!*

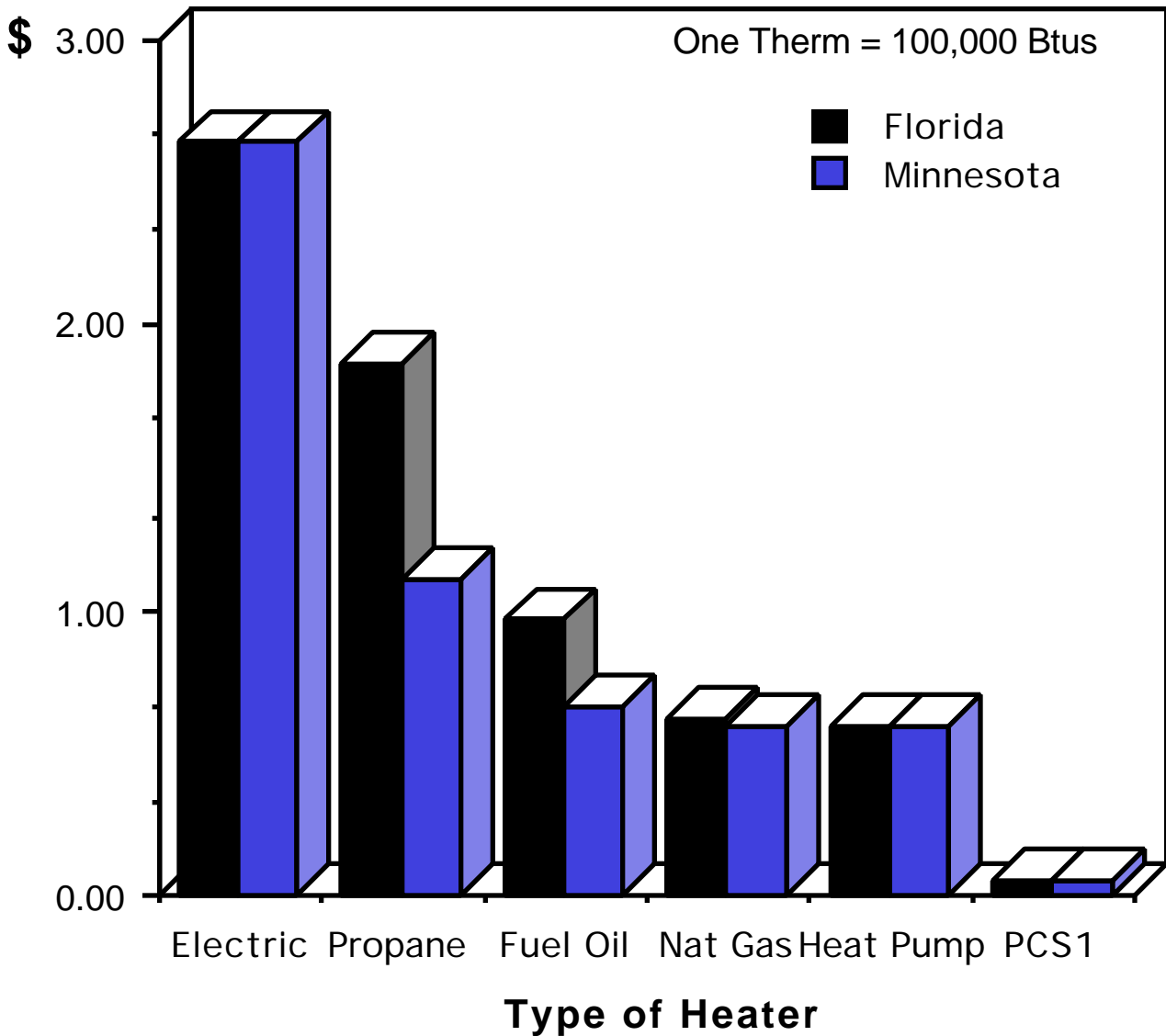
Energy Study

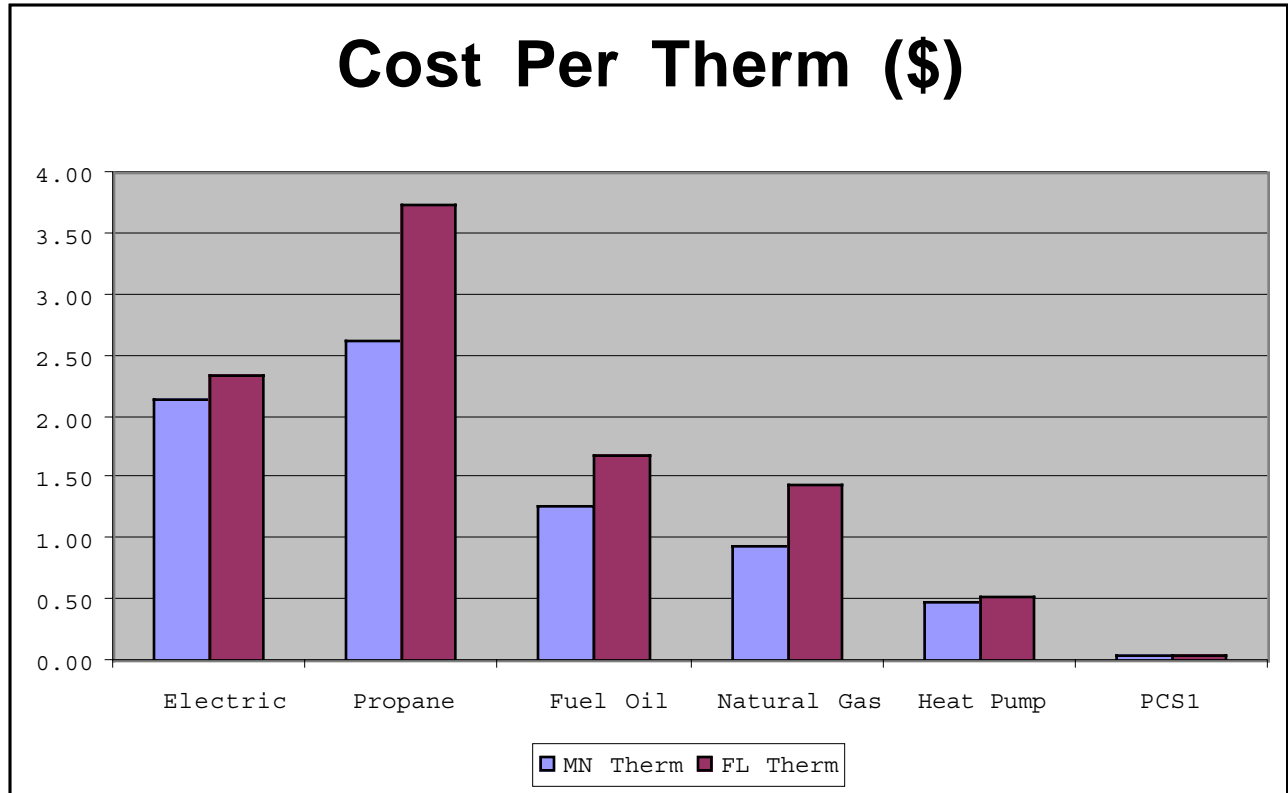
The two blue pages are supporting data for the graph. All of the assumptions and formulas have been included. Local energy conditions vary and can affect your own individual situation.

How to Calculate Your Costs

Following the energy study data are templates for different types of swimming pool heaters. Simply fill in the appropriate numbers with your local information and perform the calculations.

Cost Per Therm





Energy Data

Minnesota	Efficien	\$/Therm	\$/60K BTU	\$/10hr Day	\$/30 Days	\$/6 Months
Electric	100%	2.14	1.28	12.84	385.11	\$2,310.67
Propane	70%	2.61	1.57	15.69	470.64	\$2,823.85
Fuel Oil	70%	1.28	0.77	7.67	230.14	\$1,380.86
Natural Gas	80%	0.95	0.57	5.68	170.33	\$1,021.95
Heat Pump	440%	0.49	0.29	2.92	87.53	\$525.15
PCS1	4400%	0.05	0.03	0.29	8.75	\$52.52
Florida	Efficien	\$/Therm	\$/60K BTU	\$/10hr Day	\$/30 Days	\$/6 Months
Electric	100%	2.34	1.41	14.07	422.04	\$2,532.24
Propane	70%	3.73	2.24	22.37	671.15	\$4,026.90
Fuel Oil	70%	1.69	1.01	10.13	303.79	\$1,822.73
Natural Gas	80%	1.44	0.86	8.63	258.75	\$1,552.50
Heat Pump	440%	0.53	0.32	3.20	95.92	\$575.51
PCS1	4400%	0.05	0.03	0.32	9.59	\$57.55

Energy Study Notes

Assumptions

1. This swimming pool energy cost study was originally conducted on March 1, 1988 and its results are summarized by the first graph on page 8. The study was updated on November 22, 2000 and the new results are shown on page 9.

2. Your costs may be higher or lower based on the cost of energy in your state and the type of fuel or heating system you are using.

3. Fuel oil and propane systems range from 60-70% efficiency. Natural gas systems range from 65-80%,

4. Heat pumps were found to be 440% efficient on the average; based on the C.O.P. specifications of 13 heat pumps. Newer systems are slightly higher in the range of 650%.

5. "Coefficient of Performance" is the ratio of BTU output to the BTUS used [input] of a heater. PCS1 C.O.P. is $60000 \div 1351 = 44$. Efficiency = C.O.P. x 100 = 4400%. This is the standard method used to compare performance against electric resistance heaters. The term BTU means British Thermal Unit and is the amount of energy required to raise one gallon of water one degree Fahrenheit. The THERM is a standard unit of expression and is equal to 100,000 BTUS.

6. In order to get one therm of energy into the pool, the efficiency of the heating system must be considered. It takes 142,857 BTUS input on fuel oil and propane to get 100,000 btus output of the system [input for the pool] at 70% efficiency. It takes 125,000 BTUS input to get 100,000 output [input to the pool] in a natural gas system with 80% efficiency.

7. This study assumes a new pool heater is being purchased. It therefore uses the most favorable efficiency ratings.

8. Installed systems with lower efficiencies will cost more to operate.

9. In 1988, the cost of energy had gone down making heat pump operating costs the same or higher than 80% natural gas heaters. A heat pump may not yield a payback when compared to an 80% efficient gas heater. The SolarAttic PCS1 does.

10. This study is based on the heat requirements of a 17 x 35 foot pool with 22-25000 gallons of water.

11. The PCS1 pool heater combined with Flowreversal™ and a pool blanket creates the optimum pool heating system from an energy perspective.

12. Propane and Fuel Oil are substantially higher in cost in Florida. Natural Gas and Electric rates are comparable.

Heat Pump Ratings

Manufacturer	Model #	C.O.P.	Amperage	Weight in Lbs
A	24	4.00	12.5	120
A	36	3.50 to 5.50	15.5	120
B	45	3.50 to 5.50	14.0	155
B	60	3.50 to 5.50	18.0	170
B	75	4.20	24.0	185
C	24	4.70	20.0	255
C	36	4.30	30.0	305
C	60	5.29	50.0	360
D	325	5.11	20.5	240
D	500	4.00	29.4	275
E	35	4.00	12.9	NA
E	50	4.00	17.2	NA
E	60	4.00	19.2	NA
SolarAttic	PCS1	44.00	1.8	134

Energy Sources*

Minnesota

- Natural gas prices quoted by Minnegasco
- Electric rates quoted by Elk River Municipal Utilities
- Propane quoted by Houles Oil Company
- Fuel Oil quoted by Beaudry Oil Company

Florida

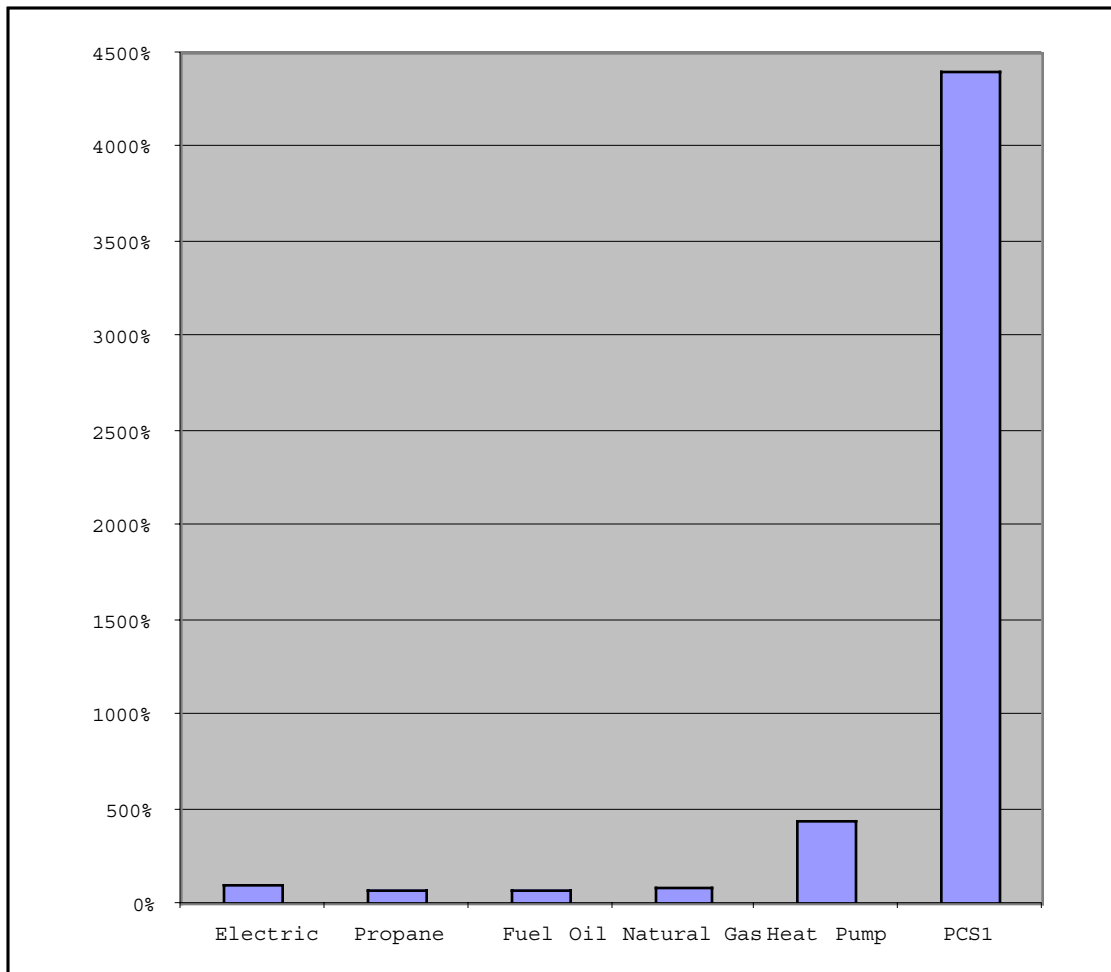
- Natural gas prices quoted by Peoples Gas Company
- Electric rates quoted by Florida Power & Light Company
- Propane quoted by Florida Propane
- Fuel Oil quoted by Snodgrass Oil Company

*As quoted on November 22, 2000

Energy Cost Profile

Energy	Units	Minnesota	Florida
Electricity	Kilowatts	0.073	0.080
Propane	Gallons	1.690	2.410
Fuel Oil	Gallons	1.250	1.650
Natural Gas	Therm	0.757	1.150

Efficiency Graph



Formulas

A. **ONE THERM** = 100,000 BTUS

B. **C.O.P. [Coefficient of Performance]** = OUTPUT BTUS ÷ INPUT BTUS [KW x 3412]
Example: PCS1 C.O.P. is 44 = 60,000 ÷ (.396kw x 3412).

*C.O.P. IS A UNIT OF COMPARISON TO ELECTRIC HEATERS.
PCS1 PRODUCES 44+ BTUS FOR EACH BTU INPUT USED.*

C. **EFFICIENCY** = C.O.P. x 100
Example: 44 x 100 = 4400% efficient compared to electric heaters.

D. **INPUT REQUIRED** = 100,000 BTUS ÷ EFFICIENCY
Example: 100000 ÷ .70 propane = 142,857 input btus required.

E. **THERM INPUT COST** = (Input required ÷ btus per gallon) x per gallon cost
Example: (142857 ÷ 92310) x .72 = \$1.11 for propane therm input.

F. **COST PER 60K BTU** = Therm Input Cost x .6
Example: Propane therm cost of \$1.11 x .6 = \$.67 for 60,000 btus of propane heat.

G. **ONE MILLION BTUS** ÷ 1000 BTUS PER CU FT = 1000 CU FT [cubic feet]
Used when Natural Gas costs are quoted in million btus.

H. **ONE MILLION BTUS** ÷ 3412 BTUS PER KW = 293.08 KW
Used when Electric costs are quoted in million btus.

I. **ONE MILLION BTUS** ÷ 92310 BTUS PER GALLON = 10.83 Gallons
Used when Propane costs are quoted in million btus.

J. **ONE MILLION BTUS** ÷ 139600 BTUS PER GALLON = 7.16 Gallons
Used when No. 2 Fuel Oil costs are quoted in million btus.

K. **ONE GALLON OF LIQUID PROPANE** = 36.2 CU FT

L. **ONE THERM OF NATURAL GAS** = 100 CU FT

M. **ELECTRIC COST** ÷ C.O.P. = HEAT PUMP OPERATING COST

N. **ELECTRIC COST** ÷ C.O.P. = PCS1 OPERATING COST

O. **HEAT CONTENT OF VARIOUS FUELS**

Electricity = 3,412 BTUS PER KILOWATT

Propane = 92,310 BTUS PER GALLON — (2550 BTUS PER CU FT)

Fuel Oil = 139,600 BTUS PER GALLON

Natural Gas = 1,000 BTUS PER CU FT — (950-1150 BTU RANGE)

How to Calculate Pool Heating Costs When You Use Natural Gas

This is a cost estimating template. Simply fill in the appropriate numbers and perform the simple calculations shown. This template will help you to determine the cost of operating a swimming pool heater fueled by natural gas.

A. Cost Per Therm of Natural Gas _____

Note: Call your gas company for your rate

One Therm = 100,000 Btus

Example: 75.7¢ per Therm

B. BTU/Hour Rating of Natural Gas Heater _____

Note: Look on Gas Heater Name Plate

Or, call the pool dealer who installed heater.

Example: 150,000 Btus/hour rating.

C. Efficiency Rating of Heater _____

Note: Look on Heater Name plate **or use .8** (80%)

D. Therms per hour = ((B ÷ C) ÷ 100,000) _____

Note: Input btus x efficiency = Output btus (rating)

Example: 150,000 output rating ÷ .8 = 187,500

187,500 input required ÷ 100,000 = 1.875 therms/hr

E. Hours per day heater is used _____

F. Daily Operating Cost = (A x D x E) _____

Example:

.757 x 1.875 therms/hr x 10 hrs/day = \$14.19/day

G. Days in the month heater is used _____

H. Monthly Operating Cost = (F x G) _____

Example:

14.19 x 20 days per month = \$283.80

The cost of operating a natural gas swimming pool heater may be substantial. Many reports indicate \$150 or more per week. In Minnesota during 1988, a typical natural gas heater budget for the pool season was \$1000-1200.00 each year.

How To Calculate Pool Heating Costs When You Use Liquid Propane Gas

This is a cost estimating template. Simply fill in the appropriate numbers and perform the simple calculations shown. This template will help you to determine the cost of operating a swimming pool heater fueled with liquid propane gas.

A. Cost Per Gallon of Propane Gas _____

Note: Call your gas company for your cost

Example: \$1.69 per gallon

B. Cost Per Therm = 1.0833 x A _____

$100,000 \div 92,210 \text{ Btus/per gallon} = 1.0833 \text{ factor}$

C. BTU/Hour Rating of Propane Gas Heater _____

Note: Look on Gas Heater Name Plate

Or, call the pool dealer who installed heater.

Example: 150,000 Btus/hour rating.

D. Efficiency Rating of Heater _____

Note: Look on Heater Name plate **or use .7 (70%)**

E. Therms per hour used = ((C ÷ D) ÷ 100,000) _____

Note: Input btus x efficiency = Output btus (rating)

Example: 150,000 output rating ÷ .7 = 214,285

214,285 input required ÷ 100,000 = 2.14 therms/hr

F. Hours per day heater is used _____

G. Daily Operating Cost = (B x E x F) _____

Example:

1.69 x 2.14 x 6 hrs/day = \$21.70/day

H. Days in the month heater is used _____

I. Monthly Operating Cost = (G x H) _____

Example:

21.70 x 20 days per month = \$434.00.

How To Calculate Pool Heating Costs When You Use #2 Fuel Oil

This is a cost estimating template. Simply fill in the appropriate numbers and perform the simple calculations shown. This template will help you to determine the cost of operating a swimming pool heater fueled with #2 fuel oil.

A. Cost Per Gallon of Fuel Oil _____

Note: Call your oil company for your cost

Example: \$1.25 per gallon

B. Cost Per Therm = .7163 x A _____

$100,000 \div 139,600 \text{ Btus/per gallon} = .7163 \text{ factor}$

C. BTU/Hour Rating of Fuel Oil Heater _____

Note: Look on Oil Heater Name Plate

Or, call the pool dealer who installed heater.

Example: 150,000 Btus/hour rating.

D. Efficiency Rating of Heater _____

Note: Look on Heater Name plate **or use .7 (70%)**

E. Therms per hour used = ((C ÷ D) ÷ 100,000) _____

Note: Input btus x efficiency = Output btus (rating)

Example: 150,000 output rating ÷ .7 = 214,285

214,285 input required ÷ 100,000 = 2.14 therms/hr

F. Hours per day heater is used _____

G. Daily Operating Cost = (B x E x F) _____

Example:

1.25 x 2.14 x 6 hrs/day = \$16.05/day

H. Days in the month heater is used _____

I. Monthly Operating Cost = (G x H) _____

Example:

16.05 x 20 days per month = \$321.00.

How To Calculate Pool Heating Costs When You Use Electric Resistance Heaters

This is a cost estimating template. Simply fill in the appropriate numbers and perform the simple calculations shown. This template will help you to determine the cost of operating an electric swimming pool heater.

A. Cost Per Kilowatt of Electricity _____
Note: Call your electric company for your rate

B. Kilowatt Rating of Electric Heater _____
Note: Look on heaters name plate for KW rating

Alternate KW Rating Approach

Determine Heater Amperage rating _____amps

Determine Heater Voltage rating _____volts

Multiply amps times volts and divide by 1000 for KW

Example: 51 amps x 240 volts = 12240 watts

12240 watts ÷ 1000 = 12.24 KW

C. Hours per day heater is used _____

D. Daily Operating Cost = (A x B x C) _____

Example:

.09/kw x 12.2 kw heater x 10 hrs/day = \$10.98/day

E. Days in the month heater is used _____

F. Monthly Operating Cost = (D x E) _____

The cost of operating an electric swimming pool heater may be very high. Electric swimming pool heaters are usually the most expensive pool heaters to operate.

How To Calculate Pool Heating Costs When You Use A Pool Heat Pump

This is a cost estimating template. Simply fill in the appropriate numbers and perform the simple calculations shown. This template will help you to determine the cost of operating a heat pump designed to heat swimming pools.

A. Cost Per Kilowatt of Electricity _____
Note: Call your electric company for your rate

B. Kilowatt Rating of Heat Pump Heater _____
Note: Look on Heat Pump Name Plate

Alternate KW Rating Approach

Heater Amperage rating = _____ Amps

Heater Voltage rating = _____ Volts

Multiply amps times volts and divide by 1000 for KW

Example: 12 amps x 220 volts = 2640 watts

2640 watts ÷ 1000 = 2.64 KW

C. Hours per day heater is used _____

D. Daily Operating Cost = (A x B x C) _____

Example:

.09/kw x 2.64 kw heater x 10 hrs/day = \$2.37/day

E. Days in the month heater is used _____

F. Monthly Operating Cost = (D x E) _____

Example:

2.37 x 30 days per month = \$71.10

The above example calculations are for a very a small heat pump. Many heat pumps my be twice as expensive to operate. Note also the high maintenance cost that can arise if the CFC chemical system in the heat pump fails. Order or download free our special report "How To Understand Pool Heat Pumps" for additional information.

How To Calculate Pool Heating Costs When You Use Solar Panels

This is a cost estimating template. Simply fill in the appropriate numbers and perform the simple calculations shown. This template will help you to determine the cost of operating a pool heating system that is based on roof or yard mounted solar panels. If the solar panel system you are considering uses only the pool's support system pump for water circulation, then the solar panel system operating costs are negligible. Except for system purchase, installation and repair, the heat is totally free.

A. Cost Per Kilowatt of Electricity _____
 Note: Call your electric company for your rate

B. Kilowatt Rating of Booster Pump [if needed] _____
 Note: Stop here if you have no booster pump.
 Operating costs are negligible.

Alternate KW Rating Approach

Booster Pump Amperage rating = 1.8 Amps

Booster Pump Voltage rating = 220 Volts

Multiply amps times volts and divide by 1000 for KW

$$\text{Booster Pump} = 1.8 \text{ amps} \times 220 \text{ volts} = 396 \text{ watts}$$

$$396 \text{ watts} \div 1000 = .396 \text{ KW}$$

C. Hours per day heater is used (MAXIMUM) **10**

D. Daily Operating Cost = (A x B x C) _____

Example: 10 hours per day is typical run time

$$.09/\text{kw} \times .396 \text{ kw heater} \times 10 \text{ hrs/day} = \$.35/\text{day}$$

E. Days in the month heater is used _____

F. Monthly Operating Cost = (D x E) _____

Example:

$$.35 \times 30 \text{ days per month} = \$10.50$$

The cost of operating a solar panel system to heat your swimming pool is low. The only operating cost is for recirculating water. If you use the existing pool pump, additional costs are not incurred with the solar panel pool heater. A small cost can be attributed to the solar controller's electrical consumption, but it is usually insignificant.

How To Calculate Pool Heating Costs When You Use The SolarAttic™ PCS1

This is a cost estimating template. Simply fill in the appropriate numbers and perform the simple calculations shown. This template will help you to determine the cost of operating a swimming pool heater that converts hot attic air into swimming pool heat.

A. Cost Per Kilowatt of Electricity _____
 Note: Call your electric company for your rate

B. Kilowatt Rating of SolarAttic PCS1 Heater **.396**

Alternate KW Rating Approach

Heater Amperage rating = 1.8 Amps

Heater Voltage rating = 220 Volts

Multiply amps times volts and divide by 1000 for KW

SolarAttic PCS1 = 1.8 amps x 220 volts = 396 watts

396 watts ÷ 1000 = .396 KW

C. Hours per day heater is used (MAXIMUM) **10**

D. Daily Operating Cost = (A x B x C) _____

Example: 10 hours per day is typical run time

.09/kw x .396 kw heater x 10 hrs/day = \$.35/day

E. Days in the month heater is used _____

F. Monthly Operating Cost = (D x E) _____

Example:

.35 x 30 days per month = \$10.50

Operating the SolarAttic™ PCS1 swimming pool heater only involves the small amount of energy required to operate the PCS1's fan motor. A small electrical consumption can be attributed to the solar controller, but like solar panel systems this is an insignificant amount of electricity.

Monthly & Annual Operating Costs

Depending upon fuel used and weather conditions, your monthly operating costs will be different. Use the monthly figures you calculated on the preceding pages in lines F, H or I to compare annual results below.

Your Pool Heating Option	\$ From Line	Monthly Cost	X	Months Used	=	Annual Cost
NATURAL GAS	H		X		=	
LIQUID PROPANE GAS	I		X		=	
FUEL OIL	I		X		=	
ELECTRIC RESISTANCE	F		X		=	
HEAT PUMP	F		X		=	
SOLAR PANEL	F		X		=	
SOLARATTIC PCS1	F		X		=	

LONG-TERM COSTS

To determine the lifetime costs associated with each technology, you can use the following formula guidelines. Plug in the annual operating costs from the above exercise and calculate according to the stated formula below. For comparative purposes, you can assume a 10-year heater life and ignore maintenance factors. Maintenance is an issue, however, and one can expect to replace fossil fuel heaters and heat pumps within 5-7 years. Roof mounted solar panel systems can require moderate maintenance and have a design life exceeding 10 years. The SolarAttic™ PCS1 is relatively maintenance free with a design life exceeding 10 years.

Cost of Gas, Oil, Electric or Heat Pump heater	\$ _____
+ Installation cost	\$ _____
+ 10 X annual energy costs	\$ _____
Total	\$ _____
Divided by 10 years	÷ 10
	Actual Yearly cost \$ _____

Cost of Solar Panel System	\$ _____
+ Installation cost	\$ _____
+ 10 X annual energy costs	\$ _____
Total	\$ _____
Divided by 10 years	÷ 10
	Actual Yearly cost \$ _____

Cost of SolarAttic™ PCS1	\$ _____
+ Installation cost	\$ _____
+ 10 X annual energy costs	\$ _____
Total	\$ _____
Divided by 10 years	÷ 10
	Actual Yearly cost \$ _____

PCS1 Payback

Assumptions

1. Retail installed price of Auto System is \$3,995.
2. Retail installed price of Natural Gas heater is \$865.
3. Cost to install gas lines for gas heater is \$275.
4. Cost of energy as defined in original 3/1/88 Energy Study.
5. House uses full air conditioning.
6. Six month Florida pool operating season used for comparison.
Savings each year with PCS1 is \$606.45 in operating costs (1988 Energy Study).
7. Three month air conditioning season used for comparison.
Operating costs saved estimated at \$50 per month or \$150 per season minimum.

SAVINGS FROM PURCHASE OF PCS1

<i>Savings</i>	<u>1st yr</u>	<u>2nd yr</u>	<u>3rd yr</u>	<u>4th yr</u>
1. Cost of Gas Heater	865.00			
2. Cost of gas line installation	275.00			
3. Operating costs saved/yr	606.45	606.45	606.45	606.45
4. Air Conditioning saved/yr	<u>150.00</u>	<u>150.00</u>	<u>150.00</u>	<u>150.00</u>
Total Savings Per Year	<u>1896.45</u>	<u>756.45</u>	<u>756.45</u>	<u>756.45</u>
Cumulative Savings	1896.45	2652.90	3409.35	4165.80

Comment

It can be observed that the PCS1 will provide a rapid payback of less than four years when purchased instead of a Natural Gas heater. The figures used here are conservative; you can insert your own figures based on the length of season you will have. In some locations, the PCS1 will be able to operate 10-12 months out of the year. In Minnesota, the season is estimated to be 5-6 months. *NOTE: The initial gas heater cost may be substantially higher than that shown above!*

The PCS1 will continue saving money each year. In the above example, it will save \$756.45 each year. By the end of the fifth year, total savings will increase to \$4,922.25. By the end of the tenth year, total savings will be \$8,704.50. By the end of the twentieth year, savings will be \$16,269.00. The PCS1 is a cost effective product that pays for itself and continues saving you money year after year. 2001 GAS COSTS ARE 3-4X HIGHER THAN ABOVE FIGURES.

Conclusion

You purchased your pool for enjoyment. Like most people, you have probably found out that the pool is not as enjoyable as it could be if it were heated. This is true for aboveground and inground pools alike. If you already purchased a fossil fuel heater, you also know that it costs a lot of money to operate the heater each month. And, until now—a “really” good alternative was simply not available.

SolarAttic, Inc is here to tell you that you can extend your swimming season; you can swim in a warm comfortable pool; and, your whole family can be happy about the pool’s temperature. All this can take place without busting your monthly operating budget. You can do all this with the PCS1 swimming pool heater without burning fossil fuels; without using CFC chemicals; and, without putting solar panels on your roof.

You bought the pool for enjoyment—now you can enjoy it. It is a good family investment. And, the PCS1 makes it all worth while.

If you have questions about this energy study or on how to calculate your current pool heating bill write to:

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