# SolarAttic

### **Pool Heater Testimonials**

1	Tampa, Florida	19	Roseville, California
2	Asbury, New Jersey	20	Canoga Park, California
3	Danville, California	21	Knoxville, Tennessee
4	Russellville, Arkansas	22	Ocala, Florida
5	Jackson, New Jersey	23	Bartlett, Tennessee
6	Tallahassee, Florida	24	Richmond, Kentucky
7	Shrewsbury, Massachusetts	25	St. Petersburg, Florida
8	Arroyo, California	26	Bel Air, Maryland
9	Raleigh, North Carolina	27	Warren, Michigan
10	Ponte Vedra Beach, Florida	28	Phoenix, Arizona
11	Warren, Michigan	29	Boca Raton, Florida
12	Richmond, Kentucky	30	Crestwood, Kentucky
13	Newtown, Pennsylvania	31	Elk Grove, California
14	Huntington, New York	32	Marlborough, New Hampshire
15	Lewiston, Maine	33	Antelope, California
16	Orange Park, Florida	34	Ramsey, Minnesota
17	Bloomington, Minnesota	35	Lafayette, California
18	Edison, New Jersey	36	Palm Harbor, Florida

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### **Notice**

SolarAttic does not actively solicit or track pool heater testimonials. We also do not make arrangements for prospective buyers to visit the homes of those who own a system. The SolarAttic pool heater is hidden inside of attics and it is inconvenient for customers to provide tours of equipment. As the company receives comments, we may or may not post them to the web and we make no attempt to keep testimonials "current." Therefore, the list below is a representative sample of testimonials received over a period of 15 years. Sixteen states are represented below and the list includes customers who have owned and operated the SolarAttic pool heater for over 10-13 years. The SolarAttic pool heater has a life span of 20 years if pool chemistry is properly maintained. It has been in service since 1989 and hundreds of systems are now located in 40 states. The PCS1 and PCS2 have identical heat transfer properties. 063005.

### **Testimonials**

"The instructions [in your PCS2 Installation Manual] are clear enough that even I [can] understand them." N.B., Tampa, Florida — June 16, 2005

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"I have finished my SolarAttic [pool] heater installation a couple of weeks ago and I am truly amazed at the results!!! My pool water is currently at 88 degrees. The change in temperature occurred in a matter of days with [less than] a full day of sunlight. That brought the temperature to between 84 and 86 degrees. Now that it has been even warmer, I have been seeing the water temperature at 89 degrees!!! I plan on sending you another email outlining this along with pictures of my installation. Oh yes, I forgot to tell you that my pool holds 25,000 gallons of water!! Thanks again Ed. This is a great product!! I hope you are selling a lot of these units." M.S., Asbury, New Jersey, June 14, 2005.

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<sup>&</sup>quot;You were recommended by Lamorinda Solar [company]. Solar [panels] does not appear to be a solution for us." L.D., Danville, California, June 5, 2005.

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"I love the unit. It is giving me about 60-70,000 btu [per hour] output with about 30-degree delta-t in my attic [difference between the attic and the pool temp]. It [PCS2] returns the water to the pool noticeably warmer by about 3 degrees." M.G., Russellville, Arkansas, May 23, 2005.

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"Great service." M.G., Russellville, Arkansas, May 25, 2005

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"I found you on an Internet search 7 years ago. I have suggested your product to several friends here in my town [L.A. and J.G.] that have had great success." J.F., Jackson, New Jersey, May 30, 2005.

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"I have been very pleased with my unit for the past 13 years. We gain 3-5 degrees per day and lose 2-3 per night. Outlet water is about 2-3 degrees warmer than inlet. Attic temperature drops 10-30 degrees in one hour and stays cooler." L.D., Tallahassee, Florida, May 11, 2005.

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[I've had the SolarAttic pool heater since 1992]. "The solar system is working well." L.O., Shrewsbury, Massachusetts, June 14, 2005. Note: Larry replaced a valve after 11 years of operation. After 13 years, his SolarAttic pool heater is still maintenance free.

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"We like the SolarAttic pool heater and it heats the pool very nice. It works very well and gets the pool to 90 degrees F. We didn't want a gas heater [and its monthly cost]." E.M., Arroyo, California, March 23, 2005.

"We've installed several SolarAttic pool heaters and they work great!" M.I., Newburn Pools, Raleigh, North Carolina, March 24, 2005

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"A screened enclosure covers the pool in the back of my house. Here in north Florida, this screen effectively kept my pool water from getting much above 80 degrees, which is not comfortable for swimming. As a result, the pool was rarely used, until I installed the SolarAttic swimming pool heater. With this device, I can now get my pool water comfortable (90+ degrees). My heater has now been inexpensively heating my pool for 10 years, with only the need for maintenance (replacement of the water sensor). If this heater hadn't solved my problem (and economically), I would have cemented over my pool, which is grateful for this reprieve. Also, without proof, I think that by taking the heat from the attic and despite the heavy insulation there, the interior of my house is easier to cool." E.R. [Mayo doctor], Ponte Vedra Beach, Florida, May 25, 2004.

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"Love system." [Note: Recommended system to friends.] R.F., Warren, Michigan 2005

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[We've had our system since 1992]. "[We] like it very much. We get 2-3 degrees F [rise] per day and it works fine!" C.C. Richmond, Kentucky, April 28, 2004

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[We've had our system since 1999]. "Always works good. Keeps pool nice at 85-90 degrees." S.D., Newtown, Pennsylvania, April 29, 2004.

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"A couple of years ago I purchased the SolarAttic pool heater. Your system is working very well." H.A., Huntington, New York, July 16, 2004.

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"The system is fabulous! Even when my water was up to 90 you could still feel warm water coming out of the jets. I tried to shove a thermometer into a jet to see the temp rise; it is not much ... maybe 0.5-degree ... sure feels good though just the same. You can see that my upper attic temp stays low compared to the lower attic temp and even the upper temp before the heater started running. I programmed my system to run from 10:00 to 17:00 daily and we would use the 4-hour override in the evenings if it were warm enough out to swim. By all accounts this summer stunk for pools, lots of clouds, rain, fog, just cold! My kids and their friends were over most every day, swimming in the rain, fog, dark, etc... Often commenting how much warmer the pool was compared to the air. I use a hi-tech solar cover ... the one with the almost clear top layer and the silver bottom layer. I bought it in 2003 before the heater and noticed that it was able to give me a degree or two gain even on cloudy days, and I could gain a max of 4 degrees on a sunny day. The addition of the heater gave me about 2-3 degrees on a cloudy day and up to 6 degrees on a sunny day. We usually open the pool on the last week of May, and start swimming in the middle of June. We stop swimming around the first week of September and close it the last week of October. Last year, we were swimming the middle of May to the middle of September ... pretty good for a crappy year." R.B. [manufacturing engineer], Lewiston, Maine, May 10, 2005.

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Mr. Jim Stanley Attic Technology Inc. 15548 95th Circle NE Elks River, MN 55330

Jim:

I have had an Attic Technology pool heater for almost three years. As we approach the new swimming season I realize buying the heater has paid-off.

Last week pools in the neighborhood were in the low 70s, ours was 82. Many of the neighbors swim at 82 most of the season, but not us. With your heater we keep the pool between 92-94. It has been up to 98 and climbing before we set back the thermostat.

Because of my work I do most of swimming in the evening. Since the pool is warmer than the air I am always comfortable. Without the heater, I would seldom get to use the pool. And I don't worry about big energy bills, the heater is cheap to run and very easy to maintain.

Overall I'd say the Attic Technology pool heater makes investing in a pool pay-off.

THANKS FOR A PRODUCT THAT WORKS,

6 Kniedstrup Mickeel Michael C. Knudstrup 3636 Waterside Drive

Orange Park, Fl 32065

PS: The pool is 17x34 in-ground and about 20,000 gallons.

April 10, 1991

Mr. Jim Stanley c/o Attic Technology, Inc. 15548 95th Circle N.E. Elk River, MN 55330-7228

Dear Jio:

The purpose of this letter is to let you know how things are going with our PCS1 unit. As you may know, the unit was installed in our attic in June, 1989, which was also the opening of our pool season and also our very first pool season since we purchased our house in the Fall of 1988. Within a day or two our pool was at very comfortable temperatures which continued throughout the pool season.

We used the unit again during our 1990 pool season and have not yet used the gas heater which was used by the previous owner of the house. We haven't experienced any problems with the unit and surprisingly, we can barely hear the unit when it is operating. One of the best things about the unit for a person like myself who is always busy and not very mechanically oriented is that it will run on its own. Another benefit of the unit is that we haven't noticed any significant increase in our electric bills during the pool season. A related benefit is a decrease in our air conditioning costs which results from the hot air in the attic being used by the unit and not affecting the cooler temperature in the house.

My only recommendation to you would be that owners of the unit should consider the use of a solar blanket in conjunction with the unit to minimize heat loss at night and to maximize the length of the pool season.

As you can see, we have been happy with the unit and would be happy to answer any questions you or anyone else may have.

Sincerely,

John Matthews

4708 W. 86th Street Bloomington, MN 55437 H (612) 893-0331 W (612) 825-4433

# Patrick Orlandini 26 Paul St., Edison N.J. 08817-4309 908-572-7996

July 31, 1991

Ed Palmer, President Attic Technology, Inc. 15548 95th Circle NE Elk River, MN 55330-7228

Dear Ed,

This is just a note to let you know how well your PCS1 works. Just as advertised, all that wasted attic heat is magically transferred into heated water for my pool. Whereas formerly my neighbors would see me enter my pool 3 or 4 times a year, now they comment on how often they now see us ENJOY our pool both alone and with friends. No more 70 to 75 degree temperatures, now it's 75 to 85. Even 90 and above are not out of the ordinary. One neighbor insists he likes his pool in the 'cool range.' Not us, we like ours warm. We like to swim in ours, not just vacuum it everyday!

Thanks for such a good product.

Truly yours,

Patrick Orlandini

David Bebeau Sunrise Solar 5980 Willowynd Dr. Rocklin, Ca. 95677

Dear David,

Jack and I are very pleased with the installation of the PCS1. The unit was completed within two days and all components work perfectly. The operation of the PCS1 is very simple to control with the automatic temperature setting.

The PCS1 has really made a difference in our pool temperature. As a matter of fact, our pool has never been warmer! We have had readings in the high 80's since the job went in. The unit is also quieter than we expected which is important since it's mounted next to our bedroom. And as an additional plus, our house is definitely cooler this summer.

All in all, thank you Sunrise Solar for a quality product installed professionally.

Sincerely,

Jack and Barbara Stockham

Barbara Stock tam

1549 Blue Ln.

Roseville, Ca. 95678

Mr. Ed Palmer President Attle Technology, Inc. 15548 95th Circle N.E. Elk River, MN 55330

Dear Ed:

As a most satisfied customer of a newly installed Attic Tech Solar system, I want to acknowledge how pleasurable your system has made our pool experience. After just purchasing our home within the last year, we realized that a sizable part of our Investment was the pool, and that unless we heated it, we could not really enjoy it, even in Southern California. We have a gas heater, but factoring out the cost of gas for seven days a week, for, say 40 weeks\* out of the year (assuming that to be the swimming season here in the Southland) over a period of five years, we realized that this cost would almost be too prohibitive, and consequently our investment would go to waste. However, with your system, we realize that the unit will pay for itself within several years, and we will indeed have protected our pool investment. We find that we run the system for about 2-3 hours a day (the pump is normally running at least that period everyday for proper filtration) and our water temperature ranges between 82 to 86 degrees, depending, of course, on the heat of the day. This is indeed a very cost effective operation.

As environmentally conscious people, we are particularly pleased that the design of Attic Tech removes the heat where it is not desirable (in the Attic, and consequently, the house) and puts it into the water, all in a simple, ecological and cost-effective manner. I might add that the house is noticeably cooler, a further added benefit. What is particularly noteworthy is that the system uses energy that is renewable (solar energy) without the presence of visually unattractive solar panels on the roof.

All in all we are very pleased with **Attic Tech** and would highly recommend it to anyone who wishes to really enjoy their pool on a continual basis and prolong their swimming season at minimal cost.

Thanks for all your assistance and inventive genius.

Sincerely,

Karen & Ken Stover

p.s. \*We based the 40 weeks excluding the coldest three months of the year, but this was pre-Attic Tech, and who, knows, maybe we will be able to swim all year 'round!

p.p.s. Enclosed please find some photos taken of the Attic Tech after the excellent and professional installation.

#### AR Companies, inc.

TOM JENSEN, PRESIDENT # 1601 RIVERVIEW TOWER # KNOXVILLE, TN 37902 # 615-549-7466 # FAX 615-549-7400

September 15, 1993

ENNESSE

Mr. Ed Palmer Attic Technology, Inc. 15548 95th Circle NE Elk River, MN 55330

PCS1 Consumer Kit

Dear Ed:

It looks as though you owe me a refund, as per the enclosed coupon, on the system I purchased from you at the beginning of the year.

Incidentally, it works just fine!

Best regards,

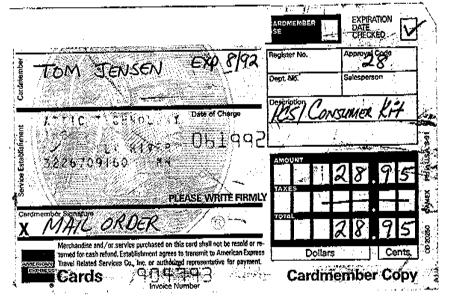
THE STELLAR COMPANIES, INC.

Tom Jensen Président

TJ:dkh

Enclosure

REFUND ON LITE



#### Olaf R. Lee 5336 SW 87th Place Ocala, FL 34476

July 5, 1994

Mr. Ed Palmer, President SolarAttic, Inc. 15548 95th Avenue NE Elk River, MN 55330

Dear Ed:

We've been heating our pool with the PCS1 pool heater since it was installed in April.

While our electrician has still not wired our SolarAttic Pool Heater yet for automatic operation, we are using it nevertheless -- in the manual mode. It's easy to get the pool to 85+ degrees, right where we want. It works just fine.

Best regards,

Olaf Lee

July 6, 1994

Mr. Ed Palmer, President SolarAttic, Inc. 15548 95th Avenue NE Elk River, MN 55330

Re: PCS1 Pool Heater

Dear Ed:

Just a quick note to tell you my pool heater/ air conditioner is terrific. When I bought the heater I was hoping my 35,000 gallon shaded pool would benefit from the heat transfer and that has happened. But there is more to just heating one's pool that excites me about the PCS1. For example, it is 95° today and the sun is shinig brightly against my two story house. My attic is It is incredible. My kids, who have rooms in the second story tell me that eventhough the temperature on the thermostat is the same, it actually feels much cooler because the attic is not its normal 120+° temperature. Just as incredible is the economy of the heater. Now I am sure it costs us something to run the heater (it is on all day) but you would never know it to look at our energy bill. Last year our gas and electric bill was \$322.00 for June, this year with the house a degree or two cooler the bill was \$265.00. We saved \$57.00 or 18% on our energy bill, heated our pool, increased the comfort of our upstairs and increased the cleanliness of our pool water. The latter is a benefit gained from the water running through the filter at a slower rate (45-50 gpm vs. 65-70 gpm).

What a terrific investment this has been. Thanks, too, for the prompt attention you have given me when I call for some information.

Good luck to you all at SolarAttic. I look forward to future savings and our continued relationship.

Sincerely yours,

Keith R. Wikigad

Bartlett, Tennessee 38133 20x40 Inground Pool 35,000 Gallons 84-85° F without blanket Dr. David B. Coleman Anna G. Coleman 121 Redwood Drive Richmond, KY 40475

"Our pool is like bathwater. Others in the family don't like it that warm, but I do! Also, our air conditioner does not run nearly as often."

Anna Coleman

Reported by:
Byron Rice
Owensboro, Kentucky
May 13, 1995
(502) 688-0544

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"I am from St. Petersburg, Florida. I ordered a unit from you and installed it myself. I did all the piping and even carried it up to the garage attic (in pieces). April was the first month and the pool went up 2 degrees a day. In two weeks I went from 68 to 80. I usually do not get to 80 until June/July because of pool screen and west exposure. The attic usually over 100 runs a constant 85 (I keep a remote temp transmitter in the attic). Working fine, thanks, should give me many more swim times." Dave Weber, St. Petersburg, Florida, May 4, 2004.

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#### Michael C. Chearney 700 Clara Terrace Bel Air, Maryland 21014

"In the last three weeks, we raised the pool from 56° F to 80° F. The PCS1 raises our pool 2-3° F each day on sunny days. Your system works absolutely terrific!"

Michael C. Chearney

Reported:

Via Phone Conversation To E. Palmer on 5/29/95 (612) 441-3440

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July 13, 1996

Ralph N. Funk 24355 Hoover Road Warren, Michigan 48089

"System works great! I can easily get my pool up to 85° F. Last year I only used my gas heater two times."

R. Neil Funk

#### Reported:

Via Phone Conversation To E. Palmer on 7/13/96 (612) 441-3440

#### File Info:

Neil lives near Detroit, Michigan and owns NFL Tire Service, Inc. Prior to purchasing a manually operated PCS1, Neil had six 4x8 plastic solar roof panels. In the process of re-roofing his house, he removed the roof solar panels and installed the PCS1.

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Ed Palmer, President SolarAttic, Inc. 15548 95th Circle NE Elk River, MN 55330

Dear Ed,

It has been over three years since I bought the PCS1 attic pool heater from you. Upon reviewing your excellent installation and operating manual, I knew this would be the product for me. I haven't been disappointed. Here is a brief description of my experience.

#### PHOENIX LOCATION

Phoenix is an excellent location to benefit from your product. We probably have over 300 clear and sunny days to utilize the (attic) heat for pool heating. I usually don't use my pool much past October 1, as the nights start to cool rapidly and with the high evaporation rate at the surface, the pool temperature drops below 70° F. Besides, I'm ready to switch over to the hot tub anyhow. (I don't use a pool blanket even though I know it would further extend my swimming season).

In the spring, I am anxious to start back into the pool again. With the attic heater, the pool temperature can be made to approach 80 degrees or more fast. If I were to cover the pool and heat the pool during the week, I could be swimming comfortably again **by mid March**.

#### ATTIC SOLAR POOL HEATER

The attic is an excellent location for a solar pool heater. It's out of sight and I don't see anything negative about it. In fact, many homeowner associations, which are prevalent in the Phoenix area, prohibit unsightly solar heater contraptions on roofs. Plus, the sun in AZ would destroy any exposed plumbing and wiring in a few years. **So, if you live in Arizona, the PCS1 attic pool heater is by far the best way to go!** I covered my pipes going up the wall to the attic with a piece of ABS channel 2-1/2" deep by 6-1/2" wide by 8 feet. All of my 2" PVC and 1/2" electrical conduit lines fit nicely inside this channel which I painted desert tan to match the surroundings.

#### INSTALLATION

It took me one-week end to completely rebuild my plumbing manifold at the pump-filter location to accept the lines going to the attic pool heater. I even installed thermometers in the outflow and inflow lines going to the SolarAttic pool heater (PCS1) to monitor the amount of heat gain (temperature differential). During the next week, I worked a couple of hours each evening digging the trench to the location up the wall. I laid some 4" PVC pipe which I used as a conduit to run my plumbing and electrical lines through. I don't want to ever have to dig this up again with all the clay

and rock I have here. Even though I'm only down about 12 inches, this provides some insulation factor also.

The following weekend, with help from some neighbors, the PCS1 was pushed and pulled up through the opening in my garage ceiling. I had to take out my frame for the pull-down ladder in order to have enough room between the studs. Sliding the unit down to its final location and completing the plumbing took the balance of that weekend. The next weekend, I finished installing the control box and sensors and finished the electrical. So, it looks like it took about three weekends at my slow pace.

The PCS1 SolarAttic Pool Heater performs great and you were extremely helpful with your quick response to my installation questions. The PCS1 installation and technical manual provided everything that I needed.

#### **OPERATING RESULTS**

My pool is a little over 10,000 gallons and the water returns from the attic to the pool through the bottom of the pool's in-ground cleaning jets. I see a temperature differential of about two (2) degrees F between the water going up to the attic and the water returning to the pool.

I have about 60 gpm flow rate with my 1 hp pump motor and, according to your charts, with an attic delta T of 32 degrees F, output is 2 degrees. This output equates to about a 60,000 Btu per hour heater. I would hate to have to pay for this Btu output with an electric or gas heater. This output gives me about a 2-degree temperature rise in the pool every 2.8 Hours.

My unit comes on automatically (when I operate it) about 9 AM and goes off about 7 PM. This **10-hour 'on' time raises the pool temperature 7 to 8 degrees F**. If I would cover the pool to retain this heat gain, you can see that the pool would be comfortable to swim in relatively fast. Arizona evening temperatures drop into the low 60's in the spring, so you almost lose every evening what you gain during the day (in terms of heat).

My goal is to increase the output temperature ( $\Delta T$ ) of the unit to 3 or 4° F (to approximately 120,000 BTUs per hr which I believe may be possible from my attic). I am looking at removing the discharged air from the unit and increasing the temperature of the air entering the unit. I am thinking of ducting the cooler air out a close by vent and ducting warmer air from farther down the attic to the unit. Thanks for your suggestions. I've been waiting for the summer heat to drop so I can start working up in the attic again this winter. I will let you know of my success.

#### **SUMMARY**

Arizona is a great location for your product because of the constant sun energy available. The draw back is the cool evenings in the spring and fall. However, the opportunity is there to definitely lengthen the swimming season with your product—just as it is designed. I am extremely happy with the SolarAttic Pool Heater!

Kent Williamson 101 W. Wood Dr. Phoenix, AZ 85029 (602) 789 0764 (h) (602) 968-3066 (w)

Kent Wellcomson

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May 5, 1997

Mike Bagley Boca Raton, Florida

"[SolarAttic's PCS1] raised my pool from an average of 78 degrees F to an average of 90 degrees F during the swimming season."

Mike Bagley

Reported:

Via Phone Conversation To Jim Stanley on 5/5/97 @ 9:30 a.m. (612) 441-3440

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June 19, 1997

Frank O. Wynne, Ill 4801 Creekside Circle Crestwood, KY 40014

Mr. Ed Palmer SolarAttic Inc 15548 95th Circle NE Elk River MN 55330-7228

Dear Ed

I am enjoying my first season of using your SolarAttic Swimming Pool Heater. I am very pleased with this unit's heating ability. It is heating my pool to 88 degrees with an attic temperature of 100 degrees near the unit and an outside air temperature of 88 degrees. The pool water temperature varies only a few degrees when the outside air temperature varies up to 20 degrees from night to day. Also, I am using a timer for the pool system. The pool system runs from 8 AM until 10 PM each day; I am still using a solar blanket at night.

I am pleased with the additional benefit of heat removal from my attic. Other parts of my attic are 120 degrees. The SolarAttic unit is located over my kitchen. We hardly notice the noise from the fan. One of the reasons I purchased this unit was to conserve propane. Last year I used my propane heater from August to November. The heater was consuming about 150 gallons of fuel each month. In a very short period of time I feel this unit will pay for itself by reductions in propane and electricity costs.

Installation of this unit was very easy. The manual spelled out everything step by step. Also, you were only a phone call away for additional help. I would highly recommend the totally automated unit. All you do is set a temperature and the SolarAttic Heater does the rest. What could be easier? The SolarAttic Heater is performing exactly as advertised and is already saving me a small fortune in propane costs. I look forward to many years of solar heating.

Sincerely.

Frank O. Wynne, III

To Whom It May Concern:

Our pool was cold, very cold, so cold we did not bother with a thermometer. And we were not able to swim much. Even in the dead of August, a very warm time in Northern California it was too cold to swim confortably. The problem? Location. The shadow of the our two story house falls over the pool from 2:00p on.

The answer: a pool heater.

After much investigation we decided on a Solar Attic Pool Heater. And despite El Nino and unseasonably cool weather in the spring and summer of 1998 the pool is now very, very confortable.

We even bought a thermometer ... a little lady bug that floats in the pool. Temperature: 82-85 degrees. We use the solar cover a night to keep the heat in and we have been swimming every day. If we leave the cover off the temp goes We have the best of all worlds.

We heartily recommend the Solar Attic Pool Heater.

Sincerely,

2/9/99

To: Jim Stanley

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From: Michael Krinsky

"I have been using my heater for 6 seasons. It clearly makes the water in my pool warmer. The system was easy to install, is easy to operate and is relatively trouble free. In fact, this is the first time in 6 years I have had to fix it. An automatic valve began to malfunction. It was relatively simple for me to describe to the valve company what the problem was. A few days later, I had the parts."

Michael Krinsky

**PO Box 428** Marlborough, New Hampshire 03455-0428 (603) 876-3600 (603) 876-3858 Fax

#### 10/20/2000

To: Ed Palmer

From: Name/Phone removed at customer request 7/14/2002

"I really enjoy our pool now. Keeping it at 89 Degrees was very easy [with your SolarAttic pool heater]."

Name/Phone

Antelope, California (Sacramento area)

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#### SolarAttic Pool Heater Testimonial

# Scott MacDonald, Ramsey, Minnesota June 6, 2002

Dear Ed,

I am really impressed with the Solar Attic system. It has exceeded my expectations and also is making my neighbors very envious who have pools and had incorporated a traditional heating system for them. Many of them heat the pool up once in the spring and then hope summer will take its course in maintaining it. Typically this does not work well and they end up heating it more often or endure the cold of the pool. They do this to avoid the high gas bills in heating their pool continuously through the pool season. My dad is also envious since he has no heater installed for his pool in Minnesota and typically does not use his pool until well into June. He is further interested with installing a unit at the condo unit he maintains down in Florida.

As you may remember since you also came out to inspect my installation, I purchased your new more condensed solar attic heater prototype for my pool late last summer 2001. I live in the same general area of your corporate site North of the Twin Cities in Ramsey Minnesota. Within the 2001 pool season, I did not really get a chance to use the system, but did get it installed rather quickly for the next season. As we moved into 2002, I started using the system in heating my pool sometime towards the beginning of May. As you may recall this last spring, it was unusually cool for this time, but I made excellent progress none-the-less in bringing up my pool water temperature up to a reasonable high. I have enclosed a chart for you to see the results.

## Date Air Temp. Range

#### Cloud cover Pool High Temp. 5/10 started 60/35 None or minimal 58 5/11 53/42 None or minimal 60 5/12 50/41 None or minimal 60 5/13 62/39 None or minimal 62 5/14 64/42 None or minimal 64 5/15 75/53 None or minimal 66

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5/16
      60/48
             None or minimal 67
5/17
      55/39
             None or minimal 68
5/18
      55/42
             None or minimal 69
5/19
      57/39
             None or minimal 70
5/20
      59/35
             None or minimal 72
5/21
      68/44
             None or minimal 75
      75/48 Mostly cloudy
5/22
                             74
5/23
       66/48
                             73
              Partly Cloudy
    5/24
          55/44 Cloudy 72
5/25
       66/46
              Partly Cloudy
                            74
    5/26
          70/55 Cloudy 73
5/27
      77/55
             None or minimal 77
 5/28
       74/61
              Partly cloudy
5/29
      84/59
             None or minimal 80
             None or minimal 84
5/30
      89/64
5/31
      84/64
             None or minimal 84
6/1
      88/64
             None or minimal 84
              Partly Cloudy
 6/2
      72/57
6/3
      58/51
             Rain and cloudy 75
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My conclusion is that even through the temperatures were rarely exceeding in the low 60s in the day and usually dipped into the 30s at night, I still managed to get my pool up to 70 degrees by May 19th. From this point we moved the pool water into the mid 80s before the end of the month. I found that sunny days worked wonderful at heating the pool even if the outside air was still cool. Unfortunately cloudy days set me back, but quickly recovered once the sun came back out. In the cooler month of May, I could typically see an up tick of 3-5 degrees on a given sunny day, but also lost 2-3 degrees at night. I kept my pool covered with a solar blanket at all times other than when I was shocking the pool to avoid deterioration of the solar blanket.

Just to add some further information. My attic volume is around 7000 sq. ft. My roof is at a 10/12 pitch setting on a base frame of about 33x50ft with some extra attached smaller side rooms, The roof is hipped, and the shingles are a dark gray in color. Normal venting is still being used and the roofline extends above the trees. On a 60-degree day my attic maintains an 85-95 temp with the solar unit running. On 80-degree days it approaches 120.

My pool is surrounded by tall trees of which only allows sun in to more than 50% of pool earlier in the day until about 3pm. My liner is a darker blue and my sport pool contains roughly 28,000 gallons in a 20x40 frame.

Thank you again and please let me know if you have any questions.

Sincerely,

Scott MacDonald 9220 164th Lane NW Ramsey, MN 55303

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Dear Ed,

I don't know if my husband Paul ever got back to you, but I wanted to let you know that our solar attic has been up and running for some time now (he did the entire installation himself, with the exception of having a friend help him physically lug the unit into the attic) and it is FANTASTIC!!

Yesterday, October 6th, the kids and I were swimming. The house feels like we had air conditioning installed. Thank you for a brilliant idea.

Also, our accountant, John Carey, would like to get in touch with you to ask if you have any information on a California energy tax credit with the solar attic. I will be giving him this email address to contact you.

Thank you again, Ed, for elegantly solving two problems (cold pool, hot house) at our home.

Melissa Owens Paul and Melissa 3396 Rossi Street Lafayette, California 94549

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#### **December 18, 2001**

Matt Ross, President Eco-Smart, Inc. 4411 Bee Ridge Rd. #344 Sarasota, FL 34233

Dear Matt,

Re: Solar Attic Pool Heater

Just a brief note to give you an update re our use and experience with the Solar Attic pool heater. We have now had the heater for approx. 26 months and have to say that in terms of its functioning and mechanical operation, the unit has performed flawlessly. We have had no mechanical problems, no leaks, nothing.

We have tended to use the pool for about 8-9 months, shutting the heater off for a portion of Dec. to March. We have found that in those winter months the pool temperature will generally not exceed 82 degrees, even with a pool cover, and that is cooler than we would like. The fact that the pool is north facing and thus receives limited direct sunlight exposure I am sure is a major factor. We also tend to run the pool filter pump for less hours in the winter. I have to add that when the weather is cooler we also have less inclination to want to use the pool. In fact, we tend to keep the cover off the pool in those few months (as we do all summer) because the pool is much nicer to look at. The pool is covered in the spring and fall to help conserve heat overnight.

We average temperatures of 84 – 88 degrees April – May, and low to mid 90's June to Sept. Actually in the summer months we could hit the high 90's if we did not restrict the temp control on the heater. Off course the pool receives full sun exposure in the summer months and we have no shade trees covering our grey ashphalt tiled roof. Oct. – Nov. results in temperature readings of 86 – 88.

While not scientific, we do have a sense that the A/C in our home does not have to cycle on quite as often with the possibility of electricity savings though increases in the latter make calculations difficult.

I guess the other advantage with Solar Attic is that no one knows we have a heater (unless we tell them) and there is no unsightly equipment sitting on our roof and potentially damaging the roof.

The final feature that I like about the heater is that when the heater is shut off, either automatically or manually, a valve automatically closes diverting water flow from the attic so that if the pool pump is running, it is not needlessly pumping water in and out of the attic. This is a very thoughtful and important design feature.

So, that sums up our experience and impression with Solar Attic. I do have to add one more thought, and that is the quality of service we have received from you. You were always available and responsive to any questions we had even if it meant calling the company for the information and keep us informed as to the status of the installation process and any follow up questions that we may have had. We did and do appreciate your outstanding customer service.

We will continue to stay in touch.

Sincerely

#### December 18, 2001

Matt, here are the results of our 5 day trial run with the Solar Attic pool heater, after the heater had been shut off for a few weeks and with no pool cover on the pool before or during the 5 day period. We ran the heater for 7 hours on each of the five days - Dec 13-17.

DATE	LOW	HIGH
Dec 13	74	77
Dec 14	76	78
Dec 15	77	79
Dec 16	78	80
Dec 17	78	80

Trusting you will find this information useful.

Jim Chatterton