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Solar 101: Grasping the Basics

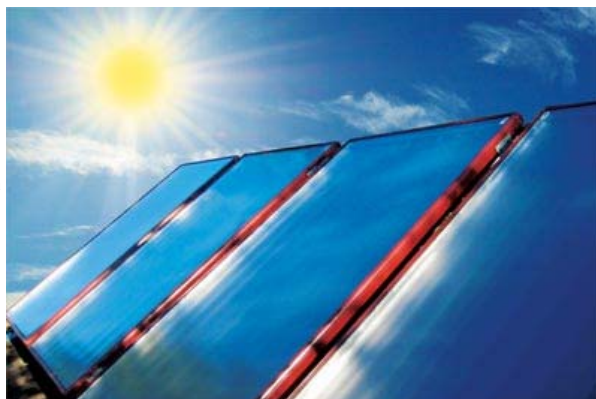
If harnessing the sun's rays to generate heat for pools is nothing new, then why are so few builders embracing it?

By Dan Schechner | 12.15.2010

In years past, when John Kennedy sold solar pool heating systems, he often would team up with a local installation company.

Back then, the owner of Elite-Weiler Pools, a Pool & Spa News Top Builder in Sarasota, Fla., simply consulted a price list, put together a package, and then sent a purchase order to his solar partner.

Today, Kennedy is a certified solar contractor who owns and operates Elite Solar Services. The classification allows him to install solar electric (photovoltaic) pool heating systems, as well as solar domestic and commercial hot water units.



"In Florida, it gives you an 11-month-a-year swim season," he says of the typically roof-mounted pool heating devices. "Plus it saves the consumer money, and it's good for the environment. There are a number of applications for it — it's just a matter of getting it explained and finding the space."

Indeed, a small but growing number of pool contractors have caught the solar wave in recent years, albeit to varying degrees. Some have incorporated full-fledged solar divisions, while others have begun selling the systems and subcontracting or outsourcing the installation and service.

Still, Kennedy concedes it's a business that shouldn't be entered into lightly: "It's not something you can just stick your toe into, because of the nature of the work," he says. "You need a crew specialized and trained to do it — you can't decide one day that the tile setters are suddenly going to be your solar setters on the roof."

At a time when new pool construction remains stagnant throughout much of the country, solar installation could present a bright spot for contractors. Here, experts discuss some of the basics while dispelling myths and misconceptions about the business.

Opportunities

Some believe the primary opposition to solar stems from a lack of understanding or knowledge about the technology and how it works; or from a general reluctance to change.

"It's not complex — it's simply circulating pool water through a series of panels on a roof or structure to heat it up," says Brian Tymann, director of Sunstream USA, a division of J. Tortorella Custom Gunitite Pools, a Pool & Spa News Top Builder in Southampton, N.Y.

"So it's not much different, conceptually, than leaving a garden hose on the lawn in the sun, when you then spray it and it's boiling hot. If you know your basic plumbing, it'll work."

Pool builders typically are the first to be contacted by homeowners interested in solar panel systems, explains Reuben Clark, president of Consolidated Manufacturing International in Raleigh, N.C.

"That file cabinet full of customers' names is just paper waiting to be turned into money," Clark says. "For builders, there's a higher probability of closing the sale because they already have that relationship [with the consumer]."

In fact, CMI now produces passive solar panel heating systems under the Thermocraft name from its Ogden, Utah, manufacturing plant. The panels are protected in a corrugated box, and all installation hardware is packaged and included with each set of panels, Clark says.

"We're trying to break down every barrier to market," he adds. "I think it'll be a real good thing for the industry. There's no turning back from the environment in our society now of going green. Besides, it's a nice margin on those products — why would a builder want to give away that profit?"

There's yet another incentive pool builders may consider. Though the need for solar heating

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Mention solar pool heating panels, and the image that typically comes to mind is that of a roof-mounted system. But as with anything, there are alternatives.

equipment is universal, says Dale Gulden, CEO of Solar Direct in Bradenton, Fla., coverage of the marketplace is lacking. That has created a number of vacuums nationwide for areas serviced by solar dealers.

Licensing/permitting

Licensing requirements for solar installation tend to vary by state, and then sometimes by city or county. It's a lot like pool building in that respect.

But by and large there isn't usually a whole lot extra required of pool builders who wish to enter the solar realm.

In Florida, for example, a Certified Pool Contractor is permitted to install solar systems in a residential setting, Kennedy says.

Elsewhere, solar still resembles the Wild West in some ways, Tymann says.

"Few municipalities have addressed it," he says, "so in our area there are no particular licenses needed to install solar pool heating.

"Some places do require a permit for the installation, but most don't," he adds. "And for those that do, it's just a general contractors' license. There's nothing specific to it because it doesn't fall into the category of home heating."

On the roof

Another main cause of pool contractors' resistance to solar systems may be the elevated surface. For crews that are used to working on the ground, a rooftop can be an uneasy place, experts say.

But it isn't always climbing up that gives contractors pause, adds Michael McVan, national sales manager at Jetline Solar in Kearny, N.J.

"Oftentimes they're afraid to make penetrations on the roof," he says, "because of liability concerns. And if you don't seal it correctly, the home can get rainwater inside. So those would be the biggest potential snafus."

Adding to job complexity are issues related to multiple roof stories or surfaces, unusual roof material (something besides shingle, tile or metal), or a steep pitch. However, simple precautions can mitigate most potential hazards.

"For example, when there's more than one story, our guys wear harnesses and tie themselves off," Gulden says. "So if they happen to fall off, they're just dangling from the roof instead of crashing to the ground."

In addition to safety, experts explain, it's important to know what to look for on a roof — how many collector panels you can fit, how they will be situated, and whether and to what degree the panels will be tilted to maximize Southern exposure.

At Classic Pool & Patio in Indianapolis, the company uses satellite imagery to map out a roof-mounted solar project ahead of time, says service manager Stewart Dixon.

"We get onto [search engine] Bing, pull up the address and chart it based on that," Dixon says. "Homeowners can see how much of the roof area is being used, where it's going — they're pretty impressed with it, actually."

Training

There are a number of outlets for training on solar roof installations. For Brett Marshall at Swan Solar, it comes from his manufacturer, SunPower.

Employees at the Lake Forest, Calif.-based firm, a division of [Pool & Spa News Top Builder Swan Pools](#), receive schooling at various levels — associate, intermediate and advanced — depending on their role in the project's sale, design, engineering or installation.

"If a manufacturer is reputable and they want you to install it correctly," he says, "they should train you."

Kennedy sent his installation personnel to a training course at the Florida Solar Energy Center, widely considered one of the region's leading facilities for solar certification.

In addition to an initial curriculum that runs about \$1,500, he provides his employees with ongoing safety training through FSEC.

"I have real good competent mechanics — guys that can do anything," he says. "But I'm not going to give them a ladder and say, 'Climb up there.' We're penetrating peoples' roofs, and we're making electrical and potable water connections. Some of that is well outside the realm of typical pool building."

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