



Advanced Heating and Hot Water Systems

NEWS RELEASE:

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HTP's Phoenix[®] Solar Water Heater Brings Ultra-High Efficiency to LEED[®] Platinum Home

96%-efficient appliance combines domestic hot water, space heating and solar thermal in a single compact unit for a "deep-green" home-renovation project for David Gottfried, founder of USGBC.

OAKLAND, CALIFORNIA (DECEMBER 19, 2008) — A 96%-efficient Phoenix Solar Water Heater from HTP was recently installed in a newly completed home-renovation project that scored 106.5 points of a potential 136 — 26.5 points more than required for Platinum certification under the LEED[®] for Homes program.

Owned by U.S. Green Building Council founder David Gottfried and his wife, Dr. Sara Gottfried, the 1,500-square-foot "deep-green" project is now the highest-scoring residential project since the LEED[®], Leadership in Energy and Environmental Design, for Homes Green Building Rating System[™] was unveiled in early 2008.



David Gottfried with his new Phoenix Solar unit:
"It is neat to showcase our ability to generate domestic hot water and space heating from a single tank."

The Phoenix Solar unit (Model PH130-80S) is an integral part of the solar and gas-powered space heating and domestic hot water (DHW) systems in the home, a 1915 Craftsman-style bungalow

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Phoenix Solar Featured in LEED Platinum Home, *continued*

located in the Rockridge district of Oakland. Installed by Sun Light & Power of nearby Berkeley, the Phoenix functions as a storage tank for the solar thermal and hydronic heating systems, while also providing high-efficiency gas-fired backup when solar power is not enough to heat the domestic water or the home.

How the system works:

- **Solar collection:** Perched atop the home's roof, three 4-foot x 8-foot flat-plate solar collectors from Solar Thermal Systems collect heat energy from the sun whenever it is available.
- **DHW storage:** When solar is available, hot fluid from the solar collectors circulates to the Phoenix in the garage, where the heat is transferred to water stored in the 80-gallon tank. This water is used for potable hot water applications; i.e., showers, clothes washing, cooking, etc.
- **Hydronic space heating:** An external heat exchanger — an X-Pump Block™ from Taco — maintains a second, closed water loop that sends hot water from the Phoenix storage tank to a series of wall-mounted, high-surface-area Myson radiators, located throughout the Gottfried home.
- **High-efficiency backup:** On overcast days or at night, the modulating gas burner inside the Phoenix will fire, providing between 44,000 and 130,000 BTU per hour of backup water heating for the DHW and space-heating applications.

"I preferred wall-hung radiators, rather than a conventional, forced-air heating system," says Gottfried, whose family of four is now experiencing its first winter in their newly renovated residence. "The new system is much quieter and improves our air quality by not blowing pollutants throughout the house.

"Each room in the house is a separate zone — eight in all — allowing me to modulate the heating according to the need," Gottfried continues. "In other words, we heat only the bedrooms at night and only the main living areas during the day when we are home," helping to lower consumption and save energy.

Summer Heating Season: The Bay Area enjoys a comparatively moderate climate, but while the winters are not bitterly cold, the advent of summer does not mean the end of the heating season. "It can be sunny and 70 to 80 degrees [Fahrenheit] until the fog rolls in from the bay, and all of a sudden the thermometer drops into the 50s," explains Morgan Muir, whose Oakland-based firm, JTG/Muir, represents both HTP and Solar Thermal Systems.

Because sunshine is not all that plentiful from October through February in this part of the country, the Gottfrieds cannot depend upon solar to make substantial contributions to their

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home's space heating during the winter, according to Muir. "While the solar collectors will provide roughly 70% of the domestic hot water needed in the Gottfried residence, the system's space heating contribution will probably be between 10% and 20%," he says. "But that, in turn, should translate into a 10-25% annual reduction in space heating operating costs, and that really helps the economic justification for the Phoenix Solar.

"It's a balancing act that really comes down to household hot water usage patterns," he continues. "For example, a home with teenagers who tend to take long showers will have that much less solar energy to support the space heating. On the other hand, someone who likes to keep room temperatures at 77°F will experience a small solar contribution to domestic hot water."

"Ultimate Green Machine": Muir notes that the Phoenix Solar is fast becoming "the darling of the green community in the Bay Area" because of its ability to deliver multiple load, ultra-high efficiency and renewable energy in a single package. "This product solves application problems for the green specifier and allows him to be more creative in his solutions."

Gottfried, who works as a strategic consultant to businesses on sustainability, has become a strong believer, thanks to his home-renovation experience. "I like the system very much. It's quiet, which was a benefit I really wanted. When visitors arrive, it is neat to showcase our ability to generate domestic hot water and space heating from a single tank."

"That multifunctional capability is the main reason for the Phoenix's rising profile in this market," adds Muir. "By combining a 96%-efficient gas backup with solar thermal storage in a unit that can also support space heating, you get the best of all worlds. That's why we call it the 'Ultimate Green Machine.'"

ABOUT HTP: Founded in 1974, HTP is a designer and manufacturer of advanced heating and hot water systems. Product categories include: modulating condensing commercial and residential high-efficiency boilers, indirect water heaters, high-efficiency gas-fired water heaters, solar hot water systems, and oil-fired and electric water heaters.

For more information, visit HTP at www.htproducts.com. Or call toll-free: 800-323-9651 (508-763-8071 if calling from Massachusetts).

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About LEED® for Homes:

LEED® for Homes is a certification system that promotes the design and construction of high-performance green homes by awarding points to projects within seven categories of environmental performance: Location and Linkages, Sustainable Sites, Water Efficiency, Indoor Environmental Quality, Energy and Atmosphere, Homeowner Awareness, Innovation and Design. For more information, visit www.greenhomeguide.org.

About David Gottfried and Regenerative Ventures:

As chief executive officer of Regenerative Ventures, Gottfried actively advises entrepreneurs and seasoned corporate management teams, assisting them to establish and achieve their goals in the sustainable building arena. For more information, visit www.regenv.com. To learn more about the Gottfried home, the highest-rated LEED Platinum residence nationwide, visit www.gottfriedhome.com. David Gottfried is also available for interviews upon request.

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