

Sun shines on the hospitality industry

Solar water heating helps businesses save energy, money

FACT SHEET



BIOMASS



SOLAR



WIND

With energy costs skyrocketing, it's no surprise that hospitality industry managers are looking for new ways to reduce their energy consumption. Owners of hotels, motels, restaurants, resorts and related services, such as commercial laundries, are feeling the pinch as the cost of hot water and space heating soars.

However, the sun will continue to shine for owners and managers willing to embrace new, innovative approaches for staying competitive and profitable. Renewable energy technologies such as solar hot water systems are one such solution that is becoming more cost effective as fuel prices rise.

HEATING WATER WITH THE SUN

Solar water-heating systems collect sunlight and provide hot water for guest rooms, housekeeping, laundry facilities, food service, swimming pools and more. The technology has been in use for nearly a century, but over the past 25 years, technical advancements have drastically improved these systems' performance, life expectancy and ease of use. Today, solar hot water systems are reliable, durable, cost effective energy investments. In fact, they can last up to 40 years with simple maintenance.

Solar hot water systems are an excellent match for the hospitality industry. They are most cost effective when hot water needs remain relatively constant. For example, one of the most popular commercial applications of solar hot water is heat for swimming pools, which generates positive cash flow almost immediately. The same is true for laundry hot water, domestic hot water, process hot water, and food-service hot water.

Typically, commercial solar water-heating systems are sized to provide approximately 50 percent of the heating load per year. On sunny summer days in Wisconsin, the system may provide nearly 100 percent of the heat required, while during extended cloudy periods, the output may drop to 20 percent. In most cases, solar water-heating systems are not designed to be the only heating source for an application. Instead, they should be used to supplement an existing traditional water-heating system to ensure continuous service.



This impressive 104-panel solar hot water system atop the Kalahari Resort & Convention Center in Wisconsin Dells supplies the laundry facility with more than 3,000 gallons of hot water per day.

FINANCIAL INCENTIVES REDUCE UP-FRONT COSTS

Focus on Energy, Wisconsin's energy efficiency and renewable energy program, offers financial incentives to businesses interested in installing solar water-heating systems. Focus also provides no-cost consulting services and site assessments on a cost-share basis.

Focus incentives are based on system output; they can cover up to 25 percent of the system cost, or up to \$50,000. In addition, the federal government offers a tax credit of 30 percent for many solar energy investments, plus accelerated depreciation for approved equipment. These incentives can reduce the cost of solar heating systems dramatically. (Note: While Focus on Energy incentives can be applied to systems that heat swimming pools, the federal tax credit cannot. Also, Focus on Energy does not currently offer incentives for solar space-heating systems, while the federal tax credit does).

A SOUND INVESTMENT FOR HOSPITALITY BUSINESSES

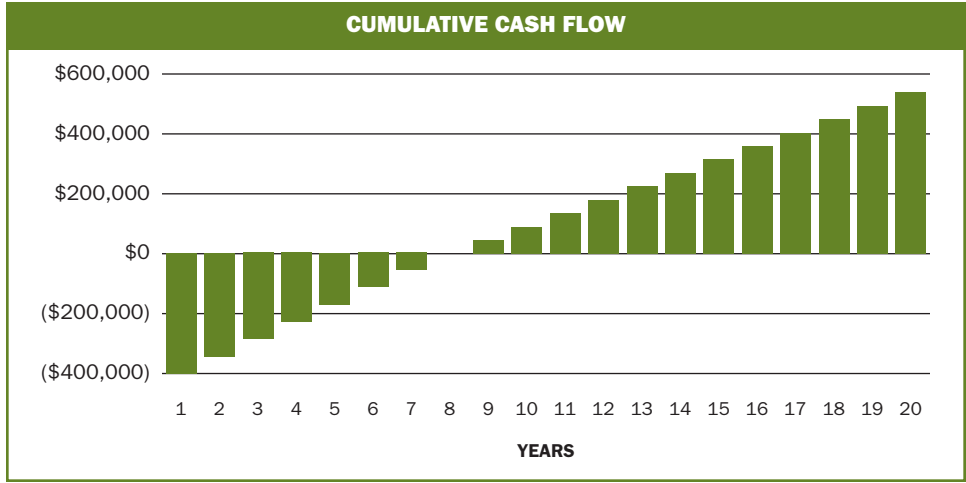
An investment in a solar water-heating system is an effective and long-lasting way to stabilize rising fuel costs. Sunlight is free, and once installed, the system's operating costs are minimal, including periodic maintenance and a small electric load when the pump is in use. If the system is amortized over a number of years, as most capital investments are, the savings accrued through fuel cost reduction can equal or exceed the annual payment on the system. The accrued savings will pay for the system in a relatively short period of time. From that point on, the energy will be free.

Contact Focus on Energy™ to learn about renewable energy options for your home, business or organization. Full program details, applications for awards and eligibility requirements are available from the Renewable Energy Information Center. Call 800.762.7077 or visit focusonenergy.com.



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SOLAR WATER HEATING FOR THE KALAHARI RESORT—WISCONSIN DELLS, WISCONSIN

Soaring energy costs were a growing problem for Todd Nelson, president and owner of Kalahari Resorts, which features record-size indoor and outdoor water parks, 740 guest rooms, and a 100,000-square-foot conference center. However, after researching renewable energy technologies, Nelson soon realized tremendous savings by installing the state’s largest solar hot water system to supply his sizeable laundry facility. He reasoned that:

- A solar hot water system would act as a hedge against rising fossil fuel costs
- By buying locally manufactured equipment, the economic benefits would remain local
- The positive environmental benefits would directly impact the local community

The resort installed its solar hot water system with technical and financial assistance from Focus on Energy. Visible from Interstate 90-94, the Kalahari’s solar panels shine like a beacon, highlighting Wisconsin’s commitment to alternative energy solutions for a sustainable future.

KALAHARI RESORT SOLAR SPECIFICATIONS

Size: 4,160-square-foot, roof-mounted collector array
Estimated Annual Energy Production: 11,807 therms

ESTIMATED FUEL SAVINGS OVER 20 YEARS

Assuming a \$1.10/therm natural gas rate, combustion efficiency of 85 percent for the resort’s fossil fuel boiler, and an annual energy inflation rate of 8 percent, the resort will save \$590,841 over 20 years. A system this size will cost about \$400,000 to install. Calculated on a cumulative cash-flow basis (see chart above), this investment will pay for itself in eight years.

AVOIDED POLLUTION PER YEAR

This system results in the following annual pollution reductions: greenhouse gases (CO₂)—138,236 lbs.; nitrogen oxides (NO_x)—118 lbs.; and barrels of oil—204 barrels.

Focus on Energy works with eligible Wisconsin residents and businesses to install cost effective energy efficiency and renewable energy projects. Focus information, resources and financial incentives help to implement projects that otherwise would not be completed, or to complete projects sooner than scheduled. Its efforts help Wisconsin residents and businesses manage rising energy costs, promote in-state economic development, protect our environment and control the state’s growing demand for electricity and natural gas. For more information, call **800.762.7077** or visit focusonenergy.com.

