

Central Waters Brewing Company Taps into Solar Hot Water

CASE STUDY



BIOMASS



SOLAR



WIND

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Founded in 1998, Central Waters Brewing Company in Amherst, Wisconsin has earned a reputation for its fine microbrew beers. But in March 2009, the business added a new distinction: It became the first brewery in Wisconsin to heat its in-house water using solar energy.

With the assistance of a \$25,000 incentive from Focus on Energy, Wisconsin's statewide energy efficiency and renewable energy resource, Central Waters installed a solar hot-water system comprised of 24 solar collector panels (totaling about 1,000 square feet of collection area) and a 2,500-gallon solar hot-water storage tank.

The Bubbling Springs Solar MainStream-series collectors capture sunlight that heats water for the brewery's domestic and process needs, as well as water for the in-floor radiant-heating system used in the building's new addition.

HOT WATER ON TAP

Central Waters' new solar hot-water system not only reduces the brewery's operating costs—also provides a steady supply of hot water, faster than before.

Each day, Central Waters' brewing process uses about 1,500 gallons of water heated to 165 degrees Fahrenheit. Before the solar hot-water system, this water was heated entirely using natural gas. Now, the water is pre-heated by the sun to a temperature of 130 to 140 degrees. A natural-gas boiler heats the water the rest of the way, dramatically reducing the amount of natural gas the brewery consumes.

Central Waters also uses the preheated water to clean tanks and kegs—an energy-intensive job that requires a water temperature of 180 degrees.

ALL THE RIGHT REASONS

For Central Waters' owners, the decision to install a solar hot-water system was an easy one. In fact, it fit right in with their plans.

"We didn't do this just for economic or marketing benefits, even though it has those benefits," said Paul Graham, president of Central Waters. "We did



Central Waters Brewing Company in Amherst, Wisconsin installed a 24 panel solar hot water system in March 2009.

this because we believe it's the right thing to do."

Central Waters, which has for years been the sole provider of fermented beverages for the Midwest Renewable Energy Association's Energy Fair in Custer, Wisconsin, made smart use of Focus on Energy and federal financial incentives to help buy down the costs of purchasing and installing the system.

"Focus has been a great partner who's helped us along as we've installed the solar hot-water system. Focus paid nearly 25 percent of our costs for the equipment and installation. Plus, there's a 30-percent federal tax credit for businesses and individuals," said Graham.

The brewery also received attentive service and support from Derek Konkol of Bob's Plumbing & Heating, the Focus on Energy market provider that installed the system.

"Derek Konkol, our contractor for the hot-water system, filled out all the forms and worked directly with Focus to make it very easy on us to get the financial incentives. It has made things possible that wouldn't have been otherwise."

When asked about the financial benefits of renewable energy, Anello Mollica, vice president of Central Waters, said, "It's a no-brainer. 'Green'



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The panels provide about 18 percent of the brewery's annual hot-water needs.

energy makes economic sense. I think more businesses should do it. I hope that people will see us as a small business, investing in something like this, and say, 'Well, if they did it, it must be cost-effective.' Because it is."

LIGHTING THE WAY TO EFFICIENCY

Central Waters' commitment to energy efficiency and the environment is visible in other ways, too. In December 2008, the brewery replaced its old high-bay lighting with energy-efficient T8 fluorescent lights paid for in part by a \$1,260 financial incentive from Focus on Energy.

The new lighting produces the same light output as the old system using 50 percent less electricity, and will save the business more than \$1,000 on its energy bills each year. The annual environmental benefits are equal to offsetting the burning of more than 30 barrels of oil and preventing the release of 25,000 pounds of carbon dioxide (CO2) into the atmosphere.


In addition, the brewery has installed energy-efficient motors in its equipment and brewhouse, and a radiant-floor heating system in the building's new addition. The new tap room was constructed entirely from recycled materials. And a new grain silo outside the brewery reduces the need for packaging materials use and disposal. Central Waters works to recycle spent grain from the brewing process, transferring it to local farmers who use it as livestock feed and compost.

SERVING UP THE SAVINGS

Central Waters Brewing Company has a lot of reasons to celebrate. Combined with energy-efficiency upgrades and a host of sustainability practices, Central Waters' solar hot-water system enables the business to significantly reduce its natural-gas consumption—saving money year after year and dramatically shrinking its carbon footprint.

That's an achievement we can all raise a glass to.

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.

Project Details	
	Central Waters Brewing Company, Solar Hot Water System Amherst, Wisconsin Date completed: March 2009
Personnel	Owners: Paul Graham, president Anello Mollica, vice president Installer: Derek Konkol, Bob's Heating & Plumbing
Equipment	Bubbling Springs Solar MainStream-series collectors: 24 panels, approx. 1,000 sq. ft. of collection area, 6 Laing DC pumps powered by solar electric panels and a DC controller, one 2,500-gal. storage tank
Incentives	\$25,000 Cash-Back Reward from Focus on Energy, plus federal tax credits
Energy Savings	Approx. 2,500 therms per year, or 18% of the brewery's annual hot-water needs
Financial Savings	\$150,000 over a 30-year life
Estimated Payback	Eight years

