

Commercial Hybrid System Installed

Adapted from a press release by Gas Technology Institute

Gas Technology Institute (GTI) and manufacturing partner Solar Usage Now announced the first commercial installation of SUN Equinox, a new hybrid solar thermal-natural gas water heating system.



Photo of the solar panels atop of the Samuel Billings Center in Charlotte, NC.

As part of a large Mecklenburg County initiative to improve the environmental sustainability of its facilities, the project team installed demonstration equipment at the Samuel Billings Center, a county-owned building in Charlotte, North Carolina.

This project is part of an initiative which began in 2009 at GTI, a nonprofit energy research, development, and train-

ing organization. Originally designed for residential use, the system is also a highly efficient hot water delivery system for commercial and industrial applications up to 195°F (90°C).

"What makes this system attractive for commercial applications is that you can 'gang' the tanks up to a quantity of eight," said David Cygan, GTI industrial R&D manager and solar program manager, "offering the potential to supply a vast amount of hot water to particular applications."

According to Thom Blake, president of Solar Usage Now, "It's very cost-effective. Everything on the system is assembled and ready to snap into place, limiting expensive labor costs."

The installation at the Billings Center included two tanks, each with a 132-gallon* capacity and five solar collectors. "We actually replaced a 100-gallon* water heater," Cygan said. "So, they have significantly more capacity and the tanks we put in were polyethylene, which can easily last 25 years or more. The system has the potential to deliver energy cost savings of 40% and a corresponding reduction in greenhouse gases."

The demonstration site is located in the territory of Piedmont Natural Gas, a local distribution company serving more than one million customers in North Carolina,

South Carolina, and Tennessee. "We thought it would be a great idea to combine our efforts with GTI's to develop a showcase installation of a commercial system that demonstrates the viability of integrating natural gas with renewable energy," stated Steve Lisk, Piedmont's manager of technology and energy services.

The project has received additional sponsorship from other utilities that are members of Utilization Technology Development, a research and development collaborative to enhance the use, reliability, efficiency, and environmental attributes of natural gas appliances and technologies.

Hybrid solar-assisted gas water heating technology is making inroads in U.S. markets. "Research is needed to ensure that these systems can meet the price and performance needs of consumers and commercial businesses, as well as climate requirements and building codes and standards," Cygan said.

The installation in Mecklenburg County is an example of a growing movement to include natural gas in clean-energy mandates. The fact natural gas is the cleanest-burning fossil fuel makes it an ideal complement to solar and wind, which is available only intermittently.

Pairing natural gas with renewable energy sources represents a real opportunity to move toward more environmentally-friendly energy sources. This could provide a strong job market for natural gas drilling professionals and also help those who mine the minerals used to make solar panels.

*(1 gallon ≈ 3.78 liters)

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forma de "aguja" que podía ser controlada al bombear en y a través de la fractura natural. Bombeo adicional podía fácilmente extender la contaminación a áreas limpias.

Al entender primero las condiciones hidrogeológicas del sitio, pudimos utilizar las condiciones del flujo natural para dirigir una limpieza efectiva, la cual de otra manera podría haber agravado un problema que era relativamente simple.

*(1 milla ≈ 1.61 kilómetros)

(1 pie ≈ .304 metros)

Tom

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