



Commercial Solar Water Heating

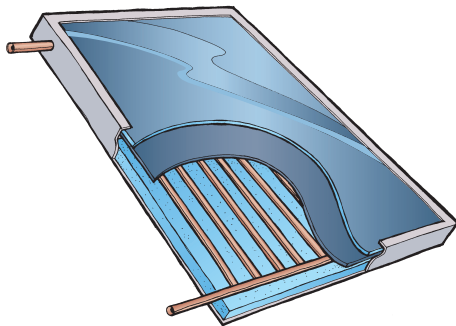
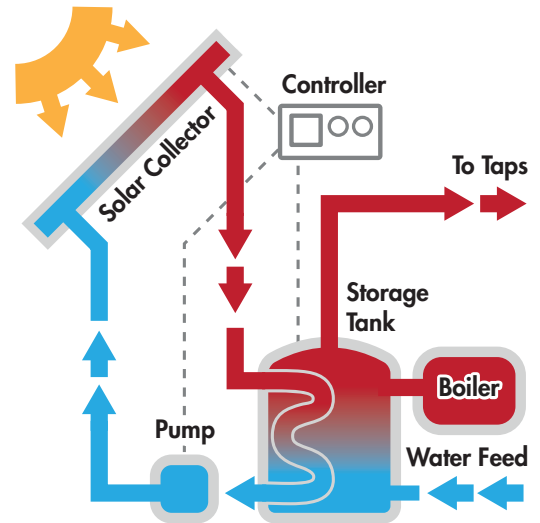
Does your business have high hot water loads? Want to save money, and make your company more sustainable? Solar water heating may be right for you...

How solar water heating works:

A solar water heating system is a simple and reliable energy source for your business or commercial space. Sized to fit the location's needs, solar collectors are mounted on a south facing sloped or flat roof. Fluid (water or glycol) flows through the panels and is heated by the sun. It then runs to a solar storage tank connected to your existing hot water heater. Your water heater only turns on if the solar-heated water still needs a temperature boost. Hot water flows out of your taps just like it always has, but your hot water heating bill could be cut 60-80%. You will also reduce greenhouse gas and other air polluting emissions from your business!

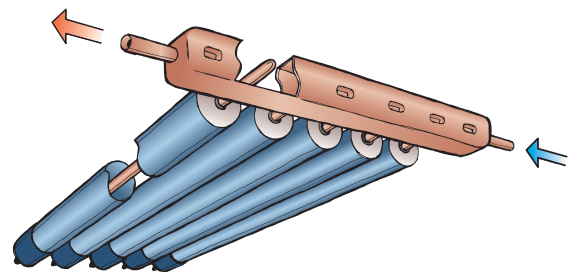
Solar collector types:

There are two basic types of rooftop solar collectors.



Flat-plate collectors contain a working fluid (water or a water-glycol mix) that flows through tubes in the collector, is heated directly by the sun, and carries that heat to the hot water storage tank. The dark glass covering and insulated backing are specially designed to collect heat and prevent it from being radiated back out of the collector.

Evacuated tube collectors have a set of long dark glass tubes with metal absorbers in their cores, which are heated by the sun. Cool working fluid flows past the top of the metal absorbers, is heated, and carries that heat to the hot water storage tank. The glass tubes are vacuum-sealed, making them very efficient heat collectors. The round tubes also help to capture solar energy even when the sun is lower in the sky.



Solar water heating can be a good fit if your business has:

- Open roof space with little or no shading during the day
- Space for solar water storage tank(s) near the existing water heating system
- High hot water demand, particularly during the day

Incentives are available!

Existing federal tax credits and a statewide solar water heating incentive program makes now the perfect time for San Francisco businesses to consider solar water heating.

The **California Solar Initiative Thermal program (CSI-Thermal)** provides up-front rebates for solar water heating systems starting at \$14.53 per therm of natural gas reduced (or \$0.42 per kWh of electricity reduced) in the first year of solar water heater use, based on the expected performance. Businesses can receive an incentive of up to \$500,000 for natural gas displacing systems and \$250,000 for electricity displacing systems. These rebate amounts will go down over time, so please check out csithermal.com for current details about the CSI-Thermal program.

In addition to the rebates, a 30% federal tax credit is available for the installation of solar energy systems in the form of the **Business Energy Investment Tax Credit (ITC)**. Businesses are also allowed to accelerate the depreciation of their PV systems on federal and state taxes.

When upgrading to a solar water heating system, it's also a great time to improve the energy efficiency of your building. Check out sfenergywatch.org for more information about energy efficiency incentives administered by the San Francisco Department of the Environment.

Investigate your purchasing options:

Costs vary, so we recommend contacting local professional solar water heating installers if you're interested in obtaining estimates for a system that meets your needs and reflects the specific design of your building. We recommend getting 3 bids before selecting an installer.

GreenFinanceSF is available to provide building owners financing for energy efficiency, renewable energy and water conservation improvements. The repayment obligation is attached to the property, rather than the individual, and is paid back through property taxes over the life of the financing. Please visit greenfinancesf.com for more information.

The business case:

Project Open Hand, a San Francisco organization that delivers hot meals to those in need, installed a solar water heating system on their facility in 2007, saving them approximately \$1,500 in natural gas bills in the first year. This not only helped reduce operating costs, explained the Director of Operations Dan Schuman, it also introduced Project Open Hand to a broader public. "For us that's everything, the promotional aspect. Our solar system is directly related to an increase in our profile and it's given us a lot of good PR."



To see how solar water heating can work for your building and to find an installer, please visit sfenergymap.org



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