Solar Hot Water for Federal Projects

FedCon Conference
Wilmington, North Carolina

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SOLAR UNLIMITED

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Solar Hot Water Concepts - Introduction

Building Blocks of Solar Thermal

- Solar Collectors
  - Each Collector is rated by the IEA at 2 to 2.5 KW-thermal.
  - Each Collector Reduces CO2 by 3000 to 4000 Pounds per Year
- Heat Transfer Station
  - The Stations Contain Pumps, Heat Exchangers, and Controls to Transfer Heat and Manage the System.
  - Scalable from 10 to 200 KW-thermal.
- Solar Tank – Atmospheric Stainless Solar Tanks are the Preferred Military Design.
- All SolarHot components are Made in the USA in Raleigh, NC.

Solar Thermal Applications

- Dormitories and Barracks
- Schools
- Hospitals
- Cafeterias
- Fitness Centers and Child Care Centers
- Maintenance Facilities
- Military Housing

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Solar Hot Water Concepts – the Solar Collector

Solar Collectors

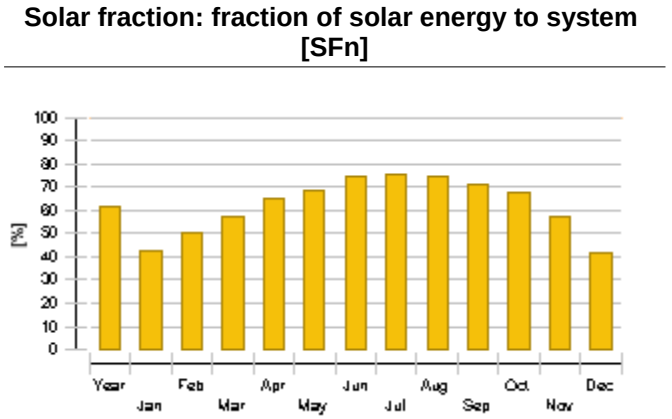
SolarHot Solstice Collector

- Designed Specifically for Hot Water Heating
- Highly Rated By SRCC
- Made in USA

Dormitory Hot Water - Example

- Example - 250 Residents - North Carolina
- 40 Solstice 4X8 Solar Collectors Projected to Provide around 60% of Building Hot Water Needs.
- Eliminate Approximately 7,000 therms of Natural Gas or 8,000 gallons of Propane each Year
- Lower Carbon Emissions by 100,000 pounds of CO2 Each Year

Month By Month Solar Contribution



72 Roof Mounted SolarHot Solstice 4X10s

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Solar Hot Water Concepts - Examples

Ground Mounted Arrays of 150 SolarHot Solstice 4X8 Solar Collectors

The Team Beginning the Installation of 52 SolarHot Solstice 4X8 Collectors and 25 Solstice 4X10 Collectors across Two New Federal LEED Gold Buildings

LEED Certification

CERTIFIED	SILVER	GOLD	PLATINUM
40-49 Points	50-59 Points	60-79 Points	80+ Points

Solar Thermal Systems have Been Shown to be the Least Cost Option for achieving LEED certification points

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Solar Hot Water Concepts – the Large Facility Solar Pump Station

Unique Commercial and Industrial Solar Heat Transfer Stations

- Unique in Solar Thermal Industry
- Three Scalable Sizes
- OEM'd from SolarHot by Many SolarHot Competitors
- Customizable
- Made in USA

This Heat Transfer Station includes Backnet and Can Manage up to 100 Collectors

Solar Collector Interface

- Two Top Facing Pipes Connect to Solar Tank
- Two Top Facing Pipes Connect to Solar Collectors on Roof

Solar Hot Water Interface

- Two Side Facing Pipes Connect to Solar Tank
- Two Side Facing Pipes Connect to Building Hot Water System via Two Tees

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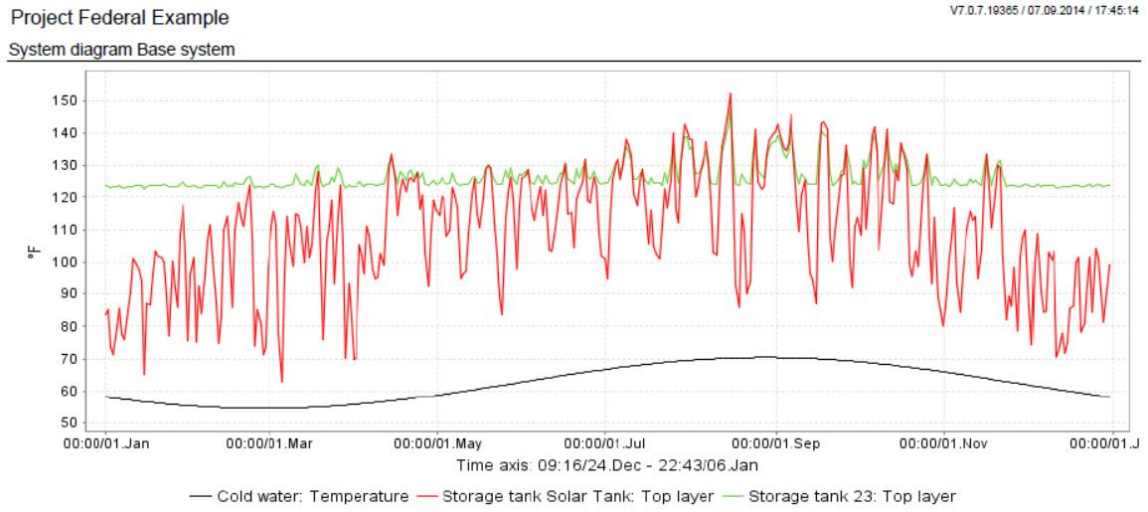
Solar Hot Water Concepts – the Solar Tank

Atmospheric Solar Tanks

- OEM'd from SolarHot by Many SolarHot Competitors
- Customizable, with an Option for Final Fabrication in the Field
- Made in USA

Picture Shows Four Customized Atmospheric Solar Tanks Waiting For Shipment from SolarHot. The large Tank in Front is 3,300 Gallons. The most common size is 750 to 1250 gallons.



Dormitory Example

- Black Line – Ground Water Temperature in North Carolina
- Red Line – Atmospheric Solar Tank Temperature – shows the contribution of solar hot water over a full year
- Green Line – Existing Hot Water Tank Temperatures – Note that The Solar Tank Can be Hotter than the Conventional Tank

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Pulling the Components into a Solar Hot Water System