



House Energy Policy Committee Informational Hearing on Solar

Feb 4, 2013



- Alexandria Minnesota based
- Seventh year in operation
- National and International sales, Military sales
- SRCC, FSEC, IAPMO, CSA and Hawaiian Energy Rated Collectors



solarskies™
Engaging the Sun

The Manufacturing Partner
Preferred by Solar Contractors

**SS-Series
EZ-Array
Collectors**



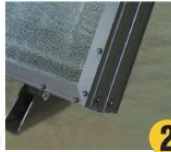
Save up to 30% on installation time.

The SS-Series EZ-Array Collectors make ordering solar thermal collectors easy. Just tell us the flow direction, size, series, and quantity of collectors needed.



1

Internally Capped Corners - The header is capped at the factory during the manufacturing process. The pipe does not exit the collector, making a very clean looking corner. The factory capped corners eliminate the need for on-site installation of pipe cap and insulation.



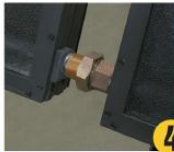
2

Internal Sensor Well - The sensor well is permanently bonded to the absorber assembly providing more accurate "internal" temperature measurements. This allows the system controller to respond quicker to changing conditions, maximizing BTU's per day and reducing installation time. Perfect for drain back systems.



3

Union Connections - The heavy duty ground joint brass and copper unions are installed and pressure tested to 350 psi. Cuts installation time in half by using the union connection option. Eliminates O-ring and seal failure.



4

Tilt Mount Hardware and EZ Strut - The quick and simple bolt-together tilt mount hardware allows tilt at different angles or elevations. The EZ strut is factory cut and drilled to your tilt specs.

5

106 Donovan Drive
Alexandria, MN 56308

www.solarskies.com • 877-SOLAR-57 (877-765-2757)

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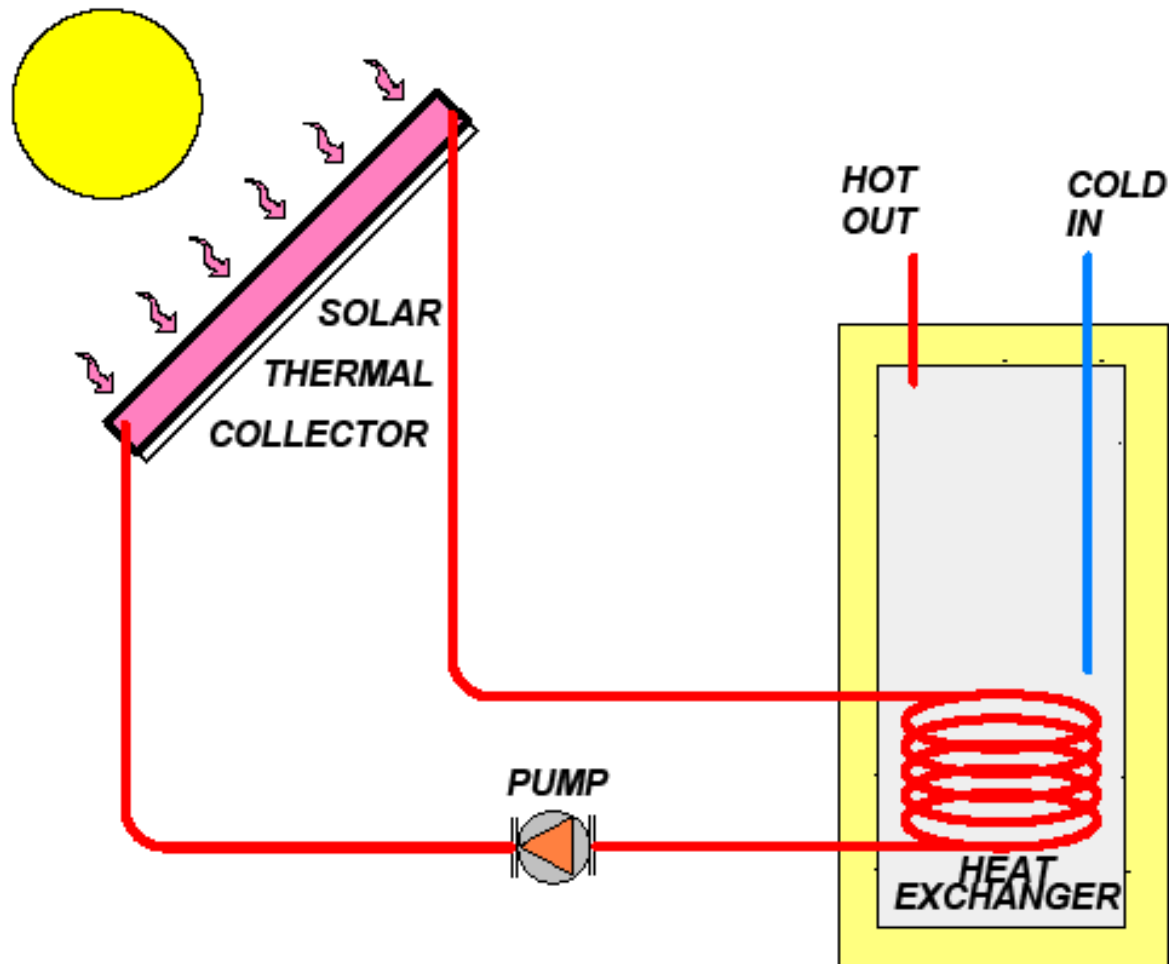
In addition to our high performance solar thermal collectors SolarSkies is proud to announce our new line of stainless steel solar storage and drain-back tanks

- US Manufactured Collectors and Tanks
- 10 year Warranty on Collectors and Tanks
- Commercial and Residential Solutions



Please contact us for all of your solar thermal needs. • www.solarskies.com • 877-SOLAR-57 (765-2757)

BASIC SOLAR THERMAL SYSTEM



Solar Thermal Opportunities



Residential



Commercial



Hospitality



Institutional



Education

Recreational

Healthcare



Agricultural



University of Minnesota, Morris Campus

University of Minnesota, Morris Campus

Solar Skies Mfg. Products Used

(32) Solar Skies NSC-40 4' x 10' North Star EZ Array Series Solar Collectors

Results

The project directly addresses the climate change mitigation goals at UMM. This system will offset the consumption of natural gas, typically used to heat the pool. This system will lower their carbon footprint by 15 tons carbon dioxide each year, provide 270MMBtu of heating and a \$2,700 natural gas cost savings each year. The project involved the entire community and it also involved students in the grant writing process.

Project Design: Craig Tarr, PE

Energy Concepts

2349 Wills Miller Drive

Hudson, WI 54016

715-381-9977



Ramsey County Law Enforcement Center



(35) NSC-40 4' x 10'
North Star EZ Array
Collectors

Project

The solar thermal project for this 379,000 square-foot building, which houses nearly 600 inmates and law enforcement officials, was funded by a grant to the City of St. Paul from the U.S. Department of Energy and the MN Department of Commerce through the American Reinvestment and Recovery Act of 2009.

Results

The solar collectors are generating 40% of the building's heat and hot water costs as well as reducing some 15 to 17 metric tons of carbon. The project is saving taxpayers money and helping Ramsey County put clean energy to use to further reduce the county's carbon emissions which is creating a cleaner, more sustainable county.





DISTRICT ENERGY ST. PAUL™



District Energy St. Paul was the first in the United States to integrate solar thermal into a district heating system. The 23,000 square foot system is comprised of 144 flat-plate collectors that can reach temperatures over 200° F. This allows the system to reach thermal peaks above 1.2 Megawatt and generate approximately 1000 Megawatt-hours of heat each year.

The US did not have the technology to build these absorbers, but that was then....

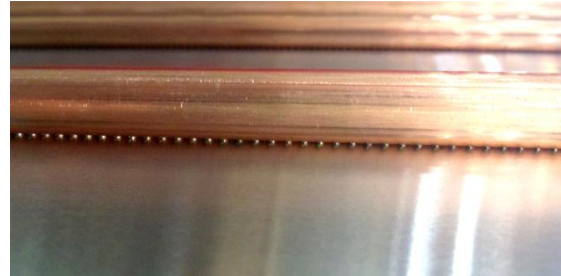
This is now...

New Laser Welding System



The **Only** Full Plate Absorber Welding System in United States or Canada!!!

Laser Welded Absorbers



Minnesota Made, World Class, State Of The Art Absorber Plates

So what is missing for solar thermal to thrive
in Minnesota???

EQUITY



SOLAR THERMAL MUST RECEIVE EQUAL INCENTIVE TREATMENT

7 Ways The Solar Thermal Industry is Laying the Foundation for Explosive Growth – Chris Williams, HeatSpring Learning Institute

1. Solar Thermal SRECs (a few states are recognizing thermal for recs)
2. State governments are backing the technology
3. Credentialing and training is growing
4. Financing options are emerging
5. Commercial solar and district heating
6. Product innovation decreasing costs and increasing reliability
7. Solar Cooling

WHITE PAPER

Solar Thermal Energy: The Time Has Come

William T. Guiney
DIRECTOR, SOLAR HEATING AND COOLING BUSINESS

Johnson Controls, Inc.



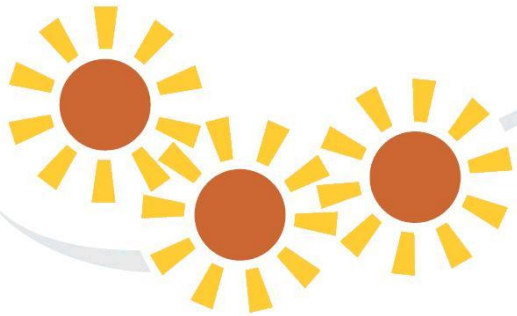
Solar heating, often overshadowed by photovoltaic systems, is the most cost-effective on-site renewable energy resource. It presents vast opportunity for public and private organizations to save on fossil fuels, cut costs, and reduce carbon emissions.

A commercial solar water heating system with 500 square feet of collector will displace the hot water generated by a small natural-gas-fired boiler, generating 2,281 therms per year and offsetting more than 26,825 pounds of CO₂. On a larger scale, solar thermal energy creates economic development and local jobs in manufacturing, installation, operations and maintenance.

Required Policy and Incentives to grow solar thermal industry

- Renewable Energy must remain incentivized
- **Solar thermal must receive equal incentive treatment**
- Solar Thermal must be recognized as an energy generation technology, not just an energy efficiency measure
- Solar Thermal must be considered as a way to meet part of our state's RPS
- MN's RPS must be increased
- Solar Thermal needs to be a part of any national RPS
- There needs to be long term financing mechanisms
- Pool heating should be eligible for any incentives

THANK YOU



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