

# Commercial Solar Hot Water Systems

## Businesses perfectly suited to solar hot water include:

- Hotels/motels
- Laundromats
- Hospitals and assisted living communities
- Apartment and condominium buildings
- Commercial kitchens
- Industrial facilities
- Health clubs, pools and spas
- Schools and government facilities
- Car washes and detailing operations
- Some farm and agricultural operations

If you are unsure as to whether or not your organization is a good match for solar thermal, or if you simply want more information, contact Resource Solar today.



## Equipment Financing

Through Resource Solar's financing affiliate Resource Solar can provide qualified corporate or public sector customers with a variety of equipment financing alternatives.

### Highlights of our financing program:

- Terms: Up to 7 years
- Fixed and variable rates available
- Financing can include equipment & installation costs.
- All terms and features subject to credit approval. Some restrictions apply.



## Incentives

In the State of Wisconsin, Focus on Energy provides cash-back rewards to commercial, non-profit, and governmental customers.

A 30% federal alternative energy tax credit (or cash grant in lieu of credit) can help customers defray costs. Some business owners could take advantage of corporate depreciation as well.

REAP (Rural Energy for America Program), offers grants and/or loan guarantees for the purchase and installation of renewable energy systems. Small businesses, farmers & ranchers must be located in rural areas to be eligible for REAP.

Resource Solar will work with your company to ensure accurate and timely completion of all applications required to obtain the maximum incentives available for your installation.

# Committed to Quality



Roof-mounted evacuated tube collectors

## A Full-Service Solar Company

We provide solar thermal energy system analysis, design, installation, maintenance, and repair services to commercial and residential customers.

We are proud to offer:

- State of the art design tools
- Highly trained professional installation crews
- Field tested and dependable equipment
- Long-term manufacturers warranties
- SRCC certified collectors
- Comprehensive five year installation warranty

## Exceptional Service

Why choose us? Not only are we passionate about solar technology and the future of our planet, but we also offer professional, quality service.

Resource Solar is proud to be an ally of Wisconsin's Focus on Energy program. For more information, please see [www.focusonenergy.com](http://www.focusonenergy.com).

## Custom Designed to Fit Your Needs

No two installations are alike. Yet many installers implement a "one size fits all approach," potentially compromising your system's energy production potential.

Resource Solar works with a variety of quality manufacturers to custom-design a system that's tailored to meet your individual needs.

## Experienced Professionals

Resource Solar has acquired significant hydronic space heating, as well as piping design and installation expertise via its unique relationship with E&W Heating and Air Conditioning, a company with over 50 years of experience based in Middleton, WI.

# Committed to Quality

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## Resource Solar Staff

### Accumulated Credentials:

North American Board of Certified Energy Practitioners (NABCEP) certified solar thermal installer.

Midwest Renewable Energy Association (MREA) Certified Site Assessor for Solar Domestic Hot Water

State of Wisconsin Master HVAC Technician

City of Madison A-4 Licensee, Installation and Repair of Solar Heating Equipment

State of Wisconsin Certified Dwelling Contractor

International Ground Source Heat Pump Association Accredited Installer

### **Greg Ward** *Director, Mechanical Systems*

As co-owner of E&W Greg has over 28 years of hydronic installation / design / service experience and holds all HVAC and Solar licenses required by the city of Madison and the state of Wisconsin. Greg is a North American Board Certified Energy Practitioner in the field of solar thermal installation. As the NABCEP.org website states: NABCEP is the "gold standard" for PV and solar thermal installation certification.

### **John Young** *Chief Financial Officer*

John has worked for Credit Suisse in London, Tokyo, and New York where he was a managing director. He has been involved in the Madison-area real estate industry for the past 9 years. John has an MBA from the University of Chicago and an MSC from the London School of Economics.

### **Mike Ward** *Director, System Design*

Mike is co-owner of E&W Heating and Air Conditioning, a family owned business in continuous operation since 1956. E&W has designed and installed large-scale hydronic heating systems in Wisconsin and Illinois. Mike has thirty years of hydronic experience.

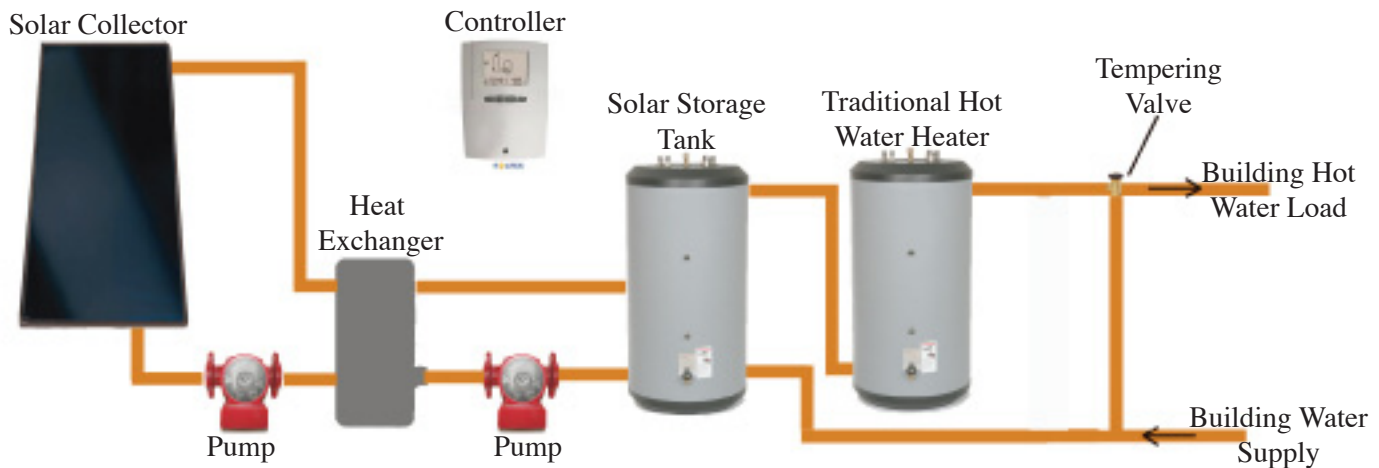
### **Adam Chern** *Project Manager*

Adam is also a managing partner of Accipiter Properties, a Madison-area real estate development and property management company. Adam has helped lead both residential and commercial re-development projects. Adam is also a State of Wisconsin Certified Dwelling Contractor, and a MREA certified solar thermal site assessor.

### **Mark Daugherty** *Chief Technical Officer*

Mark's experience includes: President and CEO of SolRayo LLC, CEO of Virent Energy Systems, Chief Scientist of Enable Fuel Cell, and Project Manager at Los Alamos National Laboratory. Mark has an MS from the UW-Madison Solar Energy Lab, a Ph.D. in Mechanical Engineering from UW-Madison, and a J.D. from Boalt Hall School of Law at UC-Berkeley.

# Solar Technology

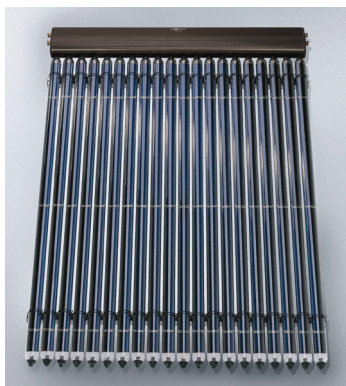


## Typical Solar Hot Water System

Systems usually include collectors to gather sunlight, pumps, storage tank(s), and a heat exchanger to transfer energy from the solar fluid (a non-toxic glycol-based antifreeze) to the pure water, which resides in the tanks. Copper pipe is used to plumb the system and to move the solar heated water to the load. For space heating, industrial, or commercial systems, various configurations are used depending on the application and load profile.

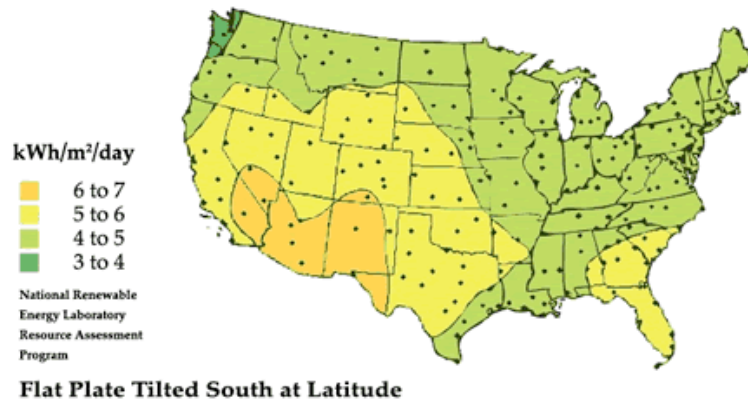
## Solar collectors are a key part of the system.

Resource Solar only uses collectors that are certified by the Solar Rating and Certification Corporation (SRCC), which tests for durability and performance. In addition, the SRCC provides the collector efficiency data we use to properly design installations for our customers.



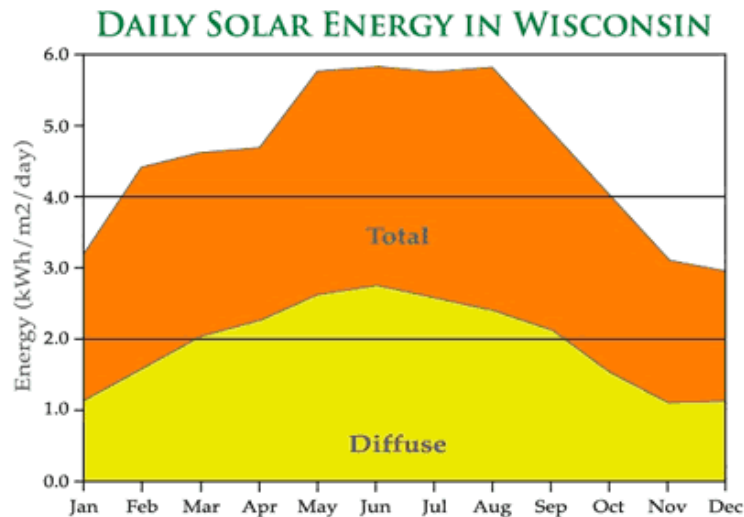
# Solar Technology

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## Annual Solar Radiation

The annual radiation reaching the surface depends on location and climate conditions. Annual average values are well known for all locations in the United States. Most of the continental United States has a very good solar resource. To put things into perspective Germany, which currently produces about 57% of the world's solar power, has an average solar resource similar to Seattle.



## Daily Solar Energy in Wisconsin

The available solar energy at any given location is well documented. The data in the figure above is for Madison, Wisconsin. Resource Solar uses this type of data in our computer models when we design systems. While the day-to-day variations in weather are significant, annual averages are actually quite consistent. We can therefore reliably determine average annual energy gains for a solar energy system.



[www.resource-solar.com](http://www.resource-solar.com)