



SolarRoofs.com Inc.

The Solar Water Heating The Innovation Leader



The Founder:



When founder and President Al Rich went into the solar business 27 years ago, he was determined to provide a high level of service and quality solar water heating products to his customers. His motto, Quality Value and Integrity Since 1979, is as strongly adhered to today as it was when he founded "AC Rich & Sun" in 1979. SolarRoofs.com grew out of this company.

Al is a Nationally Recognized, DOE Award Winning solar Inventor with 4 Patents. He has been featured in the "Bee" Business Section and the Business Journal's "Streetwise" section. He donated and installed a "Skyline 20-01" Solar Water Heater on the North Area Teen Center in Carmichael, CA in 1999. He has been a speaker on solar to schools, and other organizations.



He was one of less than 580 out of over 30,000 applicants to be recognized by a coveted DOE Energy Related Inventions Program (ERIP) Grant. He was a consultant and lecturer on Inventors at the University of Virginia under a Leadership, Science and Humanities Program Grant from National Science Foundation.



Al was the first in the Nation to receive the national Solar Rating and Certification Corp. (SRCC) OG300 ratings on his solar systems.

He was a consultant and contractor to: Rockwell International's Energy Technology Engineering Center, Solar Energy Research Institute

for DOE, National SEIA, and SANDIA National Laboratories; assisted in US Senate Subcommittee Hearings. He installed a White House "Pageant of Peace" PV system

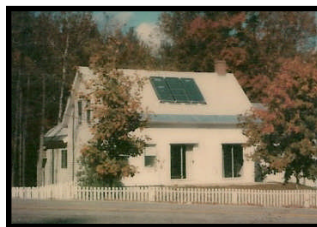


Whitehouse Pageant of Peace, 1987
Al Rich with Scott Sklar, Executive Director of SEIA for 15 years.

in 1987 with the Solar Energy Industries Association and was the consultant to "PrimeTime Live" and Greenpeace on the Whitehouse "Solar Gate" story.

Al chose to focus on solar domestic water heating because of their greatly superior cost effectiveness. Water heating is the single most underrated cause of unnecessary, high-cost energy consumption and pollution in the world.

He saw that solar water heating systems needed dramatic improvements. SolarRoofs.com's water heaters mark the advent of exceptionally appealing, and cost-effective solar water heating technology. No other solar water heating products come close to matching its flexibility, architectural attractiveness, and ease of installation. These features give it an important advantage over its competition.



Al's First System was installed for Mrs. Edwards in Chocorua Village, NH in 1979

Little Know, But Important Facts!

The Florida and Hawaii State Energy Offices Estimates that the Average All Electric Home Uses **30%** of it's Total Electric Energy Just to HEAT WATER!

In One Year, Most Families Water Heaters Use More Energy Than Their Family Car!



Installing A Solar Water Heater May Be Like Increasing Your Gas Mileage by **65%+** +or more.

1st Invention, 1980



Al's first invention was a passive Freon 114 double heat exchanger unpressurized plastic 90 gallon storage tank that faithfully provided hot water for the farm hands at New Alchemy Institute in Cape Cod, MA.

Solar Thermal Power is now being Measured in kWh:

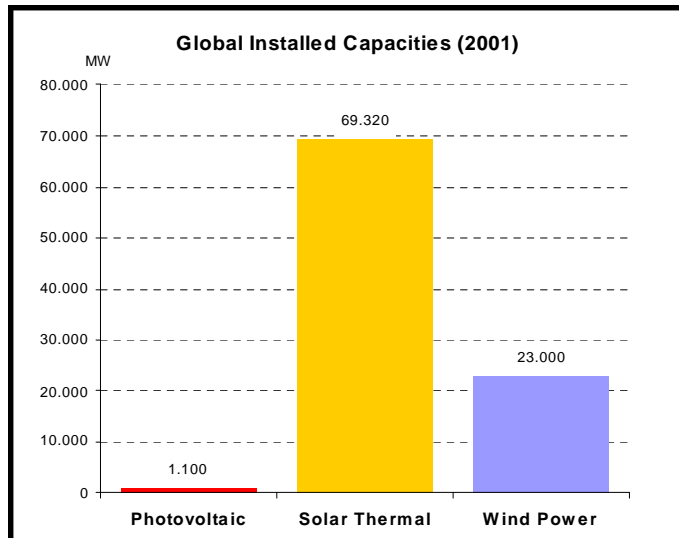
Solar Thermal Power has far more potential than ever thought, it is truly Renewable Energies Unsung Hero!

The International Energy Agency's Solar Heating and Cooling Programme (IEA SHC) and several major solar thermal trade associations agreed upon a methodology to present the installed capacity of solar collectors in GW_{th} .

This makes it possible to compare the installed capacity of solar thermal collectors with other renewable sources. The absence of such a methodology prevented the energy output from solar thermal collectors from being included in many official statistics on renewable energy.

The definition that was chosen is similar to that for photovoltaic modules and is $0.7 \text{ kW}_{\text{th}}$ per m^2 of solar collector area for all collector types.

Using this conversion factor, the installed capacity of solar thermal systems was calculated, based on the data from the IEA Solar Heating and Cooling Programme for solar thermal collectors. They are compared with the capacities of photovoltaic and wind power as published in UNDP's World Energy Assessment.



Compared in kWh to PV and Wind, Solar Thermal has more than Double the Installed Capacity!

Solar Thermal Water Heating: The Low Hanging Fruit:



Solar Water Heating Has 4 to 5 Times the Power Density of PV!

An average 40 S/F Sky-line solar water heater

produces thermal energy in an amount equal to the energy of a 2 kW Photovoltaic (PV) system at a fraction of the cost.

Solar water heating is the perfect complement to a Photovoltaic system because it doubles the energy output of an average 2kW system, at a fraction of the cost!

The Market IS Enormous!

Current trends in worldwide government policies indicate that the solar water heating market stands to emerge as a \$30 to over \$100 billion market. The majority of hundreds of millions of homes and buildings in most areas of the world represent opportunities for needed solar water and/or space heating systems. This represents an enormous market for the company's advanced cost-effective current and future products.

SolarRoofs Inc.'s field-tested, highly flexible Roll Formed design offers a cost effective and more marketable approach to meeting the various national and international solar water heating needs.

In Europe, Israel, Japan, China as well as other countries solar thermal manufacturing companies are running their production at full capacity and expanding to keep up with the ever increasing need and demand for product.



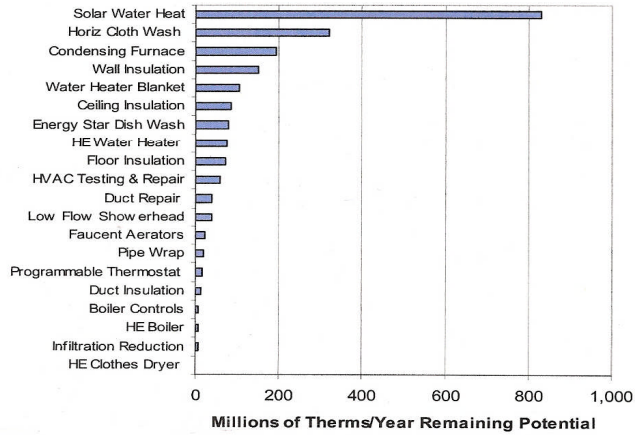
Above Al Rich is training 7 LA Community Agency's to install Skyline solar systems



PG & E Found Solar Water Heating By Far Had The Greatest Potential To Reduce Natural Gas Consumption:

SECTION 7 NATURAL GAS TECHNICAL AND ECONOMIC POTENTIAL RESULTS

Figure 7-5
Residential Gas Energy Savings Potential by Measure



SolarRoofs.com's
Attractive and easy to
install solar water heaters
are a perfect solution to
cost effectively reduce
natural gas consumption
and pollution.



MISSION

SolarRoofs Inc.'s mission is to develop and cost effectively supply the latest solar water heating technology around the world. The company is driven by a strong commitment to environmental stewardship and reducing environmental pollution by greenhouse gasses. The company's mission includes a very strong commitment to Excellence in all aspects of its business. This includes a strong dedication to out-innovating its competition, providing a superior financial return to its investors and having an exceptionally good relationship with its employees.



1986 - 2006, Founded ACR Solar International Corp. and subsidiary, SolarRoofs.com, Inc. in 1997 to R & D and manufacture the "SolarRoofs" solar heater and develop other Patents and designs.

- Awarded U.S. Patents for the SolarRoofs "20-01" in 1999 and on the MegaMat in 2000.
- Designed high efficiency UP44T drain-back storage system, passive and attractive "T20" thermosyphon solar water heating system with and the corrosion proof "Islander" solar water heater.
- A second Patent on the unique collector venting system was Granted in Sept. 1994.
- One of less than 580 out of over 30,000 applicants to be recognized by the DOE Energy Related Inventions Program (ERIP). A \$99,294 Grant Award was made in Sept. 1993 for further research.
- Consultant and Lecturer on Inventors at the University of VA under a Leadership, Science and Humanities Program Grant from Nat. Sci. Foundation and Nat. Endowment for the Humanities, 5/93.
- Moved ASN, ACRS and family to Carmichael, CA in Dec. 1992 to fully participate in the Sacramento Municipal Utility District (SMUD) Solar Program created by S. David Freeman.
- Won both SMUD "Auditor Program" bid rounds for \$629,250 in total Contracts in 1993.
- Secretary of the Sacramento Chapter of the Nat. Solar Energy Industries. Assoc. (SEIA)
- ASN won DOE National "Award for Energy Innovation" with state of NH. (10/92)
- First in the Nation to receive national Solar Rating and Certification Corp. (SRCC) OG300 ratings.
- Consultant to GreenPeace and PrimeTime Live on Whitehouse "Solar Gate" story, 1990.
- Completed 27 unit HUD contract in Norton, VA at record low cost, 1992 (under \$2,000 per unit).
- Founder and President of American Solar Network, Ltd., Herndon, VA in 1988, a socially responsible, innovative technology company which manufactured the solar "SKYLITE" water heater.
- Invented, Patented, Prototyped and Manufactured the award winning solar "SKYLITE"tm water heater in 1988, the only truly attractive, skylight appearing solar system manufactured in the world.
- Member: Solar Energy Industries Association (SEIA); International Solar Energy Society (ISES); American Solar Energy Society (ASES); American Society of Heating, Refrigerating and Air-Conditioning Engineers, (ASHREA); International Association of Plumbers & Mechanical Officials (IAPMO), Northern California Solar Energy Association.
- Consultant and Contractor to: Rockwell International, Energy Technology Engineering Center; Solar Energy Research Institute for DOE; National SEIA; SANDIA National Laboratories.
- Assisted in US Senate Subcommittee Hearings, Installed White House "Pageant of Peace" PV system.

1981 - 1985, District Manager for SEARS Solar, (American Solar King) Herndon, VA branch; developed top producing SEARS Solar branch in the nation with \$2.5 million in sales and 53 employees, Produced nationally implemented marketing program, demonstrated excellence in management, team building, motivation and profitability. (83-85) - President, Cambridge Alternative Power Company. (81-82); Chairperson of the New England Solar Energy Association (NESEA) Bay Chapter Solar DHW Committee; Speaker for NESEA on Solar DHW, at MIT, Cambridge, MA; Member, Gov. Dukakis Energy Advisors Committee; Member and organizer, Earth Day Committee, Boston, MA; Entrepreneurship speaker and Entrepreneurship Case Study at Babson College, Wellesley, MA. - Consultant and trainer for companies entering Solar, Held professional sales and installation seminars.

1977 - 1981, Founded of AC-Rich & SUN, R&D, sales, consultation, installation, service, and training for solar domestic water heating and pool heating systems and PV in (1979).

- Marketed & Improved Heliophase, a unique, freeze-proof, passive solar DHW system, (1979-82).
- Installed first two solar systems for the U.S. Navy at the Indianhead, MD Navel Ordinance Station, (1980).
- Member Board of Directors, NH Solar Energy Association, (1980-81).
- Studied Solar under Bruce Anderson, author of "[The Solar Home Book](#)", 1979.
- Member: Senior Environmental Seminar; Planner: "Living Lightly" Lifestyles Conference; Installed Solar Thermal Air Panels (TAPs); founded "Think Tank Table". (Principia College, 1978-79)
- Studied solar, methane gasification, composting, and water rams at New Life Farm, Drury, MO (1978-79)
- On install team for "Trickle Down" pool heater, Adventure Unlimited Camps, Buena Vista, Co. (1977)

Personal: Born 2/8/50, Wife: Susan, Children: Ashley 19, Katherine 16, Clark 15, Thomas 8; Ed: Principia College, Elsay, IL. BA 1979; Special Studies Major: Political Science / Research Processes, Environmental Studies; Hobby: Antique / Special Interest Autos; Sport: Water-skiing.