CAHI™ CONNECTICUT ASSOCIATION OF HOME INSPECTORS, INC.

MONTHLY

News and Views from the Connecticut Association of Home Inspectors, Inc. August 2008

Inside this Issue

Meeting Dates

August ***Vacation Month***
No Meeting Scheduled

Sep 24 ***Hazardous Building Materials*** **- Erik R. Plimpton, PE, CHMM, TRC, Environmental Corp.**

Holiday Inn
201 Washington Ave
North Haven
(203) 239-6700

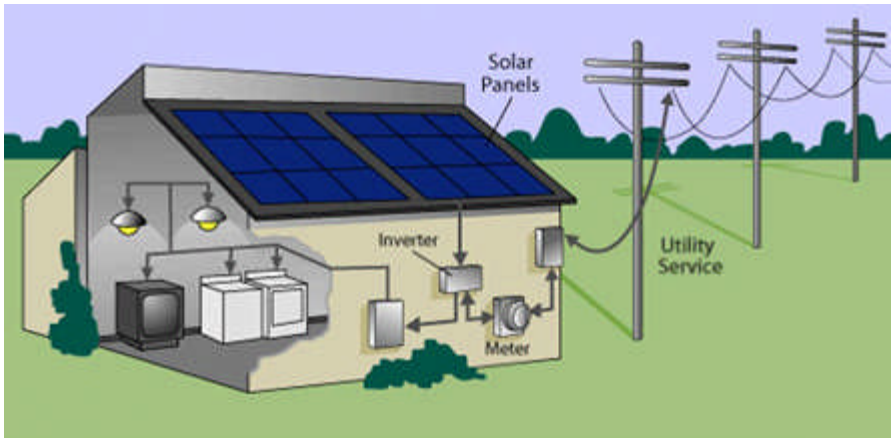
Solar Thermal, Photovoltaic (solar electric) & Daylight Harvesting

by Elizabeth Saede of L S Remodeling & Michelle Herbert of 1st Light Energy

Free Energy! With skyrocketing energy prices there are lots of reasons to consider renewable energy options. After years of having cheap energy U.S. residents, especially here in the Northeast, are finally interested in the types of sustainable systems that are commonplace elsewhere in the world. State & Federal money is available to help make these more attractive & affordable options. Some homes & businesses have been using this technology for years. Here are a few ways we can utilize the reliable power of the sun.

How Solar Works

Solar energy is the energy of the sun. Without it, life would not exist on our planet. We use the sun's energy every day in many different ways. When we hang laundry outside to dry in the sun, we are using the sun's heat to do work, plants use the sun's light to make food, and decaying plants hundreds of millions of years ago produced coal, oil, and natural gas that we use today. So, even the fossil fuels that you use today are actually sunlight stored millions and millions of years ago.



Solar Thermal

The sun heats up liquid in collectors that have been placed on a flat or pitched roof or on the ground. The controller pumps that hot liquid into the water tank where the hot liquid element heats up the water in the tank & makes it available for household use. For most of the year, additional power will be needed to heat the water to optimum use temperature. Unless installed with the original house, most solar thermal systems are designed to supplement rather than replace the current hot water system. A

(continued on page 5)

President's Corner

Bernie Caliendo

It appears to be a long, slow, hot summer. On July 23rd we had a great dinner and presentation from Larry Janesky at Basement Systems in Seymour. Larry is a prime example of someone who is innovative, a truly successful entrepreneur. Someone who not only takes pride in his accomplishments, but also is proud of his company and employees. His insight into being as diverse in all aspects of his company's products, services, promotions and innovations is truly amazing. We want to thank Larry, Julie, Dan and all the staff who contributed to our great tour, dinner, presentation and handouts!

This fall the CAHI board will be met with new challenges and a new administration to lead the organization through these tough times. There will be 2 vacancies on the board and these positions must be filled. The workload has dramatically increased over the last 8 years. Being able to have a full board can greatly relieve the stress. A full board helps distribute the tasks that must be performed to keep CAHI the leader in continuing education, information and membership benefits, including free seminars and trips. This is why I am asking for your help. We need a couple members to step up to the plate and volunteer to serve on our board to help keep the workload to a minimum. There really isn't that much to do when everybody pitches in to perform the tasks that are assigned to them.

WE NEED YOUR HELP NOW!

Anyone interested in serving on the board, please contact me personally at 860-285-0332 for further details so at our September nomination & election meeting the board can review your credentials and consider electing you to serve on the board. This is a voluntary position which does come with some personal satisfaction of making a difference in helping your organization grow and prosper. Officers and directors are listed in the newsletter, on our web site, and receive CAHI business cards with their name on them. They are able to not only promote their own business, but also state that they are a director or officer of CAHI. So don't wait, call me!

Thanks in advance!

Bernie

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH
REGULATORY SERVICES BRANCH
Environmental Health Section
Radon Program

Memorandum

DATE: 7/31/08

TO: Radon Measurement and Mitigation Professionals

FROM: Francesca Provenzano, Health Program Supervisor
CT Department of Public Health
Radon Program

RE: Radiation from Granite Countertops

We have been receiving numerous telephone calls from concerned citizens regarding granite countertops emitting radiation and/or radon in their homes. When communicating with such individuals, please remember that the potential for exposure to radon gas being emitted from granite countertops is most likely quite low. Although there may be some risk of exposure, it is quite minimal when compared to other sources of radon in the home. I do realize that you will be receiving calls from people who want their countertops tested. Please use this as an opportunity to educate clients about radon and its health risks. We can all work together in reducing people's exposure to radon in their homes from typical sources - radon from soil gases and water.

In order to uniformly respond to inquiries, the Connecticut Department of Public Health (CT DPH) Radon Program is providing the following guidance on how to approach radon evaluation in homes where granite countertops are present.

According to EPA protocols, the evaluation of radon gas should not occur in bathrooms or kitchens because of atypical air movement (e.g., ventilation hoods) and humidity. Kitchen and bathroom areas are also where granite countertops are frequently located in a home. Radon being emitted from granite is not a new phenomenon. Therefore, when one is testing a home for radon, one should *not* place a test device on or near a granite surface. No useful information will be obtained from testing a countertop utilizing a radon measurement device. Rather than conducting a test of countertops, for which there is no guidance or actionable level of concern, consider conducting a full home evaluation for radon sources. Take a tiered approach in evaluating and reducing the sources of radon in a home. Through a process of elimination, you will determine whether or not the countertops are the primary source of radon in a home, and a health risk for the homeowner. Countertops are most likely not a primary source of radon.

To perform a full home radon evaluation to determine all potential sources of radon in the home consider the following:

- Test the finished basement of the home, and first floor of the home utilizing approved radon test devices. Do not test in crawl spaces or other areas of a home that would not be evaluated under normal circumstances. The results of your testing should indicate whether the primary concern for radon gas in a home is from soil gases or other sources such as water (or potentially countertops); and

(continued on page 4)

(continued from page 3)

- If the home is served by a groundwater source (i.e., private well), collect two samples of water according to established CT DPH protocols, and submit them to a laboratory approved by the CT DPH for analysis; and
- If the client is adamant, you may locate a test device on the countertop, but please indicate to the client that the results will provide no useful information, and that the added cost for obtaining such results will not be helpful to them in determining risk.

Once you obtain the radon test results, meet with your client to explain the sources of radon in the home, and advise your client on what actions will lead to reduced risk. With regard to testing the countertops, please realize that the results will not readily translate into exposure or risk for occupants of the home. The result will not provide conclusive evidence or information for a client to make an informed decision about reducing risk. When elevated levels of radon are found due to soil gas and water, please inform your clients of the appropriate treatment methods so that they can substantially reduce their risk for developing lung cancer.

Convey the following information regarding elevated radon levels in air and water as follows:

- If test results for radon in the air (using established protocols) are at or above the action level of 4.0 pCi/L in the basement, then the traditional methods of treatment should follow. The most effective treatment for radon from soil gases is typically the installation of a sub-slab depressurization system. Post-mitigation test results should be below 2.0 pCi/L.

- If the average of two results of radon in water is at or above 5,000 pCi/L then appropriate treatment of the water should follow. Treatment methods for reducing radon in water include installation of a granular activated charcoal filtration system (for levels between 5,000-10,000 pCi/L) or installation of an aeration system (for levels exceeding 10,000 pCi/L).

After a sub-slab depressurization system has been installed, re-testing in the basement, and living area should occur. Post-treatment samples of water should also be collected and analyzed to ensure that the water treatment system is operating properly. By testing in all of these locations, the client will better understand his or her exposure and risk. Ideally, post-mitigation test results will be low in all of the locations in the home (i.e., basement, first floor, and water). You and your client should be able to conclude that the countertops are not contributing to the home's burden of radon gas.

If post-mitigation results indicate that radon has been effectively reduced in the basement and water, but the first floor living area still yields elevated levels of radon, then the countertops may be the source of radon. If this occurs, have your client contact the CT DPH Radon Program at (860) 509-7367 for further guidance.

Phone: (860) 509-7367
Telephone Device for the Deaf (860) 509-7191
450 Capitol Avenue - MS # 51RAD
P.O. Box 340308 Hartford, CT 06134
An Equal Opportunity Employer

In memory of fellow member Dennis Sullivan

It is with deep regret that we inform you that our friend and fellow CAHI member Dennis Sullivan passed away on Thursday, July 31st. We send our deepest sympathy to his family and friends, including his business partner Richard Rainier at Castle Inspections in Seymour. We will miss his deep voice and warm smile!

TORRINGTON — Mr. Dennis M. Sullivan, 56, died Thursday, July 31, 2008, at Charlotte Hungerford Hospital.

Mr. Sullivan was born June 4, 1952, in Torrington, son of the late William T. and Margaret (Whittemore) Sullivan. Raised in Thomaston, he attended local schools.

He was the co-owner of Castle Inspections in Shelton. He was an avid motorcycle and race car enthusiast. He enjoyed reading and music and will be missed.

He is survived by a daughter, Emily Sullivan of Thomaston; two brothers, Thomas E. Sullivan of Salem, Ore., and Mark J. Sullivan of Watertown; a sister, Margaret S. Sullivan and her husband, Ray, of Watertown; a special friend, Leigh Bogel of Winsted; a nephew; a niece; and a great-nephew. He was predeceased by his partner, Kathleen Bilcz.

(continued from page 1)

typical system will provide for 50%-80% of a household's hot water needs (more in the summer & less in the winter). Solar thermal has been well integrated into many households in Europe & China where energy costs have been high for decades and is just starting to gain momentum in the United States.

Old, ugly panels still dot roofs around New England but the new solar thermal technology is more efficient & much more attractive.

*** Old solar panels may still be working but leaking may occur where the frame is attached to the roof. A licensed HVAC contractor who is knowledgeable about these old systems may be difficult to find.

*** Because of corrosion, most hot water tanks are warranted for 5 years while the new solar panels may last well beyond their 20 year warranty.

*** For more information on the VELUX solar thermal system go to www.VeluxUSA.com

Photovoltaic (Solar Electric)

A PV (Photovoltaic) Electrical System harnesses the energy of the sun. PV modules (panels) are made up of photovoltaic cells, and function like calculators. PV modules are then grouped together on a roof or ground framework facing South (ideally) to capture the sun's energy throughout the day. This energy can then be converted from DC to AC to directly power a home, school or commercial building.

The photovoltaic effect was first recognized in France, in 1839. Modern PV technologies were developed in the mid 1950s & many systems are still working well 25+ years after installation in the U.S. and around the world.

In summer months you may produce more electricity than you use. This electricity goes back into the utility

(continued on page 6)

(continued from page 5)

grid and will be credited at retail value to your account. In the winter months or on cloudy days you will produce less than you are using & will use your credit with the utility company. If you purchase a system to cover 100% of your projected use (based upon previous year's utility bills) over the course of a year you and the electric company should even out if your power use remains steady from year to year.

A solar system using batteries for storage can "ride-out" utility blackouts. Batteries add significantly to the expense of a system but most need weekly maintenance and replacement every five to ten years.

*** Battery back-up systems that are not tested frequently may fail. It is important for the homeowner to follow manufacturer's instructions to ensure that battery system is functional when needed and to validate warranties.

Environmental Benefits

Installing a PV solar system will have some of the most immediate and significant impacts on our environment.

- Eliminate thousands of pounds of CO2 emissions (the largest contributor to green house gasses causing global warming)
- Eliminate other forms of deadly toxins (SO2-Sulfur Dioxide, NOX-Nitrous Oxide the two primary causes of Acid rain)
- Ensure that future generations will prosper in a clean and beautiful environment
- The average residential PV system is equivalent to planting 1 1/2 acres of new trees
- Clean the air we breathe, helping to curb the growing number of youth diagnosed with Asthma

Standard Output Modules							
System Size in DC Watts		3,060 Watts	4,080 Watts	5,440 Watts	7,480 Watts	8,160 Watts	9,860 Watts
	Calculated in:	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Yearly Environmental Benefits	Carbon Dioxide pollution	6433.71	8578.29	12,010	15,013	15,013	20730.86
	Sulfur Dioxide pollution	17.61	23.48	33.0	41.2	41.2	56.75

*** For more information go to 1stLightEnergy.com or BPsolar.com

The Problem

The average American generates about 15,000 pounds of carbon dioxide every year from personal transportation, home energy use, and from the energy used to produce all of the products and services we consume.

The United States, with only four percent of the world's population, is responsible for 22% of the world's greenhouse gas emissions.

"Across the country, the rising cost of fuel is changing the way we live, work, and run our businesses" - *MSNBC.com*

"As part of its research, the Intergovernmental Panel on Climate Change (IPCC), a United Nations sponsored organization made up of over 2500 of the world's leading scientists, examined the impacts global warming will likely have on human health. They concluded that human-induced climate change "is likely to have wide-ranging and mostly adverse impacts on human health, with significant loss of life….Malaria. Dengue Fever. Encephalitis. These names are not usually heard in emergency rooms and doctor's offices in the United States. But if we don't act to curb global warming, they will be." -

(continued on page 7)

(continued from page 6)

Sierra Club

"By the early 1990s, electricity rates in California were on average 50 percent higher than the rest of the U.S. In 1995, the state legislature unanimously passed a bill to open the industry to competition, but now consumers are paying almost twice the rate they did before deregulation, and suffering rolling blackouts." – *PBS*

The Solution

"Enough sunlight falls on the earth's surface every hour to meet world energy demand for an entire year."

"The energy provided by PV solar systems is delivered to the customer and to the grid during the peak demand. Therefore it means that there is a less significant strain on the local grid due to the consumer producing their own source of power as well as supplying power to the grid for their neighbors to use. By doing this, PV Solar systems help to stabilize the grid, leading to greater security, and fewer blackout and energy crises."

"Since the burning of fossil fuels releases large amounts of carbon dioxide—the leading cause of global warming—but renewable energy does not, increasing the share of our electricity generated from renewable resources is one of the most effective ways to reduce global warming emissions." - *Union of Concerned Scientists*

"A rapid transition to energy efficiency and renewable energy sources will combat global warming, protect human health, create new jobs, protect habitat and wildlife, and ensure a secure, affordable energy future."

Daylight Harvesting in Commercial, Educational or Retail Buildings

Digital photo sensors detect daylight levels and automatically adjust the output of electric lighting to create a balance & save energy. Studies indicate that this may reduce electric lighting by as much as 84%, especially when combined with energy-efficient skylights. Multiple studies show that natural light improves concentration & performance in schools, offices & manufacturing facilities. In retail settings, shoppers spent more time & money in stores with natural lighting. Commercial Sun Tunnels provide an economical way to bring natural light indoors and are designed to work perfectly with suspended ceilings, blending in with existing fluorescent light panels.

*** Electrical controls and skylights should be checked annually.

*** To read about these studies & to see photos of LEED certified buildings go to www.Lutron.com

*** For more information on the commercial VELUX Sun Tunnel go to www.VeluxUSA.com

Skylights & Sun Tunnels

Skylights can provide free natural light to transform any room or building into a more comfortable & attractive place. Skylights may also be vented electrically or manually to provide fresh air & exhaust stale or hot air. VELUX, the premier skylight & sun roof expert, offers a wide array of manual, electric and solar-powered shades to control light, heat, and energy costs. The programmable remote control is easy to use and works on up to 6 skylights or shades at a time.

The VELUX solar powered remote control light block shade has an aluminum coating that acts as a heat barrier during the hottest days and retains the building's heat during cold nights. And no wiring is required. These have 5 year warranties and pay for themselves in comfort & energy savings.

Sun Tunnels are an economical way to add natural light when ventilation is not required. During the past 20 years hundreds of companies have manufactured skylights but only a handful are still around to back up their warranties. Plastic bubble skylights and many of their poorly made glass cousins waste energy and leak.

VELUX is the original roof window/skylight company and continues to manufacture & service the most attractive & energy efficient residential & commercial skylights and accessories in the industry. Commercial skylights in New England are commonly installed on raised curbs to prevent leaking.

*** Any skylights over 10 years old should be inspected carefully. Unless raised on a curb, most need a minimum 3/12 pitch. Leaking may occur due to age, seal failure or incorrect installation. The average commercial warranty is 20 years while residential warranties range from 10-20 years.

(continued on page 8)

(continued from page 7)

*** Skylights that are installed properly at the correct pitch do not leak unless they are past their functional life.

*** For more information & photos please check out www.VeluxUSA.com

More homes, schools, businesses & individuals are embracing this technology in an attempt to control long-term energy costs. It is a paradigm change in the way we look at the quality of our lives and the environment around us. We install all of these technologies because each one has a great track record of saving energy & money.

If you would like to contact us about any of this please contact us at Michelle@1stLightEnergy.com or Elizabeth@LSRem.com.

Contact CAHI

75 Pond View Circle
Beacon Falls, CT 06403

E-mail: info@ctinspect.com
Web: www.ctinspect.com

Artemis
Publications
DCaliendo@ArtemisPublications.com