FALL 2012

THE MAINE SUN

NEWSLETTER of the Maine Solar Energy Association

MESEA now an Official ASES Chapter

It's official, the Maine Solar Energy Association is now an Official Chapter of the American Solar Energy Society. We have received the notice that we qualified and have been accepted by the ASES board of directors. We still have a working relationship with the Northeast Sustainable Energy Association (NESEA) but as an Affiliate rather than a NESEA Chapter.

This new status brings a number of benefits, MESEA gets to send a Chapter Representative to the Chapter Caucus held every year as part of ASES's Annual Meeting (which is in Baltimore this coming April). There is normally a stipend to cover travel expenses and free registration to the entire ASES conference, but since ASES has very little money right now, the stipend might be smaller this coming year.

With this new status come responsibilities. MESEA barely qualifies because of the small size of our paid-up membership and the even smaller number of our members who are ASES members. You can help here: If you are not among the handful of currently paid up members, **please renew your membership.** You will find our membership form on page 7 of this Maine Sun and the cost of an ordinary membership is still only $25 per year. Also please consider a membership in ASES, which costs $39 for the basic yearly membership. We need to show that MESEA is working to build ASES membership in Maine. Please join us and help us bring solar energy to Maine.

Grid-Intertie passive solar home in Falmouth, Maine. The Maine Solar Tour has many homes like this.

October 2012 Maine Solar Tour

By Richard Komp

This year the **Maine Solar Tour**, which is part of the **National Solar Tour** organized by the American Solar Energy Society (ASES) is (mostly) on Saturday the 6th of October, the day ASES has stipulated as the preferred day for their National Solar Tour. However, the Northeast Sustainable Energy Association (NESEA) decided to have their **Green Building Open House (GBOH)** on the following Saturday, the 13th of October, since they felt that the earlier date conflicted with the weekend that this year we commemorate the day that America Discovered Columbus. This has led to some confusion in the list of homes and places we have lined up this year for our Maine Solar Tour. In the list of homes starting on page 4, I have indicated in **Boldface** those tour sites that will be open for visiting on the 13th.

The five Tours we have are free and have homes in all parts of Maine, as well as many different kinds and styles of homes and buildings. In places like Falmouth, we have very elegant solar homes while in Downeast Washington county, there are examples of off-grid, owner-built homes that were constructed for very little money. The relaxed style of the tours let you spend as little or as much time with the homeowners, who are quite proud of their solar accomplishments and can give you a lot of practical information on what it is like to live with the sun.

NESEA is getting further away from a renewable energy organization and for next year their event will be called the Building Energy Tours. Even now, many of their Green buildings have no solar input at all, but are designed with maximum levels of conservation in mind. I am hoping that NESEA will include some solar work in their agenda and still serve as a place where renewables are showcased.

Inside

The Maine Sun

Newsletter of the Maine Solar Energy Association

The Maine Sun is published four times a year by the Maine Solar Energy Association (MeSEA), a non-profit organization (sister chapter to the North East Sustainable Energy Association).

Our Mission:
We are dedicated to promoting the public awareness and use of:

- solar energy
- energy conservation
- other renewable non-polluting energy sources
- environmental and health awareness building practices throughout the state of Maine

The Maine Sun welcomes articles, submissions, photographs, and letters. Please send editorial materials to the following address: MeSEA P.O. Box 184 Harrington, ME 04643
Phone: 207-497-2204
E-mail: mainesolarenergyassociation @gmail.com
Website: www.mainesolar.org

Printed on recycled paper with soy-based inks.

Calendar of Events
MeSEA Website WWW.mainesolar.org

Maine Solar Tour is Saturdays October 6th and 13th - Page 4

Using Solar Energy in Maine

By Richard Komp

Solar energy is a very viable option in Maine. Although we don't have the amount of sun that the Sunbelt has, we have more than enough sun year-round to furnish most of our energy needs. In fact, Maine gets more sunlight in the winter than Massachusetts does, because of the polar high pressure giving us many days of clear, cold skies.

The cheapest way to heat water for your home or business in Maine is a solar water heater. The Maine Solar Energy Association (MESEA) has developed a simple design that can be built by the homeowner, with all the parts available at the local building supply company. While this design is not Certified and therefore doesn't qualify for any state or federal tax credits, the cost of the finished solar system is cheaper than the commercial, Certified systems even after the tax credits are taken into account. The low temperature need for domestic hot water systems is easily attained with these systems without the need for exotic materials.

A number of the MESEA members live "off the grid" with photovoltaic (PV) solar electric systems. The price of these systems has dropped substantially over the last couple of years so the systems are a viable alternative to paying for the extension of the utility grid to these remote homes. For people on the grid, the lower price of a professionally installed grid intertie PV system now makes it available to just about everybody in Maine. With the tax credits and flexible financing, it is possible to have a PV system on your home with the monthly payments on the loan are less than the average monthly saving in your electric bill.

The Net Billing program overseen by the Maine Public Utility Commission allows you to average your buying and selling electricity with the grid so that the extra electricity you put into the grid in the summer offsets what you purchase in the winter. A well designed PV system on your home or business will give you more security if it includes a backup battery set. These new systems are carefully designed and UL rated to be safe and "island" your home in the event of failure in the local utility grid so that no electricity will be fed back into the grid when it is down, to protect the utility company workers who are fixing the fault.

This form of distributed generation also stabilizes the grid and makes it more robust. It has been calculated that if only 5% of the northeast US grid had been furnished that afternoon, the massive blackout there 10(?) years ago would not have happened. It is important for our national security that we get away from depending on only a few massive power plants (which make nice targets) and distribute the generation of our electricity at places closer to the load. For instance, instead of large solar power farms that take up valuable agricultural land, we can put large PV arrays on the roofs of big box retail stores and shopping malls where the electric user is right under the array. When electric cars are introduced, their parking spaces can be shaded by the PV arrays that are charging the cars. Of course owners of cars that still burn fossil fuels might also enjoy the shade of such PV arrays, so no extra land is taken up by the solar energy suppliers.

Passive solar architecture is free. A well designed passive solar heated home costs no more (and is even sometimes cheaper) than a similar sized conventional home, but the architect or builder has to know how to design and build these homes. These homes are also more comfortable and nicer to live in. While the basics of passive solar architecture have been known for more than two thousand years, modern builders have forgotten these simple principles so that ***continued on page 7***

The Demonization of Clean Tech: The Five Biggest Myths

By Trevor Winnie, Clean Edge

The case for technologies that harness renewable resources, improve efficiency, and reduce emissions has never been stronger, and the industry known as clean tech continues to grow at a staggering pace – global revenues for the "Big Three" sectors of wind power, solar PV, and biofuels hit $246.1 billion in 2011 after a decade of annual growth averaging more than 30 percent. But such an all-encompassing classification – spanning clean energy, advanced transportation, advanced materials, and clean water technologies – has lately made the industry an easy target for opposition, especially in the U.S., where divisive national politics have made pragmatism a rare commodity.

I should be on the front lines defending the clean-tech moniker. But given the noticeable intensifying of false debates surrounding clean tech in the last year, it's worth taking a moment to examine ways in which the industry's far-reaching identity has opened the door to some misplaced antagonism.

#1: Energy Sources as Sports Teams

Unless you are employed in a particular sector of the energy industry, as long as the car runs, the lights are bright, the showers hot, and the beer cold, it makes little sense as a consumer to root for one specific energy source against another, as if they were sports teams. Solar power isn't the Miami Heat, and – as much as T. Boone Pickens would like you to believe it – natural gas isn't the Oklahoma City Thunder.

Of course, it's imperative to evaluate energy sources based on availability, affordability, and environmental impact. But blind support of identifiers like traditional energy, alternative energy, renewables, or clean energy – which aggregate many dissimilar resources and technologies – can quickly create an "us versus them" culture. And that's exactly what seems to be playing out on the national political stage in this election season. When the failure of one longshot solar startup (that shall not be named) can be used to demonize all aspects of a multi-hundred billion dollar industry, perhaps the umbrella is too large.

#2: The Misrepresented History (and Current Reality) of Energy Subsidies

Government has always played an important role in energy innovation. Nuclear power plants are offshoots of nuclear submarines, which themselves are derivative of atomic bombs developed by the Manhattan Project – the ultimate embodiment of government-funded R&D. Less understood is that today's shale gas boom also owes much to government involvement, as recent technological advances are fruits of decades of public-private research and commercialization efforts, as the Breakthrough Institute detailed well in a recent report. Unabashedly ignoring this history, The Wall Street Journal's editorial team recently used a snapshot of 2010 federal subsidies to argue that renewables don't merit government support because right now "wind and solar get the most taxpayer help for the least production" – an argument that only makes sense if 2010 was the lone year subsidies were ever available. A report by DBL Investors' Nancy Pfund and Yale University graduate student Ben Healey, which looked into the historical role of U.S. federal energy subsidies, found that annual federal support for oil, gas, and nuclear has averaged 22 times the amount of subsidies available to renewables. This extreme imbalance is one reason why *Clean Tech Nation's* Seven-Point Action Plan suggests phasing out all energy subsidies over the next decade. We know that's a controversial proposal, but let's debate the future of subsidies based on facts, not myths.

#3: The False Promise of Energy Independence

"Lobsters are cheap in Maine because storing and shipping live lobster is hard, but globally traded commodities aren't like that," says Slate's Matthew Yglesias in what might be the most effectively concise dismissal to date of the U.S. energy independence delusion. Yes, U.S. reliance on foreign oil has fallen amidst an Obama-era domestic production boom – allowing for fewer direct imports from petro-dictator nations. But unlike lobsters, oil is easily stored, shipped, and traded across borders, so America's oil fate will forever be linked to conditions defined by the global free market. And if American energy "independence" was truly a top concern, vehicle electrification would be priority number one, as 99 percent of U.S. electricity is derived from domestically-generated electrons. Yet instead of being hailed as uber-patriotic "DEVs" (domestic energy vehicles), electric vehicles continue to fight perceptions of simply being expensive eco-toys.

#4: There is No Such Thing as a Green Job

Granted, this is a tricky one, as definitions vary widely – so claiming a direct link between these jobs and a remedy for the economy often does little more than fuel opposition to all industries involved when the nation's labor market proves stubbornly sluggish. Opponents can claim, for example, that it takes fewer than 30 workers to maintain a 250 MW wind farm that powers 75,000 households. But as a recent NRDC report finds, that same wind farm will actually create 1,079 jobs over the lifetime of the project, mostly during manufacturing and construction. There are plenty of wind turbine technicians, increasing masses of solar installers, and armies of workers at the world's largest industrial conglomerates working on products to beef up the electric grid, boost vehicle efficiency, and convert waste into resources. As demand for clean-tech products and services grows, an expanding workforce will obviously be an economic boon.

#5: The Climate Change "Debate"

When even Koch brothers-funded researchers conclude that the world is warming and humans are to blame, it's time to stop arguing the science and start focusing on solutions. But this doesn't seem to be the trajectory of things. Climate change continues to be politically toxic, and demand for clean tech – the market's answer to a changing climate – is being severely hamstrung as a result. In place of real climate action, U.S. leadership on both sides of the aisle is clinging to an "all of the above" energy approach. But until the current subsidy outlay changes, in no way will this translate into a level playing field. Ultimately, clean tech – or green tech, or advanced energy, or whatever you choose to call it – will win out. The realities of a resource-constrained world and changing climate are just too powerful to ignore. But as clean tech moves forward, it's increasingly important to understand the steadfast opposition – and its myth-making operation – facing this innovative sector that dares challenge the status quo.

The Maine Solar Tour

Saturday, October 6 and/or 13, 2012

Part of ASES National Solar Home Tour Oct 6
NESEA Green Building Open House (Oct. 13)

~ All tours are free of charge.
~ Sites are open Saturday Oct 6 from 9 AM to 5 PM unless otherwise noted.
~ All phone numbers are the 207 area code, unless otherwise noted

Tour I: Acadia Region

Organizer: Frank John, 185 Flye Point Rd., Brooklin, ME 04616, 359-8968 E-mail: maine.johns@gmail.com

Site I-1. **Brooklin**, 185 Flye Point Road, Frank and Shari John, 359-8968

Frank and Shari have two PV systems: the first is 1.92 kW grid-tied system with a battery bank. A second grid-tied array was added in early 2010, a 3.68 kW nominal feeding a 4 kW Fronius inverter. They use a Tarm wood gasification boiler to heat their house and provide domestic hot water year 'round. They will also have electric vehicles on display (Toyota Pickup, Suzuki motorcycle and a bicycle!)

Site I-2 **Blue Hill,** Dick Bartlett. 219 Kingdom Road 374-3230 (Kingdom Bikes)

This home has a 2 kW grid-tied system with backup and evacuated tubes to heat domestic hot water. It is a very efficient home.

Site I-3 **East Blue Hill, 45 Clayfield Road - Sat. Oct 13**
Owner: Arnold Greenberg, 374-5170

This off-grid home uses energy efficient appliances and a 1500 watt photovoltaic array. Arnold has lived off-grid since 2000. Clayfield Road is off Jay Carter Road

Site I-4 **Hancock, 274 Three Pines Bed & Breakfast, Sat Oct 6, and Sat. Oct 13, East Side Road,** Ed and Karen Curtis, 460-7595, http://www.threepinesbandb.com
We live in an off-grid, 1.7 kW solar electric, passive solar timberframe home, with battery storage and generator backup. We operate a year-round bed & breakfast, have an organic vegetable garden and fruit orchard, and raise rare-breed sheep and chickens.

Site I-5. **Hancock, 213 Cross Road**
Tara and Jessie Hartson, 422-9122
This is a self-built passive solar home with five 4'x8' flat hot water panels on the roof and a 250 gallon hot water storage tank built from 2x4's. The system provides the homeowners with domestic hot water and heats the home through a radiant slab. Wood heat supplements our system in the winter. There is an on-demand boiler for backup.

Site I-6. **Little Deer Isle**, **Coveside,** Lane Kimball Petty/Deb Marshall, 348-2648

This grid-tied system has a 900 W wind generator, a 1.3 kW grid-tie PV system with battery back up and a new 4.7 kW direct grid tie system. All small internal combustion engines on lawn mowers etc have been replaced with electric motors. There are 3 vintage GE Electrak electric tractors and attachments to see as well a solar electric 16' converted electric outboard boat and an electric launch. There is a 1985 VW vanagon being converted to electric that can be seen .

Site I-7. **Orland, 23 Fish Point Road**
Tour Hours: 10 AM to 4 PM only, please!
Owners: Rufus Wanning/Margaret DeRivera, 469-8972

This beautiful old home shows that one can live efficiently in older houses. Rufus and Margaret use 2300 watts of grid-tied photovoltaics with battery backup. The owners claim to "break-even" over the year on their electric use!

Site I-8**Winter Harbor, 226 Gray Road - Saturday Oct 13**
Owners: Dick & Mary Wilson, 963-7037

This home features a unique "stacked" solar hot water array. The south-facing roof has two 20-tube solar collectors for domestic hot water and an 80 gallon dual coil solar tank (with a Rinnai on-demand hot water heater for back-up). This home also features an 18-panel solar electric array. Dick is very pleased with his solar hot water system and would be happy to show it off .

Tour II: Central Maine

Organizer: Claudia Lowd, Orono, ME - ph: 949-5106
claudia@mainerural.org.

Site II-1. **Orono**, 95 Main St. Main View Apartments Owner: Richard Pare, 866-5651 or Claudia Lowd 949-5106 Tour Hours **12-3:00 PM ONLY thanks!**

This 24-unit commercial apartment building has an active 48-panel evacuated tube solar thermal array installed in 1988 which creates all the domestic hot water for all 24 apartments all year round and pre-heats the water being used in the forced hot-water baseboard heating system.

Site II-2**. Orono**, 22 Mill Street Owners: Roberta/John Bradson, 866-4110 The Store-Ampersand A commercial bakery and coffee shop with a large passive solar entrance. It works so well that the entire first floor of the store needs no heat all winter.

Site II-3 **Newport**, 60 Roussin Rd (rte7)– New Construction Energy Efficient Home featuring solar hot water for domestic hot water and radiant space heating. Come see how easy integrating renewable energy into your new home construction project can be!

Site II-4 **Newport1**7 Burgess Rd Newport Maine – Burgess Tree farm is powered by a 6kW solar PV system and solar hot water heating system. The working farm is home to thousands of Christmas trees, a beyond organic produce farm, a commercial grower of pumpkins & squash, and countless farm animals. Come see the solar energy systems in action! *

Tour III: Downeast

Organizer: Richard Komp, 17 Rockwell Rd SE, Jonesport ME 04649, 497- 2204 sunwatt@juno.com www.mainesolar.org

Site III-1**. Harrington**, 44 Heron Cove Rd., Leonore Hildebrandt/Robert Froese, 610-2929

This 2500 sq.ft. home was designed and built in 1990 by the owners. It is off-grid with a 900 watt PV system and heated by passive solar energy backed by a wood stove. Robert and Leonore, both writers (www.flatbaycollective.org), have practiced sustainable living for over 20 years—harvesting firewood, caring for fruit trees, and growing a vegetable garden.

Site III-2. **Jonesboro**, 262 Looks Point Road, Lee and Jody Rose, 434-5444

This home features flat plate solar hot water collectors for domestic hot water and to heat an indoor heated pool. This home also uses a high-efficiency gasification wood boiler to provide most of the home's heat and back-up domestic hot water usage. ¼ mile gravel drive. May have to use pull-off. Look out for walkers in the area.

Site III-3. **Jonesport**, 17 Rockwell Road SE, Richard Komp, 497-2204

Home self –designed and built in 1988 with 500 watt off-grid PV, passive solar heating and 4 TAP air heaters, 'Hypocaust' under-floor thermal mass, wood backup, and PV/thermal hybrid for hot water. Featured in the May-June 1997 *Solar Today*. Look for signs.

Site III-4 **East Machias**, **Downeast Salmon Foundation East Machias Aquatic Research Center**, 13 Willow Street 483-4336

, dsf@panax.com , www.mainesalmonrivers.org

This building was the powerhouse for a hydroelectric dam that was removed to make it possible for atlantic salmon to swim up the east branch of the Machias river. A large 240 volt ac grid intertie PV system plus a vertical axis wind generator furnish almost all the electric power and passive solar south windows aid with winter heating.

Site III-5 **Stuben**, 62 Sunset Bay Drive, Tom Hitchins

Type of Building: This superinsulated residence is constructed with an Insulated Concrete Form basement and a Structural Insulated Panel shell. Green materials were used where reasonable. House is heated by high efficiency condensing boiler using propane, and a soapstone Rais woodstove. Hot water is solar with propane back-up

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Tour IV: Kennebec Valley

Organizer: Michael Mayhew 60 Campbell St, Boothbay Harbor ME 04538, 633-1061 e-mail coolsolarguy@yahoo.com

Site IV-1. Hallowell, 11 Inn Road Owner: Scott Cowger, 800-622-2708 Call or www.maplebb.com for directions.

Maple Hill Farm Bed & Breakfast: A full-service inn and conference center with a heavy demand for energy. The innkeeper is a former State Representative. Maple Hill Farm was the first DEP certified 'Environmental Leader' green lodging establishment in Maine, meeting such criteria as energy efficient upgrades, the usage of non toxic cleaning products and reduced energy usage. In 2003 the owners decided to decrease energy costs as well as their carbon footprint by installing a large 10 kW Bergey wind turbine atop a 100 foot tubular steel tower on the high point of their land, 1000 feet from the buildings. In 2006, they added extensive solar electric and solar hot water systems to the property. The largest solar power array in the state, it has 15 kW of electrical generating capacity, and 202 vacuum tubes for domestic hot water production with 320 gallons of hot water storage in the basement, saving more than $20,000 in power costs over the past two years. Their system saves a tremendous amount of fuel oil (for hot water production) and offsets about half the electrical needs of the facility. You can monitor the output of the solar electric system, as well as view details of all the system components and get directions on their web site at www.maplebb.com.

Site IV-2. **Palermo**, 401 Marden Hill, **Saturday Oct. 13**

Paul Armstrong, 993-2803

Contemporary 3,000 sq ft house, built in stages since 1994 as time & money allowed. Hillside site allows enjoyment of outrageous views & good breezes. CMP wanted the cost of a house mortgage to bring power, prodding us to alternatives. Starting with a generator we have added photovoltaics & a wind turbine for our current 'tri-bred' system. Recycled lumber used in construction.

Site IV-3. **Union, 800 Sidelinger Road 12noon – 4 pm only**

Owner: Jim Doble, 785-2212

House is a 2,000 sq. ft. hybrid timber frame saltbox-ish, mostly straw bale outfill. Bale walls finished with earthen plaster, strapped & clapboarded over outside. Finished & moved in December 1999, used solar during building. Solar array: 2000-w, 16 Astropower 120-w roof-mounted panels. Batteries: 4 Surette 6 cell. Inverter: Trace SW4024. 5000-w Honda generator for back up. House essentials: lights, water & heat pumps, on 24 DC. Inverter supplies AC non-essentials (washing machine, vacuum) & wood shop. 5 roof solar panels for domestic hot water & radiant floor heat, with wood & gas backups for winter. Jim is a percussion instrument creator under his company name of Elemental Design, sometimes using found objects. See: http://www.tidewater.net/~xylojim/index.html

Tour VI: Midcoast Saturday, October 13 only

Organizer:Michael Mayhew 60 Campbell St, Boothbay Harbor ME 04538, 633-1061 e-mail coolsolarguy@yahoo.com

Site VI-1 **St. George, The humble Farm, Sat. Oct 13**

785 River Road, Owners: Robert / Marsha Skoglund, 226-7442 199 yr. old salt box farm house, on St. George peninsula, recently added home-built solar thermal, DHW system. Eight, flat-plate panels, collect the sun's rays to pre-heat hot water and heat the cellar floor with non-toxic anti-freeze mixture, two tank system. Small area of cellar floor with radiant heat should keep cellar from freezing in the winter. Owner says, "I snuggle with the wife for back-up heat at night!" Also, 1380 watt, grid-connect, PV system, installed by Revision Energy in 2009. Six, 230 W, Canadian Solar PV modules and Outback inverter, supply solar electricity all year long. Panels are on owner-built, PV rack on chicken house. Rack will accommodate additional home-made PV modules, as soon as possible. Humble is pleased with both systems and welcomes visitors anytime.

Site VI-2. **Boothbay Harbor, 60 Campbell Street, Sat. Oct 13**
Owners: Michael & Trudy Mayhew, 633-1061

A very efficient solar home, with attached greenhouse w/1000 gal indoor thermal storage pool, PV powered solar domestic hot water system, radiant floor, great daylighting and south facing harbor views. My small (1/2 acre) hill side lot is full of raised gardens that provide the majority of our green vegetables. This home was originally a small house that has been redesigned by the owner (a green building engineer) and remodeled over the past decade using much locally grown wood, imagination, and expanded into great house for 6.

Site VI-3 **Hartford, 275 Labrador Pond Road, Sat. Oct 6**
Owner: Lee Holman, 388-2510
100 year old cape. A pair of 80-watt PV panels make up this low budget electrical system along with a propane refrigerator & kitchen range and wood heat. This system runs a laptop computer & printer, 12v SHURflo pump for water at the kitchen sink, some lights, a radio & a few other electrical devices.

Site VI-4 **S. Thomaston, 22 Bartlett Ln. Saturday Oct 13**
Owners: Tom and Beth Goettel

Tom and Beth Goettel's home, located just off Route 73 in South Thomaston, boasts both a solar electric and a solar hot water system installed earlier this year. The 2.76 kilowatt grid-tied solar electric system will produce roughly 3,700 kilowatt hours each year, and the 40-tube solar thermal system, paired with an 80-gallon storage tank, will produce roughly 80% of the family's annual hot water demand. Together, these two systems will offset nearly 9,000 lbs. of CO2 emissions annually.

Site VI-5 **Gorham, 26 Jordan Drive Saturday Oct 13**
Owner: Tom Snyder, 839-4690

This passive solar home was designed by Curt Jensch and built by Taggart Construction of Freeport, ME in 2006. The insulation is blown-in cellulose with walls that are R-26 and a ceiling that is R-52. The heating system is a Baxi Luna boiler using propane to provide heat to the radiant concrete slab-on-grade heating system and domestic hot water supply. The concrete is finished with a dark brown acid stain to produce a large surface area to absorb heat from sunlight. There is a wood stove used as a backup heat source. The windows are Anderson with low-E glass to maximize solar gain and minimize radiant heat loss. The driveway is permeable to minimize rainwater runoff. Rainwater is collected from the roof into a 500 gallon cistern to water the garden. This home is Gold Level LEED Certified.

Site VI-6 **N. Yarmouth, 460 Mountfort Road – Sat. Oct 13**
Owners: Rob & Leslie Taisey, 221-2916
The home of Assured Solar Energy showcases a 2.9kw, 18 module Schuco grid-tie PV system, a Schuco 3 Slim-V (flat plate collectors) domestic hot water system, and 4 hot air Sunsiaray collectors by Northern Comfort. Between the PV system and the solar domestic hot water system preheating the Taisey's water in their electric water heater, their electric bill has dropped from over $100 to around $15/month (including the CMP $7.96 monthly minimum, and including all the electricity usage for both home and business).

Site VI-7 **Scarborough, , 6 Minuteman Drive – Sat Oct 13**
Deb & Jim McDonough

Ths family home features 60 evacuated solar hot water collector tubes heating a 105 gallon dual coil solar storage tank. This system is designed to cover most of the domestic hot water used with back up coming from an oil boiler. This is a retrofit installation on a standard construction house. This house also has retrofit radiant heat, and cellulose re-insulation. The solar hot water was installed in 2007. Solar electricity was installed in2009. . If you've visited it before, be sure to go back and view their recently installed 3300 watt solar electric PV array!

The following are homes on the ReVision tour for Saturday October 13 only, as taken from their website. These homes are part of NESEA's Green Building Open House. Some of these homes are also listed above as part of our MESEA Maine Solar Tour which is part of ASES's National Solar Tour on October 6.
(Confused? So are we!)

1 - Deb and Jim McDonough
6 Minuteman Drive ~ Scarborough, ME

2 - William & Renate Riggs
32 Sea Spray Drive ~ Biddeford, ME

3 - David Beauregard
78 Loon Lane ~ Woolwich, ME

4 - Sam & Pam Flick
739 New Gloucester Road ~ North Yarmouth, ME

5 - Rob & Leslie Taisey, Assured Solar Energy
460 Mountfort Road ~ North Yarmouth, ME

MidCoast Maine

1 - Peter McBride, Belfast Cohousing
74 Village Rd, Belfast, ME

2 - Hans and Jennifer Albee
35 Moosehead Trail Hwy. ~ Brooks, ME

3 - The humble Farmer
785 River Road ~ St. George, ME

4 - Unity College TerraHaus – America's First Passive House College Residence
90 Quaker Hill Road ~ Unity, ME
Also - The Unity House - a 1,937-square on-campus home of Unity College's president

5 - Rusty & Martha Mayberry
111 Quaker Hill Rd ~ Unity, ME

6 - Dick & Mary Wilson
226 Gray Road ~ Winter Harbor, ME

From Page 2 so that part of the job to introduce solar energy into our lives is an important educational one. In fact, we need to include education about renewable energy (a better description than "alternative energy"). This education needs to start right at the primary level and should introduce everybody to the basics to they can make intelligent decisions in their future.

One aspect of the use of solar energy that is hard to justify in Maine is active solar water heaters. These are expensive to install in a size that will really take a bite out of your heating bill, and when you really need the heat for you home in the winter, the sun will likely not be available.

That said, solar air heaters on the south side of buildings work very well in the winter. In Maine in the dead of winter, a south facing wall will receive more energy from the sun than your roof will, because of the low angle of the winter sun; and the reflected light from the snow on the ground will add to the heat received. MESEA has developed a thermosiphon air heater design that can easily be retrofitted to the outside wall of an existing home to take advantage of this winter solar power. Of course a thermosiphon air collector can be built into the south watt of a new home, often costing less than the wall it replaces. The Maine Solar Energy Association has hands-on workshops where people come for a Saturday (or a weekend for the more elaborate workshops) and learn how to use the sun in Maine. Our Website is www.mainesolar.org and is loaded with lots of information and our calendar of events so you can see details of our upcoming workshops and other events.

Coming:TheThird Edition

Now 36 pages with new material

The Maine Solar Primer

A compilation of practical information and diagrams from past issues of THE MAINE SUN

The Maine Solar Energy association has published a sourcebook for solar and other renewable energy resources in Maine and New England.
This booklet includes do it yourself plans and basic solar information for everybody.

The Maine Solar Primer is available for $12 inc. postage from MESEA, PO Box 184, Harrington ME 04643

MeSEA Membership Form

Annual membership includes: a subscription to the quarterly MeSEA publication - *The Maine Sun,* 10% discount on workshop fees and MeSEA-sponsored events, networking with other like-minded people in Maine, contribution to the sustainability of our program, and the right to declare your donation to a 501(c)(3) on your taxes.

Name(s): _____

Address: _____

_____

Phone: _____

E-mail: _____

Individual MeSEA membership - $20.

□ new □ renewal □ upgrading

Family MeSEA membership - $35. □

Lifetime MeSEA membership - $1000. □

Corporate MeSEA membership - $150.□ **

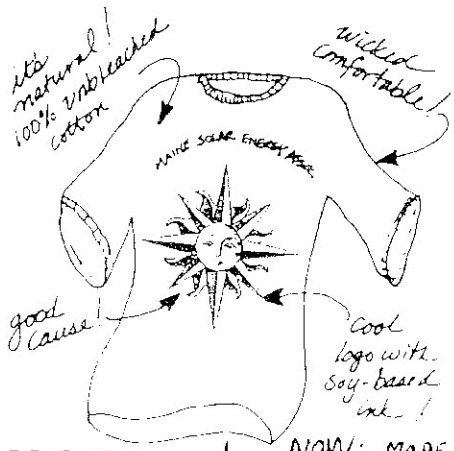
Would you prefer to receive your Maine Sun by e-mail? □ **yes** □ **no** E-mail saves us $4 per year.

**This includes a business card – sized ad in each *Maine Sun*, and promo on our website, as well.

Please make out your check to MeSEA. and mail to: MeSEA, PO Box 184 Harrington ME 04643

THE MAINE SUN
NEWSLETTER of the Maine Solar Energy Association
Maine Solar Energy Association
PO Box 184
Harrington ME 04643

SOLAR (EM)POWERED T-SHIRT!



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