



THE MAINE SUN

NEWSLETTER of the Maine Solar Energy Association

Community Solar Approval in MN ... ME ?

Community solar provides economies of scale that can make solar a better deal for participants. Nearly three-dozen Minnesota government entities have taken this idea to the next level by banding together to create community solar projects. In doing so, they've created a new model for community solar that can be improved upon and expanded to increase solar adoption.

Minnesota's Clean Energy Resource Teams ([CERTs](#)) are a statewide partnership connecting individuals and communities to community-based clean energy project resources. They have recently published a [report](#) in which details the results of their effort, the first governmental community solar subscriber collaborative in the United States. While collaborative solar procurement has already been accomplished for *rooftop* solar on public buildings, this was the first time this had been done in the U.S. for *community* solar, and it was the first time ever for either type of solar in Minnesota. (Continued on pg. 3).



A Community PV array can start small, growing as finances allow or members added, local Maine photo.

Wind & Solar Provided 10% of National Electricity in March, a first for Our Country

For the first time ever, US wind and solar electricity generation exceeded 10% of the monthly total in March, according to figures published by the country's Energy Information Agency this week.

Electricity generation data from March showed that the renewables generated 10% of the month's total share of electricity, the first time this has ever happened in the country. In 2016, wind and solar accounted for 7% of the year's electricity generation. (CleanTechnica)

Will Goal of 100% Renewable Energy for California Help Maine Reach Similar Goal

With current clean energy goals in sight, liberal lawmakers are pushing California government to ratchet up its ambitions. But utility companies could prove a powerful roadblock.

Can the world's sixth-largest economy get to 60% renewables by 2030 and 100% renewables by 2045? California's Senate Bill 100 would require just that. Earlier this month senators passed the bill by [a 25 to 13 vote](#). It now faces a stiffer test in the Assembly.

The state's investor-owned utilities (IOUs) are [at 27.6%](#) renewables and well on their way to meeting the present 50% renewables by 2030 mandate, according to [the most recent California Public Utilities Commission \(CPUC\) numbers](#).

But Pacific Gas and Electric (PG&E) and Southern California Edison (SCE) have declared they are opposed to the bill unless it is amended. And a spokesperson for San Diego Gas and Electric (SDG&E) says the utility is not convinced the bill is "the right pathway" to more renewables.

(This story is from Utility Dive Solar ... thank you)

President Trump Moves for A Solar Wall Proposal Along the US Southern Border

U.S. President Donald Trump said he's proposed building a "solar wall" on the Mexican border that would pay for itself by generating electricity.

"We're thinking of something that's unique, we're talking about the southern border. Lots of sun, lots of heat," Trump said at a campaign rally in Cedar Rapids, Iowa. "We're thinking about building the wall as a solar wall, so it creates energy, and pays for itself. And this way Mexico will have to pay much less money, and that's good. Is that good?"

INSIDE:

Coming Events	Pg. 2
Solar Community Land-trust.....	Pg. 3
How Solar Cells Work.....	Pg. 3
Nicaragua Solar Net-metering.....	Pg. 4
China Assumes Climate Role.....	Pg. 4
Maine Legislature Updates.....	Pg. 4



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

Opinions expressed by authors or editors do not necessarily reflect the views of MeSEA. The publisher reserves the right to refuse advertising which is not consistent with the goals of this organization. Acceptance of advertising does not constitute endorsement of the advertiser, its products or services.

The Maine Sun welcomes articles, submissions, photographs, and letters. Please send editorial materials to the following address: MeSEA

P.O. Box 184

Harrington, Maine 04643

Phone: 207-546-1639

E-mail: sunwatt@juno.com

dadsolar@yahoo.com

Website: www.mainesolar.org

Maine Solar Energy Association
Board Members

Richard Komp, President
John Burke, Vice-President
Soni Biehl, Treasurer
Nancy Oden, Secretary

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Coming Events!

Check our website, www.mainesolar.org, for more information.

*****Summer 2017 Solar PV Assembly Workshop*****

MESEA, SEADS and DADS (Downeast Alternative Design Solar), will present a low-cost solar PV assembly workshop, Summer 2017, (July 14, 15 and 16) - Friday, Saturday and Sunday. These dates are tentative depending on your interest. Reserve a space asap, thanks.

*We look for your support to allow us to keep our focus, 'Working On What's Been Spoiled,' this summer 2017.

*One day or all three days, will or give you 'hands-on' experience to motivate you forward to get active 'for a future'!

*Call (207) 546-1639 for times and details, See www.dadsolar.com. (We are non-profit, educational, - donations are tax deductible).

Friday evening FREE lecture, Saturday & Sunday @ \$50. each day, includes lunch. Scholarships and overnight stay are available at the Jonesport, Maine Solar Home, **Downeast Solar Center**.

2017 ASES National Solar Tour – Saturday, October 7 in Maine, MESEA is looking for solar homes interested.

Check out more information at ases.org/tour. Please spread the word; we would like to see more local tours in small towns across the country. Most tours take place in October for National Energy Awareness Month, but a tour can happen any time.

First thing you should do is choose a weekend or weekend day for your tour and put together a local organizing committee.

Send any questions to solartour@ases.org.

MESEA Solar Assembly Intensive, October 1 -7, Hands-on PV experience for all participants. One day or all 7 days @\$50. / day, includes lunch and instruction each day (limited # of participants), call (207) 546-1639 to RSVP and details. Once a year happening, at the Jonesport, Maine Solar Home, **Downeast Solar Center**.

ASES SOLAR 2017, Denver, CO - October 9-12

Conference is at Univ of CO Denver. 46th annual conference, "SOLAR 2017: Building a 100% Renewable Energy Community," Sessions, Women in Solar Energy lunch, Annual Banquet, Emerging Professionals Reception.

Forum on nonprofits working together on legislation. Registration is open. Early bird pricing ends Aug 1. Chapter Caucus Oct 9.

In conjunction with **US DOE Solar Decathlon**, U Denver, Oct 5-15. See website : (<http://www.ases.org/conference/>)



Community Solar, MN (Continued from Pg.1)

In February 2015, thirty-one government entities in Minnesota, mostly in the Twin Cities metropolitan region, banded together “to procure solar garden subscriptions from a single ‘Request for Proposals’ (RFP) process to offset the energy usage at public facilities”. The rationale was to save energy costs through “economies of scale,” by which the governmental entities together could purchase the renewable energy more cheaply than they could through separate negotiations with developers. This process would also reduce the entities’ administrative costs. The report indicates that, though the project’s success was, as this [article](#) claims, “modest,” there was general agreement that the project was well worth doing.

Can Maine municipalities move forward for a community based renewable energy future, without the support of the State?

Thanks to Community Power Network (cpn.org).

SEADS Solar Community Land-trust Development Continues With Extensive Re-building and Fundraising Effort

Here's another angle for a 'sunken-greenhouse' project ... growing veggies, fish, as well as a heat sink for your home:

<http://www.ecosnippets.com/gardening/how-to-build-asunken-greenhouse/>

We all need to get a sustainable footing for a future we can appreciate and allow the generations to come the possibility of successful community.

SEADS Solar Community Land-trust Development, Columbia, Maine, is an example of a parcel of land owned by a non-profit and looking for investments of time and finances for 'the next steps'. We know there are folks that have ideas and equity in suburbia, that may be allowing a bank to 'invest' in dirty, polluting, fossil fuel developments. The tar sands pipelines is one disgusting example.

Please send a donation here:

<https://www.facebook.com/donate/10207443706799748/> ... or your comments and considerations to the 'Contact Us' page, dadsolar.com.

How Do Solar Cells Work, a Simple Explanation from the Solar Consultant

Solar cells utilize a physical phenomenon called the photoelectric effect to produce an electric current. Albert Einstein won a Nobel prize in 1905 for detailing this amazing effect.

In simple terms, there are certain materials that produce electricity when they are exposed to light. This occurs when the light knocks some of the electrons loose from their host atoms. When we attach conducting material to the positive and negative sides of the material to form a circuit, we can channel this electrical energy.

The very first solar cell was built by Bell Labs over 50 years ago. The first serious use of solar cells was by the space industry as it was a very convenient way to power satellites. Today, the cost of solar panels are low enough for residential use.

When light is absorbed by a semiconductor, it excites electrons from the valence band into the conduction band (eg. an electron absorbs the light energy and jumps across the band gap). After an electron makes it into the conduction band, it will sit there and essentially store the energy. If we pull the electron out of the conduction band, we can make it do work for us (eg. power a light bulb).

If this is all very confusing, it might be useful to consider an analogy. A good analogy for how solar cells work is hydropower – where we store water at an high elevation when it rains, and let the water fall towards ground level to run a generator when we need power.

Solar cell performance is strongly related to two factors. The first factor is how much light the cell can convert into electricity, and the second factor is how much energy gets lost due to efficiency loss.

When it comes to how much light the solar cell can convert into electricity, the most important thing to consider is what the band gap (or energy gap) should be. With current technology, we can pretty much make the band gap to be anything we want.

(Thanks solarconsultant.ca/solar-pv/ ... [Linkedin](#))

A wise person does at once what a fool does at last. Both do the same thing; only at different times. - Lord Acton



Nicaragua to introduce net metering scheme for distributed generation

While the grid operator Enatrel conducts a feasibility study for solar distributed generation projects, Nicaraguan President Daniel Ortega urges the Parliament to approve the reform of the energy system which will introduce net metering for PV. Nicaragua's state-owned grid operator Enatrel announced it is conducting a feasibility study for distributed generation from solar.

The company said it is now assessing the feasibility of small-sized grid-connected power generators. This, Enatrel added, will enable the installation of PV and wind power systems for self-consumption at households, factories or government buildings. These installations, according to Enatrel, will be authorized to sell excess power to the local grid. Meanwhile, in the past week, Nicaragua's president Daniel Ortega has sent a bill to the local Parliament to reform the country's energy law (Ley 272 de la Industria Eléctrica) and to introduce a net metering scheme for solar and renewable energy power generators. (Solarplaza International)

China Takes the High Road for Climate and the Environment After the US Leaves a Vacuum in the Paris Climate Accord

The government of China announced the appointment of a new environment minister.

The new environment minister, Li Ganjie, takes up the job only around a month after being named as the new party chief of the Ministry of Environmental Protection, interestingly.

Going by reports from the Xinhua news agency, Ganjie has promised to wage a "protracted battle" against the country's significant air, water, and soil pollution problems. Additionally, he says that he is going to take environmental protection in the country to "a new level."

A former masters student in nuclear reactor engineering at Tsinghua University, Li spent nine years as a vice-minister in charge of nuclear safety at the ministry before leaving to become deputy party secretary of Hebei province in October last year. (Continued on Pg. 7)

Maine State Legislature Solar Bills

Several bills were introduced this year to expand solar energy and help Maine secure the economic and energy benefits of increased solar power. A bill (LD 1373) introduced by Rep. Seth Berry (D-Bowdoinham) was carried over to next year, as lawmakers shifted focus to an amended bill ([LD 1504](#)) that would defer an [anti-solar rule](#) developed by the Public Utilities Commission (PUC) that is set to go into place this summer if the Legislature fails to act. The bill, [amended further in the Senate](#), protects net metering through the end of 2019, increases to 100 the number of parties who could participate in a community solar project (from a current limit of 10), and requires an analysis by the PUC that could result in an alternative transition for solar policy, which would come in the form of recommendations to the Legislature. The House cast an initial positive vote ([90-54](#)), and additional votes are likely. Please [contact your legislators](#) to urge their support for LD 1504 ... (NRCM)

New Actions from EUT Committee On the LD 1373, to Favor Net Energy Billing

Lawmakers in both Maine's chambers referred LD 1373 to the joint standing Energy, Utilities and Technology Committee, which subsequently held a public hearing, possibly setting up a vote. The bill "prohibits a charge to a customer that elects to use net energy billing," according to the legislation. And it provides that customers using net energy billing receive bill credits netted against delivery and supply charges on a one-to-one basis and provides that unused bill credits accumulate on a 12-month rolling basis.

MESEA is the Maine State Chapter of:



American Solar Energy Society

Email: info@ases.org

**China Moves for Climate ... (from Pg. 4)**

"Hebei has promised to put in place the 'strictest environmental protection system' by 2020, with targets to cut air pollution and improve soil and water quality throughout the province."

It's of course hard to tell at this point how serious the new environment minister's comments are, but considering how severe the country's pollution problems are, and the degree of public anger on the matter, presumably they have something to them. After all, if changes aren't forthcoming in the coming years, then there are likely to be some significant political problems not too far down the line.

"It is our collective and individual responsibility, to preserve and tend to the world in which we all live."

— Dalai Lama

Coming: The Third 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.

Special Joint MESEA – ASES Membership: \$60 *Go to the www.ases.org/join/ website to sign up with a credit card.*

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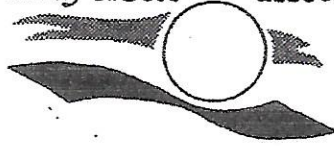
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**Skyheat** associates

17 Rockwell Rd SE
Jonesport ME 04649
Phone: 207-497-2204
sunwatt@juno.com

www.skyheat.org

Director Richard Komp PhD. Cell: 207-450-1141

New mailing address:

PO Box 184, Harrington ME 04643



60 Campbell Street
Boothbay Harbor Maine 04538
www.heliotropictech.com
coolsolar@yaho.com

Michael J. Mayhew, PE, GBE, CEM
President, Energy Engineer
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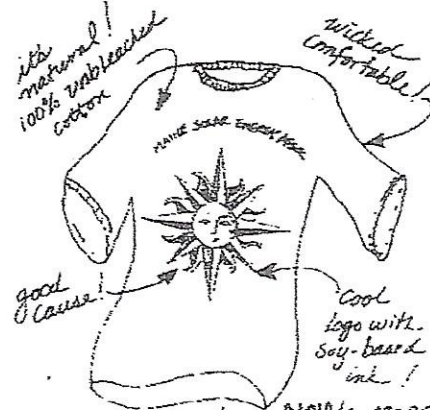


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