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June 2022 Newsletter

Empowering Sustainable Communities

Special Announcement

NEPA Gives is June 3rd

The annual NEPA Gives community wide fundraising event is June 3rd and SEEDS is excited to participate again this year. The one-day, cross-organizational online event allows people to make donations to organizations of their choice and see those donations enhanced by bonus funds provided by NEPA Gives Sponsors. For more information about the event [go here](#).



Any time after midnight on Friday June 3rd until 11:59pm anyone can make a donation by searching for SEEDS [on this site](#), or going through the Donate Link on our website [found here](#). Make sure you share your activity on social media to increase the awareness of this fundraising event for the many organizations of our community who are participating, and to boost SEEDS as well.

While NEPA Gives is a great occasion for fundraising, if monetary donations are not feasible for you please remember that SEEDS deeply appreciates all forms of donations, including time, involvement and expertise of our members. Please reach out to us at info@seedsgroup.net if this kind of giving matches better for you.

SEEDS Welcomes

Zoe Spaide New TEAAM Coordinator, Executive Director Assistant

SEEDS is pleased to announce the addition of Zoe Spaide to staff as the Summer TEAAM (The Energy Awareness Action Movement) Coordinator as well as Executive Director Assistant.

“We are so pleased to welcome Zoe to our staff. Her interests and studies seem a perfect match for our TEAAM program which has become an even more important resource as electricity rates have risen,” says Kathy Dodge, SEEDS Board Chair. For more information about the TEAAM Initiative or to



sign up for an assessment, visit seedsgroup.net/assessments. You can also read more about SEEDS' TEAAM initiative in the next story below.

“I am really looking forward to Zoe becoming a member of the SEEDS Team. She offers a fresh perspective, coordinating experience, love for NEPA, and lots of ideas on how to improve the TEAAM program and support executive tasks. This summer is going to be monumental with Zoe on our team,” says Olga Trushina, SEEDS Executive Director.

Zoe is a third year student at the University of Pittsburgh pursuing a degree in Environmental Studies and a certificate in Sustainability. A native of Wayne County, Zoe has always had a love of nature and the environment. Zoe has specific interests in environmental education, sustainability, and environmental justice. Most recently,

Zoe has provided her fellow students at the University of Pittsburgh with sustainability/environmental career resources through the organization of a networking event, distribution of a career resource book, and production of a podcast series. In her free time, Zoe enjoys reading, hiking, and kayaking.

Welcome, Zoe! We are excited to have you on the team!

Local News

SEEDS Offers Free Home Energy Efficiency Assessments to Lackawanna County Residents

SEEDS is offering free Home Energy Efficiency Assessments to low-income residents of Lackawanna County.

A SEEDS Home Energy Efficiency Assessment will help residents conserve energy, improve their home's comfort level, and save money. Their assessment team will inspect the interior and exterior of the residence and provide simple steps and advice for improving the home's energy efficiency. By improving the home's energy use, households can save a significant amount of money on energy bills annually and reduce fossil-fuel dependency.

The SEEDS assessment team members are trained by a course



designed by a certified building analyst professional. The team is not affiliated with any business, and assessments are fully funded by membership dues and grants, so residents can rest assured that they are receiving impartial recommendations for reducing energy bills and/or fossil-fuel dependency.

While SEEDS volunteers are trained in energy assessment techniques, they are not certified energy auditors. Their assessments are for educational and informational purposes only.

The 2022 program, funded in part by the Scranton Community Foundation's Robert H. Spitz Foundation grant, will run from June to August. Those interested in applying for a free energy efficiency assessment should contact Program Coordinator, Zoe Spaide, at assess@seedsgroup.net or visit seedsgroup.net/assessments.

#SolarDYK

Solar Did You Know with Jack Barnett **Reader Question about Solar Generators**

Over the years, many SEEDS members have forwarded to us various solar installation proposals they've received as they have sought to install solar panels at their homes. As a general rule, SEEDS always recommends getting quotes from multiple certified contractors before selecting one. In

this series I have gone over some key points to help you compare and evaluate those proposals should you receive them.

Previous months we have looked at [Array Capacity](#), the [“Who” of Your Proposal](#), [Production Forecast](#), and [Price Comparison](#), all of which you can read at our website through those links. This month we are sharing a great reader question we received via info@seedsgroup.net and my response.



We received a question from someone living in Montrose, PA who wanted to know more about solar power and specifically a **solar powered generator**. In our email correspondence I wanted to clarify what she meant by generator, as some use the words "solar generator" for much smaller systems, that maybe can power a camper, or just a refrigerator in case of an electrical outage. Whole-house backup is of a much different scale.

Jack Barnett is a SEEDS Board member, the Food Circle Rep and a Director and Lead for Project Development at the Clean Energy Co-op. Applying his environmental passion and expertise as a retired engineer, Jack is an enthusiastic and involved supporter of solar energy in the Northeast PA region.

Yes, it's possible to power a generator with solar that can back up an entire house, as myself and another SEEDS volunteer both have large solar arrays (greater than 10kW) plus the Tesla home batteries (PowerWall) that provide backup power when the utility grid is unavailable. Tesla no longer sells their batteries stand-alone, so I believe you currently would have to purchase the solar array from them as well, but of course there are several other battery manufacturers and independent installers available.

This will be a large investment, much *much* larger than a fueled generator. The first thing to do is make sure you have sufficient unshaded area for the solar array. Roof-mounted will be the most economical, so long as it is oriented mostly south-ish. One could use publicly available aerial images to determine a rough assessment, and or SEEDS offers free solar site assessments to its members.

A 10kW solar array will require on the order of 25 panels or more, each about 2 sq yards, so 900+ sq ft. The average PA home (about 10,000kWh annual usage) could be powered by such an array for the entire year, using net-metering, and without batteries. You don't need batteries to go solar!

In PA such an array, professionally installed is likely to cost about \$30,000, *before* adding the batteries (see [this page from EnergySage.com](#)). This type of solar system allows for excess produced electricity to go out to the grid--basically your electric meter rolls backwards--and you get that energy credited on your utility bill to be used at night, during cloud cover or even carried forward into winter when the array will be producing much less electricity due to less sunlight. However, without batteries, this type of system won't work during grid outages. You would need a traditional generator or a battery bank for that.

A home battery bank is sized independently from the solar array that charges it. Anything designed for whole-home capability will have 10kW or more of power, a size that is able to power average household on instantaneous demand. But the most important sizing aspect for batteries is the **kWhr rating** ("kilowatt hour rating"), or an older term is AmpHours. This term refers to how long it lasts. I suggest you look at your utilities bill to find your average kWhr usage per day. It may vary significantly between summer and winter, so pick the higher number. If you want the batteries to last for 8 hours during a grid outage, then divide that number by 3. If you want the batteries to last for 2 days, multiply it by 2. Of course, the batteries will be recharged by the solar array, but it is important to remember this will only happen if the array is receiving sufficient sunshine. In general, having at least one day of backup without recharging

is good. For example, in my case, I have 26kWh in my battery bank, which is about 5 days of backup in summer (which is nearly infinite during that time of year since the sun shines a lot) but only 4 hours on the coldest winter day (our house is all electric, so much electricity is used for space heating). Our Tesla batteries were roughly \$15,000 installed in 2018, but prices are higher now, and the same installation today seems likely to cost around \$19,000.

Now, the good news is when the batteries are configured to only recharge from the solar, then they qualify for a federal tax credit, which is currently 26% of the total project cost (solar plus batteries). That's a credit (not a deduction), so comes dollar for dollar off the taxes you otherwise would pay. The credit can be carried forward into future years if your tax liability is not that large. However, that's only for systems completed and operational by December 31, 2022. The credit is reduced to 22% of the cost in 2023. Under current tax regulations, this credit is no longer available to residential systems after December 31, 2023—legislation would have to be updated.

See [this SEEDS webpage](#) for the reputable solar contractors we know of based in Northeast Pennsylvania, who should also have experience installing batteries. There are also the larger national solar companies, such as Tesla, SunRun and others, but we feel it's better to support locally-owned businesses, plus they are going to be nearby and better able to service the equipment if needed.

Do you have questions relating to solar power or solar panel installation? Send them to us at info@seedsgroup.net and we can include them in future installments!

#SEEDSGoodNews

More Growth in Electric Vehicle Interest, Near and Far

SEEDS was honored to participate in the ribbon cutting ceremony for a brand new EV Charging Station at the Himalayan Institute main campus in Honesdale, PA on May 15th. Wayne County Commissioner Jocelyn Cramer cut the ribbon, pictured here. This station marks the third in the Honesdale area, joining one at the Fred Miller Pavilion on Main Street, which is owned by Honesdale Borough, and the other at the Stourbridge Project, owned by Wayne County.



"I think the Himalayan Institute is so wise to do this. Despite reluctance of many to invest in an electric vehicle, this is the way the world is heading, especially now with gas prices so high," says SEEDS Chair and EV owner Kathy Dodge. "I enjoy passing gas stations. I have taken trips to Florida and Maine with no problems finding charging stations. I can charge my car up to 300 miles in 20 to 45 minutes, enough time for a stretch, lunch break, and pit stop."



High gas prices are accelerating the shift to electric transportation. From electric cars and trucks to electric bikes and scooters, consumer interest in electric transportation has grown as gas prices remain high. Google searches for electric cars hit record highs as drivers look for new ways to save on fuel costs, but the short supply of electric cars is also pushing drivers to look into

other electric options. Electric bicycle dealers are reporting significant sales growth in recent weeks, and electric scooter sales are up 70 percent in some places compared to the same time last year. Read more about these trends in articles from [The Wall Street Journal](#) (paywall), [Electrek](#), [Treehugger](#), and [Jalopnik](#).

Special thanks to Jane Bollinger for contributing to this piece.

#SEEDSGoodNews

Solar Panels Work in Winter

According to a [recent story](#) from [Inside Climate News](#), the old criticism of solar energy not working during the winter months in the northern area has been dispelled by double sided solar panels. The article explains that " [a] [recent paper](#) led by researchers at Western University in London, Ontario shows that the use of 'bifacial' photovoltaic panels—solar panels that take in sunlight from both sides—produces substantially more electricity during winter



compared to using one-sided panels, based on data from a solar array that has both kinds of panels." This is even better news when you learn that these two-sided panels accounted for 85% of solar panels sold in 2021, a significant increase from below 20% in 2017.

These double sided panels are able to significantly increase their sunlight collection by using the light that is reflected off the snow on the ground, which hits the back of the panel. It is also possible that the double siding increases the heat of the panels during the winter months, which accelerates the melting

snow and clears the front side of the panel faster as well, but that exact feature was not examined by the study, and this hypothesis would have to be studied further. Regardless, the increase in energy created by the second sided silicon coating makes solar energy even more productive than ever, an improvement that benefits solar energy collection in places like Northeastern Pennsylvania and neighboring areas. While the article warns that such areas will never collect as much solar energy as a field in Arizona for instance, this kind of innovation improves the renewable energy options for everyone, making solar energy an even more attractive investment for the future.

#SEEDSGoodNews

Do you have any #SEEDSGoodNews stories to share with the SEEDS community? Send them to us at newsletter@seedsgroup.net or tag us on social media! They can be local stories from your community, or stories from around the world--anything to celebrate and spread the word about the progress of energy efficiency, renewable energy or sustainable living wherever you hear about it!

If you are not a member of SEEDS, please consider [joining us](#) today!

You can use this link to share our membership page with others:

<https://seedsgroup.net/become-a-member/>



You will continue to receive our newsletters, invitations to our educational forums and other events. Members are eligible for free solar evaluations, have voting rights at our annual meeting, and help shape our programs and initiatives. For more information visit our website at www.seedsgroup.net.

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