



2014 Pittsburgh SOLAR TOUR

Saturday, October 18, 2014 11 a.m. to 4 p.m.

**Featuring Solar Installations from Pittsburgh
and across Western Pennsylvania**

GUIDEBOOK

Sponsored by:

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FURNITURE**



www.pghsolartour.org



Forward

PennFuture is proud to, once again, be spearheading the fourth annual Pittsburgh Solar Tour in 2014. If you don't know us, you should [learn more about all our great work on air, land, water, and energy issues across Pennsylvania](#). At PennFuture, we believe that clean energy, like solar energy, is an environmental victory that can grow the Pennsylvania economy. Take the tour, and you'll learn that solar has never been cheaper and you'll learn how the decision to go solar has been paying off for the home and business owners on the tour.


This year we're thrilled to offer a “**Featured Tour**” in addition to a list of “**Solar Open Houses.**” Stop by one of the featured locations, plan to see a solar open house, or mix it up with stops from both lists.

Our featured tour locations have a little extra for you to take in. Including solar kids' activities and presentations at the Millvale Library, a rundown of the architectural elements of the “Solar Oasis” or a “Solar 101” seminar put on at the largest residential installation in Pittsburgh.

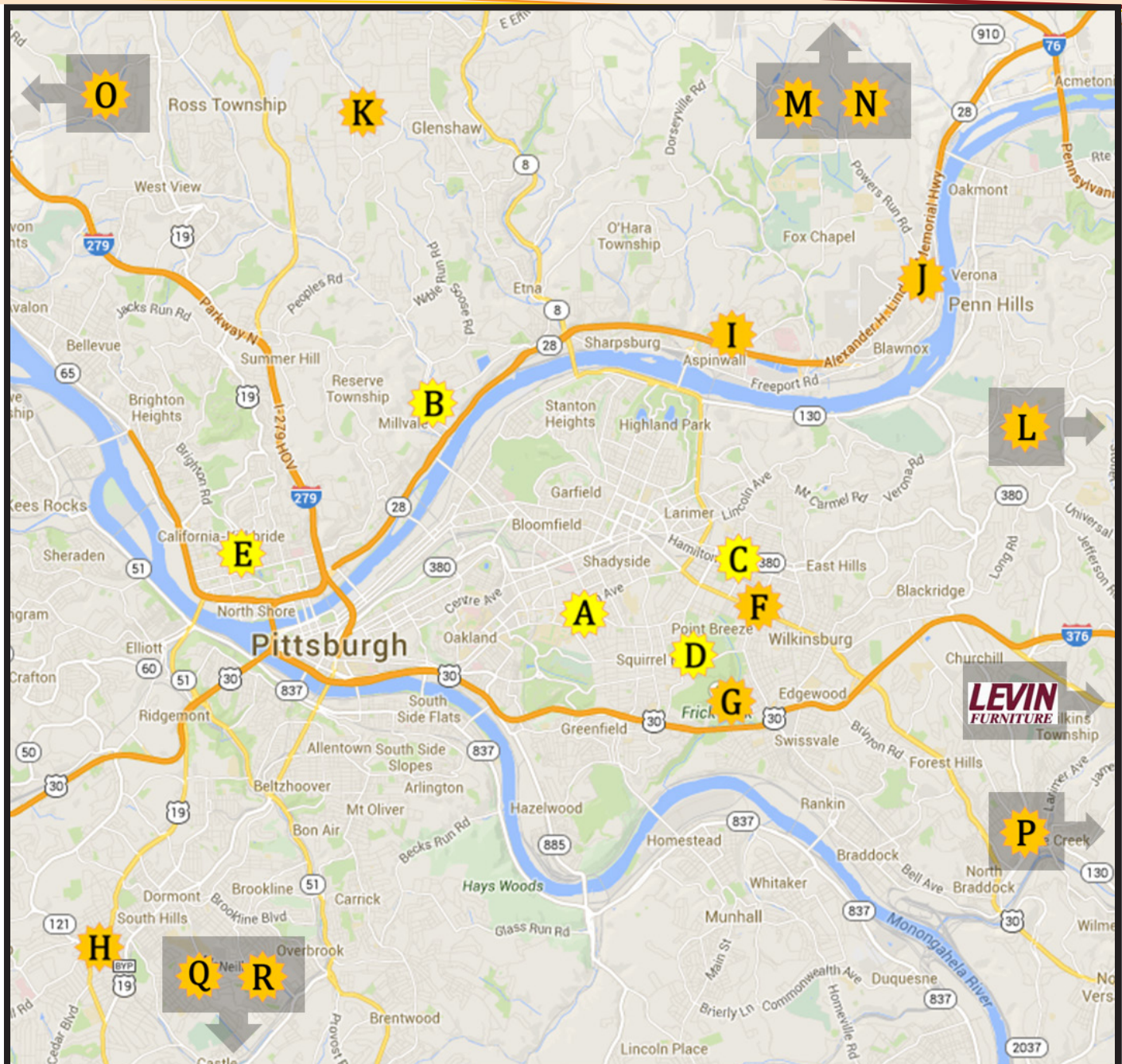
The solar open house stops have solar owners ready to share their stories with you and guide you through some of the elements of their solar-powered properties.

The 2014 solar tour is sponsored by PennFuture in partnership with our friends at the Solar Unified Network of Western PA (SUNWPA). SUNWPA is a group of solar installers, non-profits, solar owners and supporters.

The event is self guided.

- Use our guidebook or map to chart your tour. Stop by as many as you can between 11 am and 4 pm
 - The events is 100% free, but please remember to register at www.pghsolartour.org
 - You can find an interactive version of the tour map at www.pghsolartour.org
- 

Tour Locations



Featured Tour:

- Levin Furniture
- A** The Solar Oasis
- B** Millvale Library
- C** Big Solar in Pittsburgh
- D** Solar Urban Homestead
- E** War Streets Solar Loft

Solar Open Houses:

- F** Country Solar in City
- G** The Howards' Home
- H** Solar Power in Mt Lebo
- I** Reed & Susan's Adobe
- J** Home Efficiency & Solar in Practice
- K** Weaver Solar House
- L** House of the Traveling Sun
- M** World's First Solar Powered Flour Mill
- N** Frankferd Farms Foods

- O** Solar & Geothermal on the Ohio
- P** Sunshine Spill in Harrison City
- Q** Adam Solar Resources
- R** Canonsburg Solar



We are proud to co-sponsor the 2014 Pittsburgh Solar Tour!

We are solar installation companies, solar owners, non-profits and solar enthusiasts united in our vision that solar- our most abundant energy resource- will be the dominant electricity source within the next decade. Solar energy cleans our dirty air, fuels our cars, reduces greenhouse gases and powers our homes and businesses with dependable, pollution-free technology.

Join SUNWPA and help grow the solar movement.

www.sunwpa.org

abender 

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 Millvale Community Library
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Levin Furniture

124 Levin Way
Monroeville, PA 15146

LEVIN
FURNITURE

**Proud to be Green,
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and Western Pennsylvania Solar Tour.**

You may not know it, but western PA mainstay, Levin Furniture, was the first furniture store in the country to have a solar installed. The installation on their Monroeville store was completed in the Spring of 2004.

They've since installed solar on stores in Wexford PA, and most recently a 65 kW system in Mentor Ohio.



Levin Furniture's sustainability initiatives don't stop at solar. For the people behind the scenes at this iconic western Pennsylvania furniture showroom, taking on energy costs, and the environmental impact that comes with it, is part of the business culture. It's also part of the strategy to deliver high quality furniture at lower cost to you.

Joining the company sustainability initiative is a fleet of hybrid company cars, a comprehensive Light Emitting Diode (LED) lighting retrofit program, and the diversion of over 1,815,708 lbs. of waste.

Stop by their Monroeville location, featured on this year's tour, and learn more about why Levin Furniture has made solar part of their business plan.





The Solar Oasis

5271 Forbes Ave
Pittsburgh, PA 15217



You Will See:

- Solar photovoltaic and solar thermal
- Award-winning architectural design
- Unique material and green building features
- Guided tours by the architect

Stop by this solar-powered contemporary architectural gem hidden in one of Pittsburgh's most historic and celebrated neighborhoods.

This award-winning studio structure features solar photovoltaic for electric generation and also uses solar energy to produce hot water. In addition, modern building techniques and materials are employed throughout.

“Most homes are like patients in a hospital, hooked up to wires and tubes for nourishment and air. If the wires and tubes fail, then so does the patient. Imagine for a moment that those wires and tubes can be unhooked.”

This idea was the inspiration for Architect Eric Fisher's design for Steve and Andi Irwin when they asked FISHER ARCHitecture to design a guesthouse/art/yoga studio for a backyard lot contiguous to their Squirrel Hill home.





Andi makes abstract paintings on canvases of all sizes. They both seek a space to do daily yoga practice. They are both utility-bill-hating environmentalists. The net-zero concept was a natural project direction. Fisher incorporated super installed walls, radiant floors, a solar hot water system, and PV panels, along with a revolutionary new radiant glass system by Blairsville based Greenheat. The radiant glass, which Frank Dlubak, the company owner, calls transparent insulation, may make it possible for the studio to become the world's first zero energy prototype with 60% glazing! Ongoing monitoring by CMU professor, Nina Baird, tracks the effectiveness of these strategies.

The difference between this design and other Western Pennsylvania zero energy buildings is that this building is 100% designed to maximize the technologies that it is showcasing, which makes the technologies more affordable. This is not a “normal” house with “green” features. If the technologies are intrinsic to the design, they won't be deleted when money runs short. Although the prototype was site built, Fisher designed the studio so that future versions could be prefabricated in a shop and lowered into place with a crane.

“The studio is highly contextual, with large windows that allow light in during Pittsburgh's gray winters. It possesses an industrial look that shields the interior from Pittsburgh's weather and is reflective of the city's steel heritage. The project is filled with green materials and technologies that lower energy costs and are respectful of the environment. Yet the studio is filled with experiences that reconnect the inhabitants to the natural environment, featuring an open plan that responds to our generation's need for flexible, efficient spaces.

That being said, the primary design intent was to clad the simple shed with the building's green features, enabling the building shell to fit naturally into the Jim Lampl designed landscape. These elements then frame the articulate, warm interior studio experience behind the radiant glass.”

– Eric Fisher,
Fisher Architecture





Millvale Library

13 Grant Avenue
Millvale, PA 15209



You Will See:

- Millvale Library's 9.54 kW installation and learn about other energy considerations
- Solar themed activities for kids from Maker Corps Pittsburgh
- Get the inside scoop on future solar plans for Millvale with presentations taking place at 11:00 and 2:00

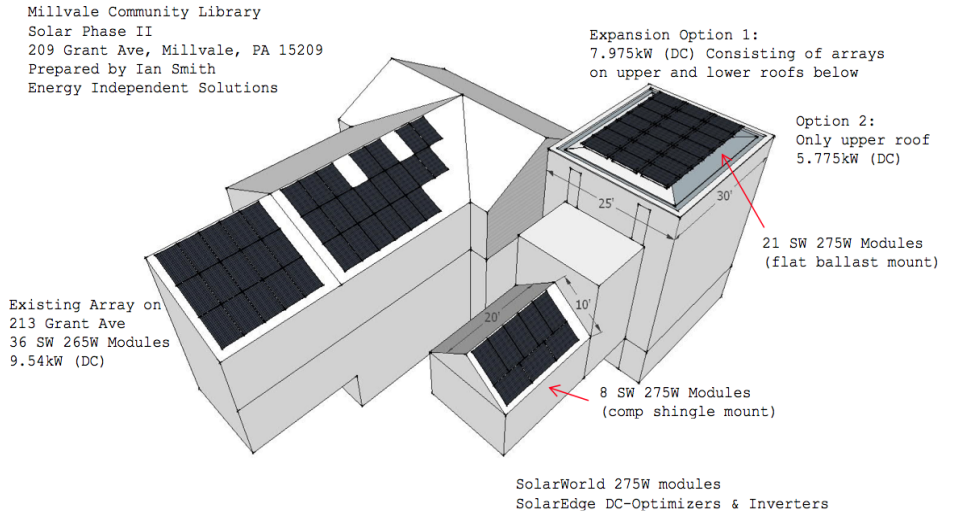
Solar power is at the center of the Millvale community renaissance.

This community has not only built and maintained its own library, but made sure their utility bills are stable and predictable by equipping that library with solar energy. But their solar plans don't stop there, working with partners like Energy Independent Solutions and Evolve EA, Millvale is outlining a future where they will become a self-reliant urban solar village. Keeping with this theme, the first annual Allegheny Solar Fest was hosted by Millvale at their Riverfront Park on the Summer Solstice this past June.



The 9.54 kW solar installation on the building generates over 100% of all electrical needs for the Millvale Community Library.

It provides a tangible example of the 3 E's of Sustainability (Equity, Economy, and Ecology). This installation empowers this grassroots library effort to redirect scarce funding that would otherwise go towards utilities, and instead use it to increase public hours and access to services all while neutralizing the negative ecological effects from non-renewable energy generation. Installation and design by EIS was made possible with funding from The Heinz Endowments.



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Big Solar in Pittsburgh

7211 Thomas Boulevard
Pittsburgh, PA 15208



You Will See:

- Roof-mounted solar
- Ground-mounted solar
- The largest residential solar installation in Pittsburgh
- Home of one of the Grow Pittsburgh community gardens
- Chevy Volt (electric vehicle) powered by pure sunshine

For this year's tour, we're thrilled to feature the largest residential solar installation in the city of Pittsburgh.

Fred Kraybill and his partners at the Thomas Blvd. Group installed the first part of their solar installation in 2012. This 7.28 kW roof mounted system provided some of the electricity for the building, but Fred asked what more could be done. In early 2014, Energy Independent Solutions broke ground on the property's second solar installation, this time a large ground mounted system in the side yard of the property. Combined, these two systems add up to 18.82 kW of solar capacity.





There's more. It wasn't enough to just run the property on solar. Fred made the decision to "drive on sunshine" and purchased a Chevy Volt that is recharged each evening with solar energy from the installations.

Solar 101

Stop by this location and you'll not only hear about the great solar powered features of this property, but you can also catch one of the **Solar 101 education sessions** put on by the Solar Unified Network of Western PA (SUNWPA). These will occur throughout the day, so stop on by!

"About 10 years ago, I became interested in climate and energy issues after watching "Who Killed the Electric Car." I now drive a solar powered Chevy Volt. I think its so cool that the sunlight that used to hit my roof for 100 years and do nothing but wear out the roof shingles, is now generating clean electricity via solar panels and that electricity can run every electrical device in my house and also provides the energy to run my car. And the roof shingles are lasting longer too! Last year President Obama gave a great speech on how the US will address climate change. If you haven't heard the speech you should listen to it because my friends I want you to know that AMERICA WILL TAKE BOLD ACTION TO CUT CARBON POLLUTION!"

-Fred Kraybill



Solar Urban Homestead

6745 Forest Glen Road
Pittsburgh, PA 15217



You Will See:

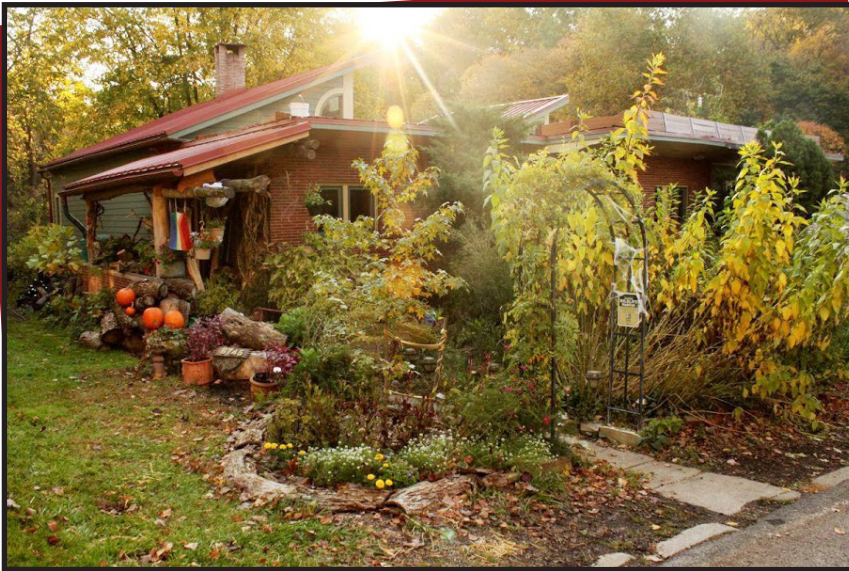
- Beautiful craft architecture and sustainable interiors
- Accessible rooftop solar surrounded by a rooftop garden
- Permaculture landscaping and food production
- Masonry heater

Maren Cooke and her family welcome you to check out the solar installation and other great features of their urban homestead.

The sixteen 185 watt panels are mounted on a ballasted racking system and nestled in amongst a productive roof garden.

“They’re grid-tied so that our excess power on sunny days can be used locally by our neighbors, avoiding transmission losses. And the Enphase microinverters enable us to monitor the performance of each panel. So far, we’ve offset upwards of nine tons of carbon dioxide, relative to coal generation!”





During your visit, you can also take the time to learn about the other green features of the home and the permaculture landscape shared with friends and family. There's rainwater harvesting and storm water diversion using a rain garden, pond, and rain barrels; organic vegetable, herb, and fruit production both in the ground and on the roof; shiitake cultivation; composting; a masonry heater which uses modern carbon to help heat the house; a creative renovation/addition that utilizes local wood and stone; recycled, reused, and salvaged materials; copious insulation of many types, and passive solar design.

Sustainability Salons

Maren also hosts a series of events called **Sustainability Salons**, a monthly discussion of environmental topics. Contact her (maren.cooke@gmail.com) if you'd like to stay on (or return) after the tour for further discussion of renewable energy, climate change, and regional watershed issues, along with potluck food and home-made music into the evening.





War Streets Solar Loft

906 Western Avenue
Pittsburgh, PA 15233



You Will See:

- Award winning Japanese inspired interior architecture
- Rooftop Zen Garden
- Roof mounted solar with roof access
- The story of a compete urban building rehabilitation

Michael Ramsey invites you to stop by his home which features some fantastic architectural and energy saving features.

“The solar installation has been operating since March 2011 and, thus far, it has produced 15.7 MWh, more than I’ve used in that same time period. Part of the concept of that renovation was always to add solar because of the flat roof, south facing exposure, and desire to reduce my carbon footprint. The time of the renovation coincided with great rebate offers from the state and federal government so the choice to add the system was a no-brainer. The current pay-off calculation is about 3 years. The addition of green roof/atrium also reduces utility costs while allowing the space to breathe.”

– Michael Ramsey



The Mid-Century Modern Style, early 1960's office space was completely renovated into a green building, which includes locally-sourced and/or recycled/renewable/environmentally-friendly interior finishes, a green roof, a 48-panel solar array, high-efficiency heating/cooling/insulation/windows, and an interior/exterior Zen garden space.

Planned future additions also include: a planted (green) roof and outdoor living space on the roof. The second floor will become a residential loft space and a business/retail space is to be created on the first floor. Homeowner, Michael Ramsey had a general design concept and hired Loysen + Kreuthmeier Architects, who refined his ideas and added many new and creative details.

A brief profile of the space, there's a link on Michael's architect's page:

<http://www.lk-architects.com/wal.html>

Visitors can see details of the solar installation here in real time:

<https://enlighten.enphaseenergy.com/public/systems/T5ez16222>



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Country Solar Hiding in the City

7721 Edgerton Avenue
Pittsburgh, PA 15221

F

Stop by this solar hideaway and you'll forget you're in the city. John Haer and Joni Rabinowitz welcome you to view their 3.92 kilowatt garage roof mounted solar installation.

"Joni and I have been active in civil rights, labor, peace, and environmental justice issues for five decades. We know the global energy crisis is real and that it is imperative our society is weaned off its fossil fuel addiction. Of course, there are no individual answers to this mess, but since solar-generated electricity has become more economical for average residential use (thanks to enlightened governmental incentives) we wanted to show a working model. Fortunately, a wonderful Southern exposure on the flat roof of our seven garages (which somehow came with our modest two bedroom wood frame when we purchased it in 1976) provides an excellent base for our PV array. Since powering up we've generated more than we've used, and we're pleased to think that we're banking enough "credited kWhs" that we'll only need to 'suck the Grid' for very modest usage during the cloudy months to come." – John Haer



The Howards' Squirrel Hill Solar

1000 Windermere Drive
Pittsburgh, PA 15218

G



"We wanted to go solar for years, but never thought our house would be a good candidate. After the 2013 Solar Tour we called EIS Solar and found out that we could produce far more electricity on our rooftop than we thought possible. We were sold!

Installation was quick & easy. The system works for us every day saving money and saving the environment."

-Chris & Sachiko Howard

H

Solar Power in Mount Lebo

227 Academy Avenue
Mt Lebanon, PA 15228

“We installed our system a year ago and have enjoyed NO electricity bills, and a modest return on the solar renewable energy credits (SRECS) we sell back. This was a great investment for our family and for our future as well as a smart investment and return on our money.”

– Jan Loney and Larkin Wormer



I

Reed & Susan's Solar Adobe

333 2nd Street
Aspinwall, PA 15215



This home is certainly worth crossing the river to see. Reed McManigle and Susan Orr will be happy to share their experience with the Pittsburgh area's newest solar installation. Ask them about the brand new Energy Star shingled roof they had installed as well.

“We went solar for many reasons; the financial benefit; the environmental benefit; we needed a new roof and a large shade tree in front of house was recently cut down, plus the tax credits --the stars were aligned!”

– Reed McManigle

Home Efficiency & Solar in Practice

132 Riverwatch Drive
Blawnox, PA 15238

J

“**W**hy did we do this? We wanted a small 2 kW system to demonstrate the ability to integrate solar into our home, reduce energy costs and have a smarter approach to energy management for our family. We also live within sight of the coal-fired Cheswick power plant (rated by the EPA as one of the top ten worst polluting power plants in the U.S.) and wanted an alternative energy source that did not contribute to air quality problems in the region. Since we do not generate enough to meet all of our needs, the rest is purchased from an energy service provider supported by 100% renewable energy.

After installing this relatively small system we have reduced our monthly electricity consumption by 25 percent. We have also reinsulated portions of the home, installed energy star appliances and updated the lighting. While the average PA home is 2,000 sq ft with over 10 megawatts of electricity consumed annually, this year we are on track to consume 6 Megawatts for our 3,000 sq ft home. The annual return on our solar investment is much more than any bank provides for a savings or money market account.”

—Dr. Robert Sroufe



Weaver Solar House

418 Englewood Drive
Pittsburgh, PA 15237

K

This home has a 5.3 kW roof mounted photovoltaic system consisting of (20) Solar World 265 W mono panels, a SunnyBoy 5000TL inverter with monitoring, and Unirack Mounting solution

“I hope and believe that clean energy is our future. I am excited to now be part of this vital movement and to invite others to join us.”

— Gail Weaver





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House of the Traveling Sun

120 Valley Field Drive
Pittsburgh, PA 15239

L

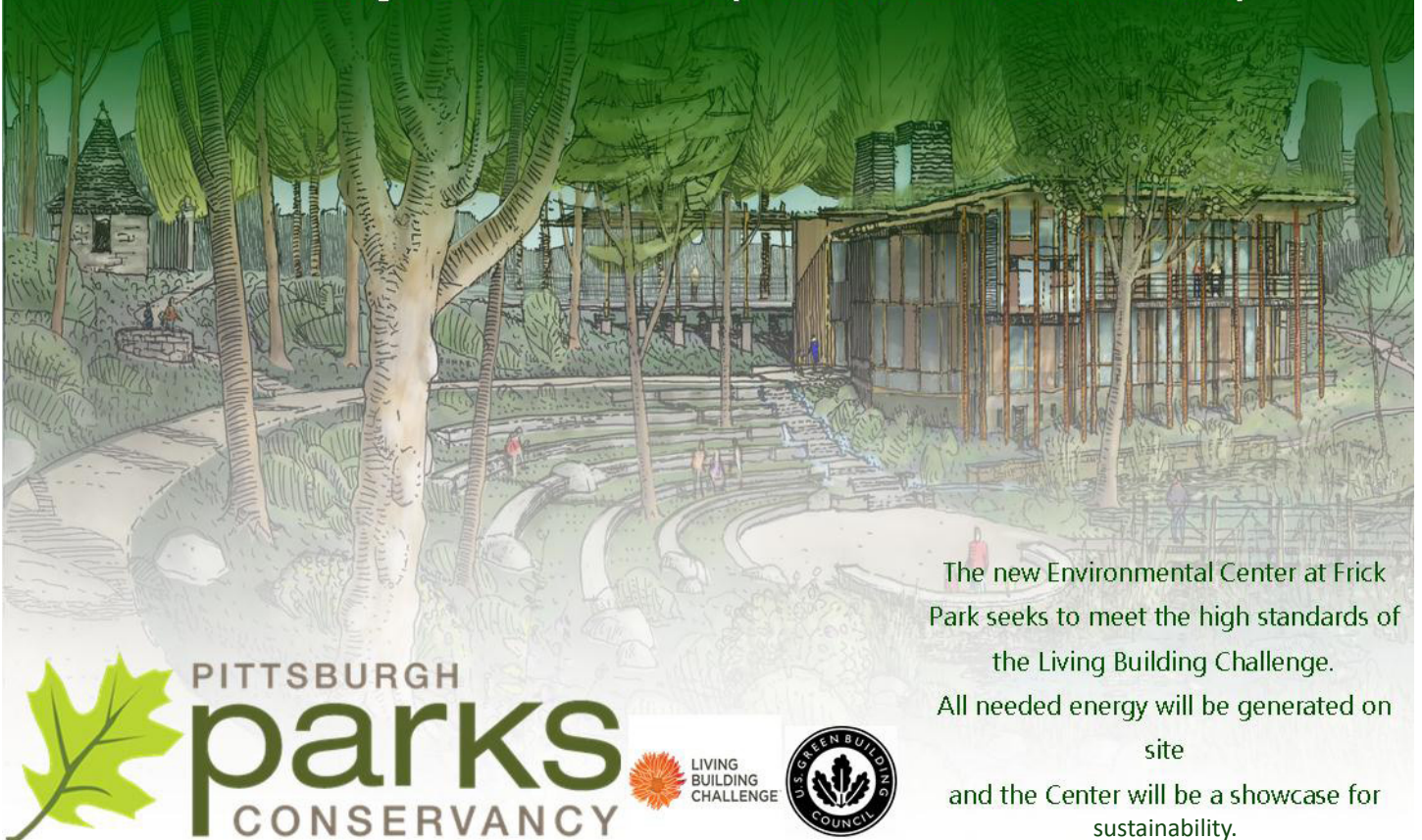
Electrical Engineer Eric Casteel and his family invite you to stop by the “House of the Traveling Sun” which boasts a 7.3 kW rooftop solar installation and 6 kilowatt mobile solar platform. While you’re there, ask about the “SolarCast” mobile solar modules Eric designs and builds for the remote power needs of industries across the country.

“We chose to go solar to secure our long term electricity costs and reduce emissions to preserve our environment for future generations. The Mobile Power Platform (a solar and wind powered generator on a trailer) built by SolarCast will also be on display.”

– Eric Casteel



The Pittsburgh Parks Conservancy is dedicated to sustainability



The new Environmental Center at Frick Park seeks to meet the high standards of the Living Building Challenge. All needed energy will be generated on site and the Center will be a showcase for sustainability.





World's First Solar Powered Flour Mill

166 Love Road
Valencia, PA 16059

Stop by this organic farm and milling operation powered by a 10 kilowatt PV system. With 30 years of organic certification, the Ferderber family can share a story about sustainable food and sustainable energy.

"We combined idealism and practicality when we decided that the investment and return, coupled with incentives, made for a good financial choice. The existence of a perfect south facing roof, our desire to be somewhat energy independent, and the now realized possibility of being the first solar powered flour mill all contributed to the idealistic side of our decision. Our 10 kW solar array saves us nearly half of our flour mill, home and farm's electrical needs and we enjoy seeing the arrow pointing back onto the grid on sunny days, indicating we are supplying our neighborhood with electricity."

-Ferderber Farm



Frankferd Farms Foods, Inc.

717 Saxonburg Boulevard
Saxonburg, PA 16056

- 16 kW Photovoltaic system installed by Energy Independent Solutions



We're thrilled to feature everyone's favorite source for organic specialties and locally-milled grains on this year's tour. Visit the warehouse store and Ferderber Farm and Milling, showcased at stop M above. Pick up some fresh milled corn meal while you're there.

"After our farm's installation (It's also on the Tour) went on line on June 3, our sales person asked how the system was working on June 14. We said "Great!" and he asked if we were interested in something for our business. A grant that we thought was due on June 30th was actually due on June 15th. We were able, in 1 day, to pull together a grant application that helped us buy our 16 kW system that was professionally installed by EIS. Our west-facing roof receives 91% sun and faces the road so that everyone who drives by can see our system mounted on our organic food business. We combined practicality and commitment to the environment with this system."

-Frankferd Farms



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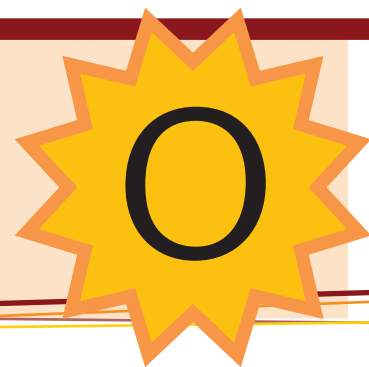
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Solar & Geothermal on the Ohio

240 High Street
Leet, PA 15003



David and Cheryl Goerman welcome you to their home near Ambridge in the town of Leet. The Goerman home features a 8.14 kilowatt photovoltaic system. Ask them about the Enphase Micro inverters technology on their solar installation.

“We choose to go solar to lower our electric bill and reduce our carbon footprint. We also have geothermal heating and cooling in our home (4 ton 2 stage Water Furnace). We are the first in Leet Township to have solar and geothermal.”

—David Goerman





Sunshine Spill in Harrison City

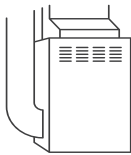
1005 Sunnyfield Court
Harrison City, PA 15636



“I was very satisfied with the Energy Independent Solutions installation of my Solar Panels. The panels were placed in the summer of 2010. I have definitely noticed a substantial decrease in my electric bills, especially in the summer. The sale of the SREC credits have also offset the initial cost. I am conscience of the environment, which is the reason for the Solar Panels and Hybrid Car I drive.”

– Roger and Marcie Galket

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Visit gtechstrategies.org

*After home energy audit. A full list of eligibility requirements can be found at HealthyHomesPgh.org



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BreatheProject.org

We are bringing together businesses, government, organizations and residents throughout southwestern Pennsylvania to clean our air for healthier communities and a stronger economy.

Adam Solar Resources Headquarters

1912 Mayview Road
Bridgeville, PA 15017



Stop by ASR to see both Solar PV and Solar Thermal evacuated tube and flat plate systems in operation. Take a tour of the solar control room and see how you can heat a building with solar-made hot water. Learn about solar charging your electric vehicle and see a Level II charging station in operation. You can test ride some solar charged eBikes while you're here, too!

(Did you know one solar panel in Pittsburgh can harvest enough energy to power an electric bicycle for 100miles!?)



Canonsburg Solar

244 William Drive
Canonsburg, PA 15317



“We already drive a Nissan Leaf but wanted to lower carbon footprint even further. We worked with our installer to design a system to negate our electric bill. We’ve always been huge advocates for renewable energy as a strategy to mitigate climate change. We’re delighted to have added solar to our property and we hope it will encourage others to do same.”

- Lawrence and Dena Nader

**Thank you for attending this
year's solar tour!**

**We hope to see you again
next year!**

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