



# KySES

## Newsletter

Third Quarter - July 2017

### KySES Board of Director Election Results

By Theresa Martin, Former KySES Chair

Please join me in welcoming several newly elected Directors to the KySES Board: **Jamie Clark, John Cotten** and **Thad Druffel**. These individuals were elected by electronic and hard copy ballot at the May 20, 2017 Annual Meeting in Berea. In addition, **Shari Mullen** was nominated as a Director at Large by the newly elected Board of Directors. The individuals will serve 2 year terms as Directors, from July 1, 2017 to June 30, 19.

The Board has one remaining open Director at Large position to nominate. The qualifications are to be a member in good standing of KySES, and be willing to contribute to our mission of promoting solar, efficiency, conservation and renewable energy in Kentucky. If you are interested, send your name, contact info, and a brief 100-150 word description of your interest to Wallace McMullen, [mcmulw@att.net](mailto:mcmulw@att.net).

#### **Jamie Clark**

Jamie Clark is the owner of Synergy Home LLC a central Kentucky company offering whole house solutions for energy efficiency and comfort. Jamie has been a leader in high efficiency HVAC for over 23 years with a vast array of experience in both new construction and retrofit applications. He has been nationally ranked in sales and design by several manufactures and Synergy was the top provider of geothermal systems in 2016 in a 7 state footprint. In 2014 Synergy added solar to their product offerings and by 1st quarter 2017 it was responsible for 25% of Synergy's total revenue. Aside from his business Jamie is very active in advocacy for the energy efficiency and renewable industries. He is a founding member and chapter chair of Efficiency First Ky a trade organization intended to lobby state and local government on energy efficiency issues and promote tax incentives for people investing in energy efficiency and renewables. Jamie has authored and coauthored several pieces of legislation and was largely responsible for Ky Home performance receiving a 3 million dollar grant in 2013.

Jamie wants to work to grow the solar industry in KY so that it does not just survive but actually becomes a vibrant, profitable industry for those companies who wish to run a responsible business model.

Jamie believes that converting to an all electric economy utilizing a responsible strategy to convert to 100% renewables over time will result in a healthier planet for his children and his children's children.

#### **John Cotten**

John Cotten is the General Manager of Wilderness Trace Solar, Inc. of Danville, KY. John brings over 8 years of working in the solar energy industry, and an additional 25+ years of

experience in marketing, and management. As past Director of Wood Product Marketing for the Kentucky Dept. of Agriculture, John has excellent insight and skills to work with government and private businesses alike.

John's skills working between government and corporate agencies will be an asset in the coming months representing the solar industry and KYSES to work for a compromise concerning probable changes in net metering laws and the affects it will have on the industry as well as the commonwealth.

### **Thad Druffel**

Dr. Thad Druffel is the Theme Leader for Solar Manufacturing at the Conn Center for Renewable Energy Research at the University of Louisville. Dr. Druffel performs research on the fundamental relationship of materials and processes towards the scalable manufacture of solar cells using roll-to-roll technologies. He is also the Founder of Bert Thin Films, which is developing materials for the solar industry. Thad is interested in how solar plays a role within the state of Kentucky, especially in the area of creating jobs in this industry that employs more than 200,000 people in the United States. Thad also invests time in exploring how society can leverage action with regards to attracting these jobs to the commonwealth. Finally, he is also interested in extending educational outreach activities.

### **Shari Mullen**

Shari and her husband Mike recently joined KYSES as Supporting Partners members. Shari earned a Master's Degree in Architecture from the University of Kentucky in 2011. During her time in school, she developed an interest in energy efficient design and also in the application of renewable energy sources for residential and commercial buildings. Shari currently owns Pillar3 Design, a small architectural and interior design firm. Pillar 3 was conceived as triple bottom line business, but in practice Shari ended up working on projects that focused more on branded commercial spaces and fabrication than on holistic sustainable design. Shari would like to be involved with the KySES as a way of staying true to her original vision, and to support the development of renewable energy sources in Kentucky. She also hopes to develop relationships with like-minded people and perhaps partner with members to utilize solar in my projects if/when opportunities arise. Shari is interested in helping create content for the KYSES website and help keep it updated. She also intends to help with planning and execution of events.

## **Is Solar Energy Right For You? Community Solar Workshops in Louisville**

By Wallace McMullen, KySES Acting Chair, Vice-Chair, Solar Over Louisville Director

Solar Over Louisville (SOL) announces its 2017 community workshop series for all with an interest in having their own solar system. For anyone who is wondering if installing solar energy at their own home or business makes sense, or what factors to consider in this decision, these free workshops are designed to answer those questions. Attendees will learn about solar energy basics, and how to determine if a solar system will be good for their specific circumstances. The workshops will be held in branch libraries at the dates listed below.

“The cost of solar energy has fallen so rapidly in the past decade that today it is cost-competitive with other forms of energy,” states Thad Druffel, at the U. of L. Conn Center for Renewable Energy Research. “With the 30% tax credit and attractive financing options available today, many people find that the cost of the system is almost fully covered through energy savings while it is being paid off,” says Nancy Givens, Solar Education Manager of Avery and Sun Solar. “After which a home’s electricity becomes essentially free after paying the monthly connection charge.”



Each workshop will cover basics about solar energy – what it is, how it works, its economic and environmental benefits, how to evaluate your site for solar potential, and next steps to take if you are interested in installing solar at your home or business. The presentations will be made by local solar installers. Ample time will be allotted for questions and answers.

Three workshops are presently scheduled on the following dates and locations. Each will last approximately one hour. Come to learn more and bring friends and family members with you!

- July 31<sup>st</sup> – St. Matthews Library, 3940 Grandview Ave., Louisville, Monday, 7 PM
- August 5<sup>th</sup> – Crescent Hill Library, 2762 Frankfort Ave., Louisville, Saturday, 10:30 AM
- August 8<sup>th</sup> – Main Library, 301 York St., Louisville, Tuesday, 7 PM

Beyond the economic benefits, solar energy contributes to improved health and air quality, reduced carbon emissions, creating local jobs, boosting the local economy, and increasing energy security and resilience by diversifying the energy mix. Going to solar is a way to be an active participant in the rapid transition to a clean energy economy occurring today!

The City’s newly-designed Energy Project Assessment Districts (EPAD) program offers a way for businesses, nonprofits, and multi-unit residential facilities to finance their solar system through a property tax like assessment. This removes the upfront costs that have previously served as a barrier to investing in solar. In addition, the investment is tied to the building, not the property owner, so if the building is sold the remaining obligation is transferred to the new building owner who will now be receiving the benefits of the system. The workshop will explain EPAD. The City has published the EPAD application packet, which is available from the Office of Sustainability.

For more information, contact Wallace McMullen, Solar Over Louisville Chair, [mcmulw@gmail.com](mailto:mcmulw@gmail.com), 502-963-5005.

## Homeless Center Goes Solar, Adds to "Faith Bottom Line"

By James Dearie, 7/27/17, Republished from the National Catholic Reporter, [www.ncronline.org](http://www.ncronline.org)

Source: <https://www.ncronline.org/blogs/eco-catholic/homeless-center-goes-solar-adds-faith-bottom-line>



At the Catholic Action Center, from left to right: Director Ginny Ramsey; Fr. Dan Noll, pastor of Mary Queen of the Holy Rosary in Lexington; Laura Babbage, the center's chaplain; Adam Edelen; and Jamie Clark, president of Synergy Homes LLC. (Bob Babbage)

LEXINGTON, KENTUCKY The Catholic Action Center here will soon adopt solar power as its sole source of energy, perhaps becoming one of the first homeless centers in the country to take this innovative step.

Since its founding in 1999, the center strives to meet the spiritual needs of its residents, providing daily prayer services, for example, and it has held nearly 100 funerals for residents who died alone. It also helps connect its guests to the services they need outside the walls of the center. It accepts no government funding and is run by unpaid volunteers.

In April, Catholic Action Center moved to its current location on Industry Road and is open 24 hours a day, 7 days a week, combining services under one roof that were previously offered in four different buildings. It provides 129 guests a place to sleep and serves between 400 and 500 meals a day. It also has activities, including a choir, bingo, Bible studies, Alcoholics Anonymous and Narcotics Anonymous, and has even produced a play, written and performed by guests of the center, which did a small local tour for the center's 10th anniversary.

Ginny Ramsey, who helped found the Catholic Action Center and has served as its director since, said that she began to envision the switch to solar power when she got approval to buy the previously city-owned building earlier this year.

As an organization that provides dozens of showers and several hundred meals a day, Ramsey said "we are a big footprint." She became certain that God was calling her to make the energy switch in June, when President Donald Trump announced the United States' withdrawal from the Paris Climate Accord.

Christmas-NCR-gifts-half\_0.jpg Give a subscription to our award-winning newspaper and save \$10.

As the center is funded entirely through the good will of the local community, Ramsey initially met with skepticism that the project could find the necessary financing, "but we do our due diligence," she said.

The Catholic Action Center partnered with Edelen Strategic Ventures, a management consultancy also based in Lexington, to help put together a plan. The firm has previous experience as a solar energy leader, helping a local coal mining company open a solar farm on an old mine strip, and is

led by former Kentucky auditor of public accounts Adam Edelen, who has worked with Catholic Action Center in the past.

"We believe that the center is the first shelter to go solar without any government subsidy," Edelen said.

Local company Synergy Home LLC installed the panels for a reduced price, and Eastern Kentucky-based Traditional Bank financed the \$75,000 project. The center expects that the switch to solar power will pay for itself in the next five to seven years.

"The return on investment is so great," said Ramsey. "There is no other way can you get this kind of [return]."

The center will also be able to take advantage of a Kentucky law that allows buildings powered by solar panels to place some of their power into the electric grid and receive credit on electric bills for energy used when the sun goes down.

Sarah, a Mississippi-born woman who has been a guest at the center and involved in its choir for the past five years, said that the switch to solar power has been "great," in connecting guests and staff to creation.

"It gives us all a better sense of life," she said. "It's about the community."

Ramsey credits the community of Lexington for helping to make the Catholic Action Center and its solar project a reality, from the hundreds of faith communities that support it financially, to the businesses that have partnered in its work or donated food.

"We have been very blessed by the way the community responds," she said. "We connect people; that's our job. All of us are broken and can only be healed by connectedness and relationships."

Ramsey said that even as the work of connecting the Catholic Action Center, its guests and the community continues, so does spreading the word about care for the environment. "It's about more than just saving dollars," she said, "it's about being a witness."

In the days leading up to the switch, Ramsey and Edelen sent out literature explaining both the environmental and financial benefits of going solar to many of the faith groups that support the Catholic Action Center. Edelen believes that the shelter has provided a model for faith communities trying to become more environmentally conscious.

"They found a way to make it work for their faith bottom line as well as their financial bottom line," he said.

In the meantime, the center's work with the disadvantaged of Lexington continues. Ramsey believes that her community has seen an abundance of signs of God's blessings throughout the years.

"I've always said the day we can't pay our electric bill is the day the good Lord is telling us to close," she said. "We haven't closed; we've expanded, and now the good Lord is paying our electric bill."

[James Dearie is a writer from Cincinnati, Ohio. He graduated from the University of Notre Dame in 2017 with a Bachelor of Arts degree in political science and theology.]

# Solar Power and Cost

By Kris O'Daniel for the Green Festival - Springfield, Washington County, KY

With the precipitous decline in the cost of solar panels over the last decade combined with the 30% federal solar tax credit, today solar is very affordable and with creative financing many people find they can begin saving money from day one.

The cost of investment relates naturally to the size of the solar system, how many panels, inverters and installation cost. The system's capacity is measured in kW and your energy usage is stated in kWh. Once your SOLAR system is up and running you start to generate your own kWh!

If you consider solar for your existing home, find your electricity bills for the last 12 months, sum up the total kWh used and divide by 12 and you'll have your monthly kWh use.

The average home in KY (1600 sq.) uses about 1100 kWh per month or 13,200 kWh per year.

- This kWh use requires 35 solar panels of 310 w. (11 kW) at approx. \$25,000.
- With the 30% federal tax credit the cost would be approx. \$17,500.
- If financed for 15 years at 5% interest rate, the monthly loan payment would be about \$135.
- The panels have a limited warranty for 25 years (85% of min. perform.), inverters for 10 years.
- Both are expected to last up-to-twice as long as warrantied.

Generally, the cost of the investment will show a break-even between 10-15 years depending of financing. However, the monthly payment in above example (\$135) most people find is equivalent to what they would pay to the Utility company every month. And after 10-15 years, your system is yours and you will generate electricity for another 10-15 years for free.

## **Solar for an Existing Home**

Roof As described elsewhere needs to face south/south west and have no shading objects. Structural strength and remaining life of the roof is important to have checked. The weight of solar panels is less than 3 lbs./sq. ft. The life of your roof needs to match the warranty of the panels. The inverters need to be placed away from the sun. How the racks are mounted and where the conduits and cables are placed are further points to be informed about by your installer ahead of time. Each panel measures 39"x77" and the weight is approx. 50 lbs. for 310 Watt sized panels.

The market of SOLAR roofing shingles BIPV\* is developing, but not covered here. \*BIPV: Building Integrated Photovoltaics shingles

What capacity are you looking for? Your monthly kWh use will be your starting point. However, if this is higher than expected in relation to square feet home, you might find it worth a while also look into

- - Insulation. Any obvious places to improve; ceilings, attics, duct work, crawlspace
- - Ceiling openings, cracks. Around windows, doors

- - Thermostats. Are you using your energy efficiently in all rooms?
- - Appliances. Time for newer more efficient appliances.
- - Your habits TV, PC?

Taking action on those points in an existing home is relative more expensive compared to taking appropriate steps when building a new home, but most energy efficiency upgrades pay back quickly. Check it out, sometimes there are obvious areas that can be easily improved like attic insulation. Do think 25 years ahead!

You can supplement and use solar to cover part of your bill and utilize a suitable roof space for SOLAR production. Or you can add panels to provide energy for an electric car. You'll see on next page that switching from your gasoline car to driving on SUN is a great saving!

**The calculations below are approximate and serve primarily to illustrate and help you get an idea of investment based on monthly kWh use. The cost going SOLAR is based on a 15 years financing at 5% interest.**

| Monthly kWh use | Yearly kWh use | # Solar panels<br>310 watt | watt   | kW | Approx. cost | 30% Fed. Tax cut | Cost after tax cut | Financed 15 years, 5% |
|-----------------|----------------|----------------------------|--------|----|--------------|------------------|--------------------|-----------------------|
| 800             | 9.600          | 26                         | 8.060  | 8  | 18,000       | 5,400            | 12,600             | \$100/month           |
| 1100            | 13.200         | 35                         | 10.850 | 11 | 25,000       | 7,500            | 17,500             | \$135/month           |
| 1800            | 21.600         | 60                         | 18.600 | 19 | 43,000       | 12,900           | 30,100             | \$240/month           |
| 2200            | 26.300         | 72                         | 22.320 | 22 | 50,000       | 15,000           | 35,000             | \$275/month           |

**(kW x 4.1 hours of sunshine x 365 x 0.8 loss factor = kWh per year)**

Most people find these amounts are paid primarily or in full through savings on the electric bill.

### Solar for a New Home

Your advantage is that you'll be able to plan the Roof structure and type, oriented well for solar, and start out with a new roof. As important you can do an excellent job on insulation, caulking, window, door installations and duct work if any. (Maybe you'll go ductless and use mini splits that are very efficient!)

If your installer is not able to estimate your kWh use, do pay an engineer to give an estimate based on type and degree of insulation, type of windows, doors and other characteristics of your new house.

If a framed house is built, I would recommend building a 2x6 framed house that allows for more insulation. The additional cost for insulation and framing material is paid off in two years and if you further decide to use SOLAR, your Solar system capacity can be reduced by half easily or even two thirds!

My house is a 3100 square feet 2x6" framed house that is insulated above general standards. During the first year, it used 750 kWh per month. My installer thought I would use around 2000 kWh per month - as this would be the normal kWh use for this size house - and proposed a solar installation to fit that need.

**Drive on Sunshine and get your utility bill for free!**

The electrical car market is developing fast. Investing in a SOLAR system to charge your battery instead of filling up your gas tank really saves your money and saves the Environment.

However, in this country places to charge your car in public are still scarce, so at this point in time the car's range is one thing to look for that is how many miles can be driven before having to recharge the battery.

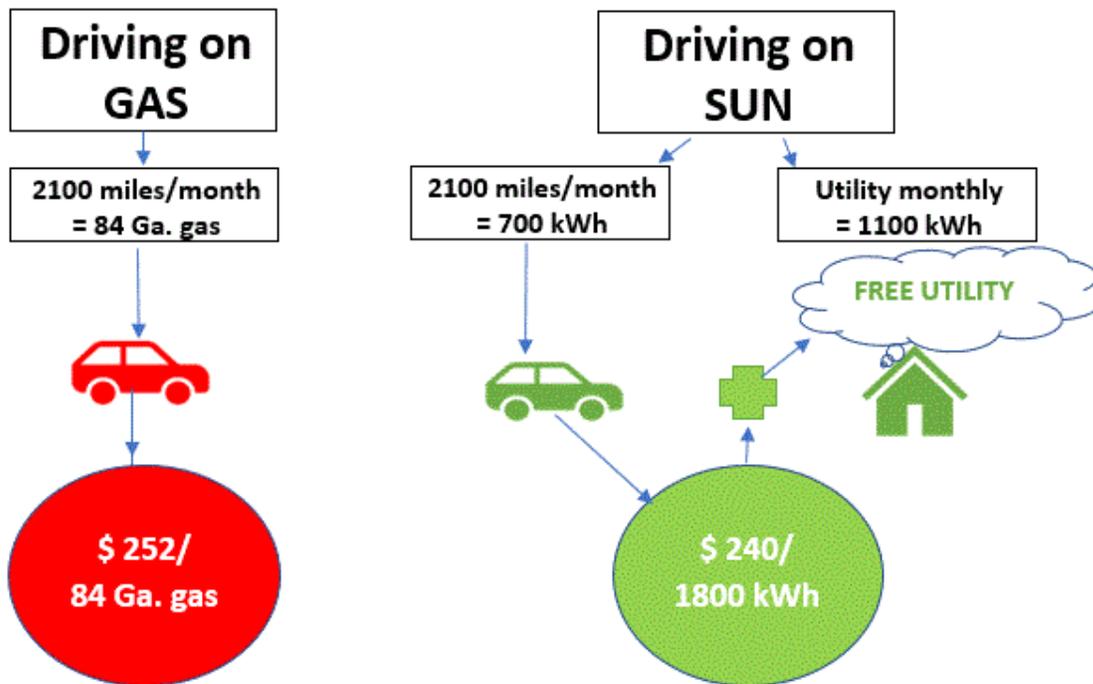
For the calculation below, Ford Focus Electric is used. It drives 100 miles on 34.3 kWh., that is the capacity of the battery and it takes about 5.5 hours to charge. (This a 100% electric car only)

The newest Tesla drives 315 miles on one 100 kWh (Battery capacity) as a comparison.

The calculations below are approximate and serve primarily to illustrate and compare relationship between monthly mileage and kWh, and to compare cost of driving on SUN with gasoline. The GAS car used in this calculation is driving 25 miles per gallon at \$3 per gallon gas.

| Miles/Day | Miles/Month | Miles/Year | kWh/year | kWh/Month | \$ SUN/Month | Equivalent \$ Gas/month |
|-----------|-------------|------------|----------|-----------|--------------|-------------------------|
| 20        | 600         | 7,200      | 2,450    | 200       | \$ 25        | \$ 72                   |
| 40        | 1200        | 14,400     | 4,900    | 400       | \$ 50        | \$ 144                  |
| 60        | 1800        | 21,600     | 7,400    | 600       | \$ 75        | \$ 216                  |
| 70        | 2100        | 25,200     | 8,600    | 700       | \$ 87.5      | \$ 252                  |
| 80        | 2400        | 28,800     | 9,900    | 800       | \$ 100       | \$ 288                  |

The cost running a gas car 2100 miles is \$252. The cost investing in an 1800 kWh SOLAR system is approx. \$240 per month. However, the 1800 kWh provides you with ex. 700 kWh to charge your car to run 2100 miles and 1100 kWh for utility. You basically get your utility for free!



## Give Your Proposal: How To Use Volkswagen Settlement Funds

By Lane Boldman, Executive Director - Kentucky Conservation Committee

The Energy and Environment Cabinet is accepting proposals regarding the Volkswagen Settlement ([link HERE](#)). The Cabinet is currently in the process for developing Kentucky's mitigation plan. States will be receiving settlement funds that will be designated for NOx reduction through this settlement. The [Kentucky Conservation Committee](#) and the Louisville-based electric vehicle advocacy group [Evolve Kentucky](#) recently met with cabinet officials to learn about recent developments with the settlement and are advocating for an "all electric" approach to vehicles that may be purchased through settlement funds. There are also national advocacy groups, such as [Plug-In America](#), that have [released reports](#) on the adoption of plug-in vehicles and their advantages. Link to report [here](#). If you are interested in being a part of this dialogue on shaping this settlement for Kentucky, please contact KCC at [director@kyconservation.org](mailto:director@kyconservation.org). You can also contact [Evolve Kentucky](#) to learn more about their innovative "[Adopt a Charger](#)" program for increasing the availability of electric vehicle charging stations.

To comment directly on the VW plan, you can use the cabinet's comment form [here](#).

## Wild and Scenic Film Festival

By Lane Boldman, Executive Director - Kentucky Conservation Committee



The Kentucky Conservation Committee is hosting the Wild & Scenic Film Festival at the Kentucky Theatre in Lexington on August 17, 2017. Nearly a dozen short outdoor adventure films in support of KCC, plus a silent auction. For more information go to [www.kyconservation.org](http://www.kyconservation.org)

[Welcome New Members](#)

[Board of Directors](#)

Since our previous newsletter, the following have joined KySES:

- Chris Zitelli - Solar by Ecos (Supporting Member)
- Shari Mullen - Pillar3 Design Group (Supporting Member)

Thanks so much to these fine folks and to our renewing members as well! Our membership is very inexpensive and important to help educate and promote solar energy in Kentucky!

You can join both KySES and ASES, including a subscription to [Solar Today magazine](#), for just \$60 annually. [Click here](#) for this special offer, and pick Kentucky as your chapter in the check-out process.

The following individuals are KySES board members. Feel free to contact any of us with suggestions and feedback.

- Wallace McMullen, Acting Chair and Co-Chair
- Rachel Norton, Treasurer
- John Cotten, Secretary
- Thad Druffel
- Richard Levine
- Jamie Clark
- Shari Mullen

## Upcoming Events

### Upcoming Events

(For details, go to [Events](#))

**July 29** - Family Nature Day - Boone Woods Park, Boone County, KY

**July 31 7 PM** - Solar Workshop, St. Matthews Library 3940 Grandview Ave, Louisville

**August 5th 10:30 AM** - Solar Workshop, Crescent Hill Library, 2762 Frankfort Ave, Louisville

**August 8 7 PM** - Solar Workshop, Main Library, 301 York St, Louisville

### Support Solar with a License Plate!

As a solar advocate, would you like to show your support with a solar themed license plate? We need your help to make this available to everyone. We have gathered over 300 signatures and need just 600 more to be able to petition for our very own Kentucky solar plate! Sign up [here!](#)

**August 17** - Wild and Scenic Film Festival,  
Lexington

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KySES Memberships are very affordable!  
\$20 for individuals or \$10 for students.  
Business memberships are \$100 to \$500.  
Visit [www.kyses.org](http://www.kyses.org) for details!

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**Thanks to our Sustaining Partner Members**



Avery and Sun  
Solar Installations



