



ARECC News ● August 2018

ARECC Monthly Meeting
Sunday, August 12, 2018
2:00 - 4:00 p.m.

ACEnet (94 Columbus Road, Athens)

Session One: Building a Network of Worker Co-ops
Session Two: A Deeper Dive into Arduino Technology

Invite Your Friends!

ARECC meetings are open to the public.
Anyone interested is invited to attend.



Second Life Batteries Project Brings Collaboration Opportunities

The Appalachian Renewable Energy Consumer Cooperative (ARECC) and Center for the Creation of Cooperation (CCC) are collaborating to develop a Second Life Battery Project to reuse Lithium Ion batteries. In the initial phase, the development team - Morgan Hager, project engineer, and Roger Wilkens, project director - has been making progress on procedures for safely disassembling, testing and reassembling Lithium Ion Battery packs. The plan is to have a work space in the new Athens MakerSpace (where ARECC toured in July). MakerSpace's personnel are quite interested in the Second Life

Batteries Project, since the project intention is to grow it into a local business, which aligns well with their mission.

The development team has been studying the DIY Open Source Microcontroller technology called **Arduino**. The technology allows anyone to inexpensively construct a wide variety of devices that use electronic sensors and computer chips to control testing and small scale manufacturing processes, as well as many consumer appliances. The team first turned its attention to Arduino Technology when they began looking for a way to do capacity testing on dozens of battery cells simultaneously, rather than one at a time. Dozens of companies and a very robust international community of users support Arduino Technology. It shows great promise for enabling the project to develop and prototype many small production processes as it scales up the Second Life Battery Project into small-scale production.

The connection with the MakerSpace holds great promise. Not only will it provide a workspace in close proximity to many other skilled, interested makers, and possible access to both TA and financial resources through its connection with the Innovation Center, but it may also aid in the project strategy of organizing a network of worker cooperatives. People who frequent the local MakerSpace may well include many who are interested in joining a newly forming worker co-op. Moreover, we recently learned in conversation with TechGrowthOhio, that the Athens MakerSpace is one of three members of a network of makerspaces in Southeast Ohio. So, organizing a worker co-op in one may open the door to organizing in the other two!

- Roger Wilkens

MakerSpace:Facebook.com/athensohiomakerspace//athensohiomakerspace.com



More About Arduino

Morgan Hager, project engineer for the Second-Life Batteries Project, will share some of what she has learned about using Arduino technology in the second presentation at the August meeting. Following is some introductory information from the [Arduino website](#).

What is Arduino?

Arduino is an open-source electronics platform based on easy-to-use hardware and software. [Arduino boards](#) are able to read inputs - light on a sensor, a finger on a button, or a Twitter message - and turn it into an output - activating a motor, turning on an LED, publishing something online. You can tell your board what to do by sending a set of instructions to the microcontroller on the board. To do so you use the [Arduino programming language](#) (based on [Wiring](#)), and [the Arduino Software \(IDE\)](#), based on [Processing](#).

Over the years Arduino has been the brain of thousands of projects, from everyday objects to complex scientific instruments. A worldwide community of makers - students, hobbyists, artists, programmers, and professionals - has gathered around this open-source platform, their contributions have added up to an incredible amount of [accessible knowledge](#) that can be of great help to novices and experts alike.

Arduino was born at the Ivrea Interaction Design Institute as an easy tool for fast prototyping, aimed at students without a background in electronics and programming. As soon as it reached a wider community, the Arduino board started changing to adapt to new needs and challenges, differentiating its offer from simple 8-bit boards to products for IoT applications, wearable, 3D printing, and embedded environments. All Arduino boards are completely open-source, empowering users to build them independently and eventually adapt them to their particular needs. The [software](#), too, is open-source, and it is growing through the contributions of users worldwide.



Why Arduino?

Thanks to its simple and accessible user experience, Arduino has been used in thousands of different projects and applications. The Arduino software is easy-to-use for beginners, yet flexible enough for advanced users. It runs on Mac, Windows, and Linux. Teachers and students use it to build low cost scientific instruments, to prove chemistry and physics principles, or to get started with programming and robotics. Designers and architects build interactive prototypes, musicians and artists use it for installations and to experiment with new musical instruments. Makers, of course, use it to build many of the projects exhibited at the Maker Faire, for example. Arduino is a key tool to learn new things. Anyone - children, hobbyists, artists, programmers - can start tinkering just following the step by step instructions of a kit, or sharing ideas online with other members of the Arduino community.

There are many other microcontrollers and microcontroller platforms available for physical computing. Parallax Basic Stamp, Netmedia's BX-24, Phidgets, MIT's Handyboard, and many others offer similar functionality. All of these tools take the messy details of microcontroller programming and wrap it up in an easy-to-use package. Arduino also simplifies the process of working with microcontrollers, but it offers some advantage for teachers, students, and interested amateurs over other systems.

- From the Arduino website



Come Participate with ARECC at the Pawpaw Fest! 2018 Ohio Pawpaw Festival

The 20th Annual Ohio Pawpaw Festival - September 14-16, at
Lake Snowden in Albany, Ohio

Hours

Friday: 4 p.m. - midnight

Saturday: 10 a.m. - midnight

Sunday: 10 a.m. - 5 pm



ARECC will have table space in the Sustainability Tent, where we'll promote our Second-Life Batteries Project and invite folks interested in renewable energy to join us. ARECC has been involved with this fun festival for many years. Please sign up with Roger Wilkens if you can volunteer for a shift. (We will have some exhibitor passes available for volunteers.)



Blue Rock Station Offers Solar Training

From Jay Warmke: "There are still a couple of slots for the August class at Zane State College in Zanesville OH. You can register at www.bluerockstation.com, but if you want college credit (2 credits) you will need to register directly with the college. The rest of the summer and into the fall has us in various locations around the mid-west teaching this popular class...which you can read about at www.bluerockstation.com. Please sign up early for classes to avoid disappointment."

Solar Installer Level 1 class,

August 13th - 17th

Zane State College, Zanesville OH

September

- September 10th - 14th – **Solar Installer Level 1 Class**, Greencastle IN (you can participate in a small install on September 15th at no extra charge).
- September 15th – Join Annie at the **Pawpaw Festival** in the Sustainability Tent to learn about home made specialty dairy products.

October

- October 4th - 8th - **Solar Installer Level 1 Class**, University of Dayton, Dayton, OH
- October 6th – **Open House afternoon for Rural Action**. Take a tour of BRS and learn how Rural Action can make a difference in this area of Ohio. Reservations required but everyone is invited.



Mid-Ohio Valley Groups To Host Candidate Forum September 13

The Green Sanctuary Committee of the Marietta Unitarian Universalist Society invites you to a Candidate Forum on Energy and the Environment, Thursday, September 13, 7:00 p.m. at McDonough Auditorium on the Marietta College campus. The event is co-sponsored by the FUUSM Green Sanctuary Committee, Mid-Ohio Valley Climate Action, and Friends of Lower Muskingum River. Twelve candidates seeking these offices have been invited: U.S. Senate, U.S. House District 6, Ohio governor, Ohio Legislature Districts 94 and 95, and Washington County Commissioner.



FACING REALITY:



**THE ECONOMIC RISK
POSED BY
THE FRACKING INDUSTRY**

Speaker: John Detwiler
August 16, 2018
7:00 p.m.
First Christian Church
1400 Washington Ave., Parkersburg, WV



SAVE THE GRANDCHILDREN

It is a mistake to accept the “framing” of our debate as **“economic prosperity versus environmental sensitivity”** because – **in reality** – the economic impact of fracking is also very negative. John’s presentation suggests that the coming collapse of the fracking/petrochemical boom will be **financial**, and that – as activists – we should be prepared for that outcome.



In the News

[- Maryland Solar United Neighbors Form First Battery Storage Co-op](#)

"The [Maryland Storage Co-op](#) is the first time Solar United Neighbors has focused solely on helping solar homeowners install battery storage to enhance their existing solar systems. The co-op is open to all solar homeowners in Maryland and currently has 45 participants, and is still open to new signups."

[- Solar United Neighbors Partners with American Solar Energy Society in National Tour](#)

"Organized every year, the National Solar Tour is a chance for people across the country to meet their neighbors and check out their solar systems. See local renewable energy in action! Ask home and business owners about their experience going solar. Network with other solar tourists from your area for a fun and educational experience."

-Ohio bill would relax wind setbacks — and clean energy standards

The bill drew criticism in latest hearings to change Ohio's clean energy standards after they resumed last year.

- Renewables: What's the Future for the Midwest in a Post-Mandate World?

"An energy policy wave swept across the Midwest a decade ago as seven states adopted laws from 2006 to 2009 requiring utilities to add increasing amounts of wind and solar energy. The aim of the clean energy mandates was clear — to slash greenhouse gases and other power plant emissions and generate new jobs and investment. A decade later, most utilities in states with renewable portfolio standards are either meeting or on track to meet the targets."



Published for the Appalachian Renewable Energy Consumer Cooperative (ARECC). ARECC is organizing this network of energy cooperatives in Appalachian Ohio to help members transition from fossil fuels to renewable energy. First, we'll reduce energy consumption (conservation) and then work towards creating energy from renewable sources. ARECC is a non-profit cooperative operating in southern Ohio. Adeline Bailey, Editor

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