

# Appalachian Alternatives

Appalachia - Science in the Public Interest

Autumn 2011    Number 100

## New Milestones and Current Works

If you'll notice, this is the 100th issue of Appalachian Alternatives. The first "Celebration Issue" was issued in the spring of 1984 to replace ASPI's old quarterly fact sheets. Our new calendar heralds another milestone. The 2012 Simple Lifestyle Calendar is our 35th. It is fitting as we continue the tradition of the Simple Lifestyle Calendar that our 35th year is marked with the theme, "Appalachian Elders" because our calendar has become an Appalachian elder itself. We look forward to next year when ASPI itself celebrates its 35th anniversary in April. We are very interested in hearing from you, our readers about any personal memories you would like to share or ideas about how to celebrate this milestone.

### Solar PV Trainings



In August the Kentucky Solar Partnership hosted four days of trainings in Frankfort on solar photovoltaic system design and installation. Thirty two participants attended the first two-day class, "Introduction to Solar Photovoltaics." Eighteen participants stayed for day three, "Solar Site Assessments and PV System Design," and fourteen people attended the final day, "PV and the National Electric Code."

Our participants included electrical contractors, solar electric contractors, recent college graduates, engineers, and others exploring solar energy as a potential career path. Two students from the University of Louisville will use the knowledge they gained as they help design U of L's entry in the international *Solar Decathlon* solar home design competition. Four participants will receive Continuing Education Units from the Kentucky Office of Housing, Buildings and Construction to support their electrician's licenses.

On the second day of the training the class made a field trip to the home of KSP Director Andy McDonald to view his recently-installed grid-tied solar PV system. Participants also had a chance to view KSP's Solar Trailer, which demonstrates an off-grid, battery-based PV system. The chance to view operational PV systems in real-world applications was a highlight of the trainings for many participants.

Nine of our participants were able to attend thanks to financial support offered by MACED (the Mountain Association for Community Economic Development). MACED supports the development of small businesses in eastern Kentucky and has a special emphasis on supporting sustainable energy enterprises. In addition to financial assistance to attend ASPI's workshops, MACED also offers financing for business development investments, "energy microloans" for energy efficiency and renewable energy investments for eastern



Chris LaForge instructs PV workshop participants

Photo by Nathan Hall

Kentucky businesses, and technical assistance to building trade contractors. MACED also has a Certified Energy Manager on-staff to provide energy consulting. To learn more about MACED's Energy Efficient Enterprises project, contact Elizabeth Graves at 859-986-2373 or [egraves@maced.org](mailto:egraves@maced.org).

Coming up in October KSP will be hosting a five-day, hands-on installation training. Many of our participants from August will be returning to gain hands-on skills as we install an off-grid solar electric system on a mobile trailer. Registration for the October workshop is already full.

**Capital Area Solar Tour:** October 1, 2011, Frankfort, Kentucky 8:45 am – 4:45 pm. The 2011 Capital Area Solar Tour provides a guided bus tour of five sites in the Frankfort area featuring innovative applications of solar energy and other green building features. To Register, contact Angela Mitchell at 502-229-2008 or [angela.mitchell@fewpb.net](mailto:angela.mitchell@fewpb.net). Complete Schedule and Descriptions of Tour Sites Available at [www.kysolar.org](http://www.kysolar.org).

**Earth Tools Installs 12.2 KW Solar PV Array in Owen County:** On September 17, 2011, long-time ASPI supporter Joel DuFour started producing power from a 12.2 KW solar photovoltaic array mounted on the roof of his business' main building. Joel's business, Earth Tools in Owen County, Kentucky, sells and services walk behind tractors and hand tools. In May of 2011, ASPI's Andy McDonald provided a solar site assessment for Earth Tools and began working with them to design a solar PV system that would meet their needs. Andy helped Joel identify strategies for reducing their energy demands and becoming more energy efficient, which reduced the cost of the PV system. He also helped him apply for a REAP grant from the US Department of Agriculture, with the assistance of Jason Delambre of Interdependent Energies. Earth Tools was awarded the REAP grant in June, covering 25% of the project cost.

Earth Tools hired Sam Avery of Avery and Sun to install the solar PV system. Avery completed the installation in three days with a crew of six people. Earth Tools now hosts the largest solar PV system in Owen County and the second net metered PV system in Owen Electric Cooperative's territory. Owen Electric's CEO Mark Stallons came out to see the installation first-hand as soon as the system went online and was impressed with the system and the quality of the installation. Our conversations with him at Earth Tools give us hope that Owen Electric may soon be offering more support to their customer's interested in using solar and other renewable energies. Andy and Mark Stallons both serve on East Kentucky Power Cooperative's Demand Side Management/Renewable Energy Collaborative, so their meeting at Earth Tools was an opportunity to further explore EKPC's renewable energy options.

Earth Tools expects to generate 15,128 kWh each year from their solar PV array. They have more energy-saving projects lined up and their goal is to meet 100% of their annual electricity needs with the solar PV system. The USDA REAP grant program is a competitive program that provides grants and guaranteed loans to rural small businesses and farmers for renewable energy and energy efficiency projects. To learn more, visit [www.rurdev.usda.gov/or/reapee](http://www.rurdev.usda.gov/or/reapee) or call Scott Maas at the USDA Rural Development office at 859-224-7435.

**Lighten Up, Frankfort! Project Exceeds 1,000 Tons of Carbon Reductions:** For more than one year ASPI has been partnering with the Frankfort Climate Action Network on a community-based program to help households reduce their carbon emissions. In 2010 ASPI and Frankfort CAN received a \$25,000 grant from the US EPA's Environmental Justice Small Grants Program to develop the Lighten Up, Frankfort! Project. As the project comes to a close at the end of September, Lighten Up, Frankfort! has achieved over 1,000 tons of reduced carbon emissions in the Frankfort community.

Frankfort CAN will be hosting a celebration of Lighten UP, Frankfort on September 24th in Frankfort, to celebrate their achievements. As of this writing, 285 households have participated in the program, with 153 households completing it and turning in a record of their commitments. There are 18 participating organizations who have formed Lighten Up teams and over 1,000 metric tons of reduced carbon emissions have been achieved. Over 800 tons of savings were achieved by participating households, and over 300 tons will be achieved by the Capital Plaza Hotel, which signed up as a Lighten Up! Partner and has committed to perform a major lighting upgrade. To learn more about Lighten Up, Frankfort! visit [www.FrankfortClimateAction.net](http://www.FrankfortClimateAction.net).

**Solar Water Heater Installation Completed at Franklin County Cooperative Extension Office:** With support from the Kentucky Solar Partnership and the University of Louisville's Institute for the Environment and Sustainable Development, the Franklin County Cooperative Extension Office has installed a solar water heating system. The system

was installed in September 2011 by Solar Energy Solutions of Lexington and is expected to meet 80 - 90% of the office's annual hot water needs.

The solar water heating system was installed for educational as well as energy saving purposes. KSP has installed meters and data loggers on the system to provide a detailed understanding of the system's performance and energy savings. A pressurized glycol system was installed, using a 4' x 10' solar thermal collector from AET, an 80 gallon storage tank with heat exchanger, and it is controlled by a 10 watt solar PV panel that drives a DC pump. This system will be featured on the 2011 Capital Area Solar Tour on October 1st.

**KySEA Working to Build Support for the Clean Energy Opportunities Act:** ASPI continues to work with the Kentucky Sustainable Energy Alliance (KySEA) in support of statewide policies to greatly expand the use of renewable energy and improve the state's energy efficiency. KySEA supports the Clean Energy Opportunities Act, which represents a "Gold Standard" for clean energy policy in Kentucky. The Kentucky legislature will be in session in January 2011 and KySEA will be working to educate legislators about the importance of this legislation. Please contact your legislators and let them know that you support clean, renewable energy and KySEA's bill. To find contact information for your legislators, visit [www.LRC.KY.GOV](http://www.LRC.KY.GOV) or call 800-372-7181. To learn more about KySEA, visit [www.kysea.org](http://www.kysea.org).

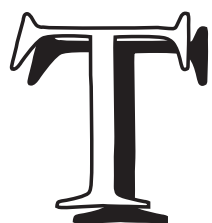
## Watershed News

**Kentucky Local Water Quality Testing:** Upper Cumberland citizen water monitoring for 2011 concluded with a testing event in early September. Results from testing dates in spring and summer showed that we are still finding elevated levels of E. coli at some sites but it is unclear whether the source is agricultural or human. Somewhat unusual rainfall patterns this year may be affecting these numbers. Following receipt of fall sampling results, there will be an Annual Meeting in late winter to discuss these findings and plan for follow up.

## Nature Center Update

ASPI is happy to announce that thanks to a generous donation from Al Fritsch and the Jesuits of the Chicago/Detroit Province we will be able to bring back our popular Nature Center program. The donation covers the running of the program for the next three years. The program will, once again, work with regional 3rd grade students to help prepare them for 4th grade standardized testing. The program concentrates on 3rd and 4th grade science core curriculum content requirements, specifically on Appalachian Forest Ecology; ecosystems, habitats, food chains and life cycles, among other topics. Work has begun on adapting our previous 4-day program for use as a 2-day program and updating in order to better reflect current core content needs. One program day will be spent in the school classroom and one day will be a field-trip to the Mary E. Fritsch Nature Center. Local school teachers who have been contacted have shown great interest in participating in the program. We look forward to implementing the program as soon as the Nature Center repairs are completed.

The Nature Center building, trail and other structures have been evaluated and plans have been made for repairs and updates. Plans for updating the Nature Center displays are also underway as many of the display materials are beginning to show their age and are in need of replacement. Volunteers to assist with the work, and/or donations of display materials are encouraged to contact the ASPI office at: 606-256-0077, or Nancy Seaberg at [nseaberg@a-spi.org](mailto:nseaberg@a-spi.org). Some suggestions for display materials are: books, posters, animal skins, skulls, bird nests, feathers, rocks (any 'nature' items), and game and activity supplies.



**HANKS**

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