REnews
Kentucky Renewable Energy Consortium

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Join KREC on Facebook!

Join KREC members and friends of renewable energy on KREC's new Facebook page. The page offers members and guests the opportunity to share information, discuss ideas, ask questions or post items of interest to the renewable energy community. To view the page, log onto your Facebook account (required) and type "KREC Kentucky" in the search field. Facebook, in conjunction with the KREC Web site, will help get the word out about what's happening in renewable energy and energy efficiency in Kentucky. KREC and KEEPS - Kentucky Energy Efficiency Program for Schools are KPPC's new members of the Facebook community.

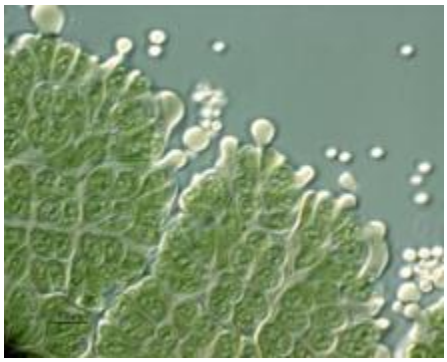
Mark Your Calendar for KREC's June Quarterly Meeting

KREC will hold its next Quarterly Meeting on June 24 from 1 p.m. to 3 p.m. (ET) at Spindletop Hall in Lexington, KY. The meeting will include an update on the Governor's Task Force on Biomass and Biofuels, a look at Renewable Energy market drivers such as a possible Kentucky REPS (Renewable and Efficiency Portfolio Standard), an update on the progress of research through KREC's Competitive Grants Program, and after the meeting, a special tour of the University of Kentucky's Center for Applied Energy Research's (CAER) algae research project. Register today to join us in Lexington.

Algae's Secret Connection to Fossil Fuels

Texas A&M University researchers, working with scientists from the University of Kentucky and the University of Tokyo, have been looking into the genetic makeup of the Botryococcus braunii green algae and they have discovered a direct connection between the algae and deposits of petroleum and coal. This surprising discovery could lead to the development of new strains of algae that produce the highest yield of biofuel compared to the amount of space needed to grow it. The researchers found that oils from Botryococcus braunii are easily found in petroleum and coal deposits, leading to the probability that the algae played a significant role in forming those

fossil fuels.



Dr. Timothy Devarenne, Agrilife Research scientist with Texas A&M University, says that “The fuels derived from B. braunii hydrocarbons are chemically identical to gasoline, diesel and kerosene, thus, we do not call them biodiesel or bio-gasoline; they are simply diesel and gasoline. To produce these fuels from B. braunii, the hydrocarbons are processed exactly the same as petroleum is processed and thus generates the exact same fuels. Remember, these B. braunii hydrocarbons are a main constituent of petroleum. So there is no difference other than the millions of years petroleum spent underground.” Photo of B. braunii at right from Texas A&M's Agrilife Research News Web site.

Like some other types of green algae, B. braunii could produce a very high volume of fuel relative to its weight. On the downside, B. braunii’s growth rate is far slower than other biofuel algae, so that is one fact that researchers hope to improve. While the algae that produce 'vegetable-type' oils may double their growth every six to 12 hours, B. braunii’s doubling rate is about four days. Studying the cellular working of a given algae at the molecular level may improve the organism's growth rate and oil production potential.

As a viable form of renewable energy, biofuel from algae and other plants is poised to make a breakthrough in the energy market, but one sticking point has been the amount of land needed to raise biofuel crops. Texas A&M’s finding raises the possibility of creating a platform for small-scale algae biofuel farming on brownfields and other underused land — which could help create another opportunity to invest in green jobs.

Devarenne states that "As a group, algae may be the only photosynthetic organism capable of producing enough bio fuel to meet transportation fuel demands."

Surfing the Web with Wood Power

Can you run your computer and surf the Web with wood power? According to ecoPower Generation-Hazard, LLC (“ecoPower-Hazard”), yes you can. The company has been granted a certificate allowing construction of an electric generating plant in northern Perry County. The proposal includes plans to build a 50-megawatt (MW) merchant generating plant on a 125-acre site in the Coal Fields Regional Industrial Park, located about 10 miles north of Hazard. The site is a reclaimed coal mine.

ecoPower Generation

The biomass fuel for the plant will come from nearby wood industry facilities and forest product operations and will include low-grade logs and wood wastes such as sawdust, wood chips, bark and sawmill wastes. The wood material will be burned to produce steam, which will power turbines that produce electricity.

According to ecoPower-Hazard, the plant will cost about $150 million to build. The two-year construction process will have an estimated $82.5 million impact on the local economy with an average of 200 workers on the site. Once in operation, the plant will employ about 40 people, with a total annual payroll of more than $2.6 million and an operating budget of $16 million in its first year, ecoPower-Hazard said in its application.

Members' Forum

Article by KREC member Patricia Coxon, President of SunWind Power, Inc.

Kentucky Woman Chooses Solar PV for Her Home
Anna Kunzler describes her decision to go solar as just one of the many choices she has made in her journey to minimize her impact on the environment. A visit to her property in Sulfur, Kentucky demonstrates her dedication to environmental stewardship.

Here, evidence of Anna's choices abound; from her organic garden and free-roaming chickens, to the rescued wild birds she houses (which include several owls, hawks and a vulture), to her newly installed solar system.

As Anna began to make plans for her house in the mid-1990s, she investigated a myriad of options to reduce her carbon footprint that included active solar, geothermal and passive solar. As a first step, she incorporated passive solar into her current home. Initially, Anna believed that active solar was not a feasible option for her but learned otherwise through a non-profit group called Appalachia – Science in the Public Interest (ASPI). ASPI's goal is to promote sustainable development, responsible resource management and informed personal choices.

That led her to contact SunWind Power where our relationship began. She learned that active solar was an affordable choice that she could utilize. Following an assessment that determined active solar was a viable option for her location, Anna made a commitment to a solar system.

The 4.68 kW solar panel system on Anna Kunzler's Sulfur, Kentucky property.

Kunzler now is the proud owner of a 4.68 kW grid-tied system which will reduce her carbon footprint by preventing 7.37 tons of CO_2 emissions per year. The average U.S. household's CO_2 emissions from electrical usage is approximately 7.4 metric tons per year.

Global environmental issues can be overwhelming and lead to feelings of helplessness. Anna made personal choices in her lifestyle that helped empower her to make a difference toward these larger-than-life issues. Her decision to go solar is not only an economic and financial investment, but an investment in the future of our next generation.

Training/Learning Opportunities

Kentucky - *Save Energy Now* Workshops. KPPC - Kentucky Pollution Prevention Center is offering energy efficiency workshops to help your industry or manufacturing facility save energy and lower operating costs. These workshops (June 9 in Louisville and June 16 in Bowling Green) mark the launch of expanded services that will allow KPPC to support clients through the development of self-sustaining energy-savings programs. The goal is to help industrial and manufacturing facilities reduce their energy use by 2.5 percent per year for 10 years.
Workshop cost is only $25 per person. Fee includes lunch and workshop materials. Information and registration can be found on KPPC's Web site.

Sustainable Energy Training Series 2010

Appalachia - Science in the Public Interest and the Kentucky Solar Partnership will conduct the 2010 Sustainable Energy Training Series, offering 13 workshops on topics related to solar energy and residential energy conservation. The Sustainable Energy Training Series is for professionals seeking to expand their knowledge and the scope of services they offer, as well as others interested in learning more about these important fields.

The solar energy workshops are presented in accordance with North American Board of Certified Energy Practitioners (NABCEP) standards and follow the NABCEP PV or Solar Thermal Task Analysis. Information about the training series can be found on the organization's Web site.

The Kentucky Sustainable Energy Alliance (KySEA) Public Meeting
The public is invited to a meeting of the Kentucky Sustainable Energy Alliance on June 7 at 10 AM. The meeting will take place at the Lexington Public Library, North Branch. The Kentucky Sustainable Energy Alliance (KySEA) works to promote clean, sustainable and affordable energy solutions for Kentucky. The alliance has a broad based coalition that works to develop the ideas, resources, public understanding and political support necessary to advance solutions that can help all Kentuckians save money and energy. Visit the Ky SEA Web site for more information.

Contribute an Article to REnews!

KREC would like to publish your thoughts on renewable energy and energy efficiency in Kentucky in the "Members' Forum". Please send your opinions, articles or news about RE happenings in the Commonwealth to KREC@kppc.org. A short piece is preferable (300 or fewer words works best).

Make your voice heard – we want to give KREC members a forum to spread the word about renewable energy efforts and issues.

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