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The Appalachian Voice

Dec. 2009 / Jan. 2010

ENERGY

Today, Tomorrow & Beyond

Plus: Faith & The Environment • Meet the Ruffed Grouse • A Green(er) Christmas • Chasing Copenhagen

The APPALACHIAN VOICE



A publication of

APPALACHIAN VOICES

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Appalachian Voices brings people together to solve the environmental problems having the greatest impact on the central and southern Appalachian Mountains. Our mission is to empower people to defend our region's rich natural and cultural heritage by providing them with tools and strategies for successful grassroots campaigns. Appalachian Voices sponsors the Upper Watauga Riverkeeper® and is also a Member of the Waterkeeper® Alliance.

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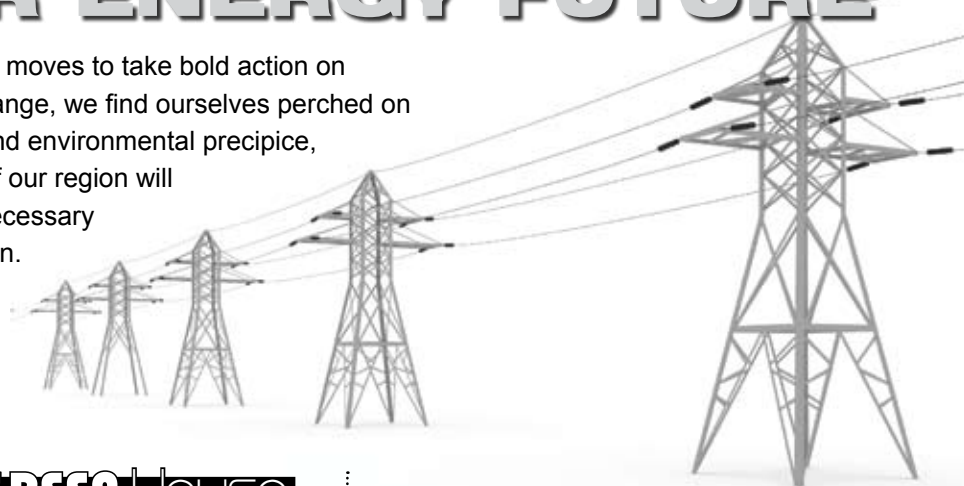
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INSIDE THIS ISSUE

OUR ENERGY FUTURE

As the world moves to take bold action on climate change, we find ourselves perched on an economic and environmental precipice, waiting to see if our region will embrace the necessary energy transition.

p. 14-17



This GREEN House

Our newest special section features the Sustainable Living Center in Floyd, Va.... p. 4



Coal River Mountain

Blasting has begun on the West Virginia icon of wind energy potential p. 13



Photo by Carl Galie



Photo by Harold L. Jerrell

Naturalists' Notebook

Meet the unflappable Ruffed Grouse.... p. 27

Chasing Copenhagen: Part 2 - Editor-in-Chief Bill Kovarik meets with scientists in two EU countries to learn what they are doing to reduce CO2 emissions and fossil-fuel dependency p. 5

Green Gifts that Keep on Giving - Unique gifts to give your loved ones this holiday season.... p. 8

For the Birds: Christmas Count is a Holiday Tradition - Scientists rely on citizen counters to track bird patterns.... p. 9

Prenter Hollow Sues Coal Companies Over Contaminated Water - Residents sue, claiming private wells are contaminated by slurry injections in abandoned underground mine shafts.... p. 18

Environmental Stewardship: When Belief Becomes Action - Religious communities take action in the environmental movement.... p. 20

Every Issue:

This Green House.....p. 4
Hiking the Highlands: Appalachian Trailp. 7
Across Appalachiap. 10
AV Book Clubp. 21
Opinions and Editorialsp. 23
Inside Appalachian Voices.....p. 24
Get Involved!p. 28



Cover photo:

Scott Hotaling's photo, a view from above 5,000 feet along the Blue Ridge Parkway near Richland Balsam, captures a world of snow and ice as the sun rises on the horizon. This image was selected as a finalist in the Appalachian Mountains Photography Competition in 2007.

THANK YOU from Appalachian Voices!



The staff and board of Appalachian Voices would like to thank our members for providing us with the support we need to achieve our common mission to protect the central and southern Appalachians. In the spirit of the season and as a token of our appreciation, we offer* these gifts to you or a friend for joining our Appalachian Voices community.

- \$50 membership—Coal Country Music CD
- \$75 membership—Coal Country The Movie / DVD
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**offer ends January 15*



Coal Country is a movie that tells the story of the dramatic struggle happening in central Appalachia communities around mountaintop removal coal mining, featuring an amazing soundtrack with Natalie

Merchant, Gillian Welch, Willie Nelson and others. To learn more about Coal Country, visit coalcountrythemovie.org.

Please join us in 2010 to protect our Appalachian mountains, air and water

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This GREEN House

Sustainable Living Center: TEACHING BY EXAMPLE

By Maureen Halsema

The sun was shining, the wind was blowing and the energy was flowing into the little office in Floyd, Va.

"You can't miss it," Billy Weitzenfeld said. "It's the building next to the 42-foot tall wind turbine."

The Sustainable Living Education Center, a branch of the Association of Energy Conservation Professionals (AECOP), is a living example of efficiency and sustainability.

Billy Weitzenfeld is the executive director of AECOP, a non-profit Virginia-based corporation founded in 1992 as a series of weatherization programs. The AECOP stresses the importance of energy efficiency, renewable energy sources and green building technologies in order to conserve natural resources and the environment.

The purpose of the Sustainable Living Education Center is to provide active learning experiences through exhibits, model displays and working energy systems, such as a 1,000-watt wind turbine and a 102-watt solar panel that provide more than enough energy to light the office as well as heat the water.

The wind turbine and the solar cell were installed approximately five years ago at a cost of \$5 to \$6 per watt. The wind turbine resulted from a collaborative effort with James Madison University's Virginia Wind Energy Coalition (VWEC). The Sustainable

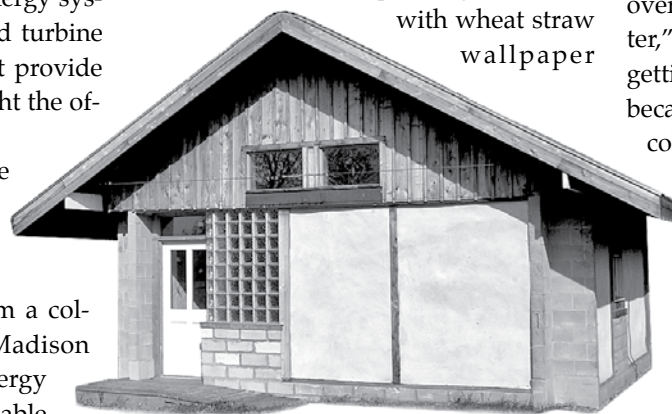
Living Education Center put an anemometer up to measure the wind speed and direction for one year to determine whether the site had a reliable wind resource. Over the last five years, only one part has needed replacement.

The wind turbine is part of a hybrid system that works collaboratively with the solar panel, generating 12-volt energy. All of the energy that both systems produce goes into the same battery storage.

"So if the wind stops blowing and the sun starts shining, we still have power," Weitzenfeld said.

While the upfront cost was more expensive than the small-scale wind power, the solar system has not had any expenses in terms of maintenance. The solar panel's initial cost was approximately \$10 per watt.

The center was constructed with efficiency and low impact in mind. The design used recycled and local materials, incorporating walls lined with wheat straw wallpaper



The Sustainable Living Education Center in Floyd, Va., above, teaches people how to make changes to their homes to live more sustainably. The straw bale house, below, was built to show people an example of how to successfully construct a sustainable structure. Photos by Maureen Halsema

and shelving made of sorghum stalks. Low-volatile organic compounds (VOC) paints were used, reducing toxins and contamination in the air, landfills, and groundwater supplies. The lumber is Forest Stewardship Council (FSC) certified, meaning that wood was extracted from well-managed forests. The floors were made of a variety of environmentally conscious materials, including bamboo, cork, recycled carpet, and even ambrosia maple taken from dead trees in Floyd.

Outside, attached to the drainpipe, is a water collection system.

"Just one inch of rain is equivalent, over time, to thousands of gallons of water," Weitzenfeld said. "That water is not getting back into the underground aquifer because we direct storm water rather than collect it and reuse it."

Using a water collection system, the recycled water can be used for non-potable purposes such as watering a garden, flushing toilets, showering, and washing clothes. With the use of a filtration system the water can even be reused for potable purposes.

A straw bale house is adjacent to the Sustainable Living Education Center, designed to show effective strategies of straw-bale construction, an extremely energy efficient means of housing.

"It is the best insulated building in Floyd County," Weitzenfeld said.

The walls have a natural texture—in some places you can see the shape of the bales beneath the plaster and clay paint; it is reminiscent of a gingerbread home, smelling faintly of fresh straw, with large cathedral ceilings and natural lighting illuminating the space. A "truth window" was intentionally left to show the straw-bale wall interior.

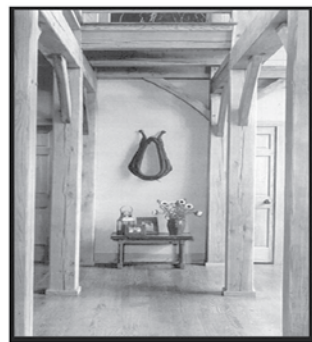
The straw-bale structure was designed using the in-fill method, meaning the frame was built with box beams made of white cedar and the space filled in with straw bales from Floyd. The windows and doors, made of ambrosia maple and poplar, were incorporated into the framing process, and the corners were finished with cinder blocks. In order to protect against moisture - which is an issue with any structure, but a particular concern for straw bales - the builders used an earthen plaster comprised of clay, water, sand and straw. The straw bales were hand-coated with two coats of earthen-based plaster. On the building's exterior, a final coat of lime was applied as a moisture preventative measure; on the inside, the final coat was a layer of clay paint.

"The earthen-based plaster allows the building to breathe a little better, and should moisture penetrate, this type of plaster would help to dry it out," Weitzenfeld said.

The Sustainable Living Education Center is also used to teach people how to make small improvements at home in order to live more efficiently.

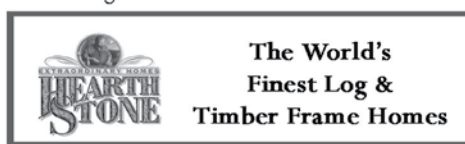
"Simple activities and behavioral changes can really change the world—it starts with an individual effort," Weitzenfeld said.

To learn more about the Sustainable Living Educational Center, visit the website aecopes.org/SLEC or call Billy Weitzenfeld at (540) 745-2838.



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Chasing Copenhagen

In search of climate consensus before the December 2009 summit

Part 2 of 2

By Bill Kovarik

(In September, *Appalachian Voice* was invited by the governments of Germany and Denmark to see first hand the commitments and the costs of renewable energy development, as the world considers what might be done at the international climate summit planned for Copenhagen in December of 2009.)

A sobering dinner with one of the worlds leading climate scientists -- Stefan Rahmstorf of Potsdam University in Berlin -- sets a tone of urgency. As we watch the swans paddle out on a pristine German lake, I think about Rahmstorf's prediction that at least six feet of sea level rise by 2100 is close to inevitable.

He tells us that if the goal is to limit CO2 from fossil fuels to 750 billion tons over the next 40 years, then the "only fair and just principle here is to assign them on a per capita basis." He asks us to picture each person on earth with an allotment of only 110 tons of fossil CO2.

How quickly are we spending up our allotment? Americans are spending at the rate of 20 tons per year, while Europeans are spending it at the rate of 10 tons per

year. But in developing nations containing most of human population, people are spending their allotment at the rate of one ton per year.

The task at Copenhagen, Rahmstorf says, would be to find a way to get polluting nations to buy some of that CO2 budget from the developing nations, and the way for this to happen is to help them build their renewable energy economies.

Germany is well on its way, we realize, as we pass through wind farms with thousands of slowly spinning blades. From a port whose docks are jammed with wind equipment, we head for Nysted, Denmark, home of one of the first offshore wind farms in Europe.

As I sit up late with the old men in the town pub, drinking akvavit and vitamin juice, I ask them why Danish wind power companies have captured half of the world market.

They answer with pride: "handverk" -- craftsmanship.

For more than a century, Danes have worked on wind power the same way that Americans worked on cars and computers: ground-up crafts tradition. They became so good at it that even Danish college kids



Erik Lundsgaard, manager of the biogas plant at Hashoj, Denmark. Photo by Bill Kovarik.

after only a few years.

There is craft along with the craftsmanship. In the late 1990s, the town of Nysted opposed the 166 megawatt wind demonstration project in the nearby Baltic Sea. They decided that rather than calling the project Roedsand, for the area offshore, the people of Nysted wanted the project named after them. And when it was finished in 2003, that's what they called it: the Nysted wind project.

It's just one example of the commitment at all levels of life here in Denmark to replacing fossil fuels. And, as in other low-lying nations, climate change here is no political football or abstract scientific debate, but rather a life and death struggle for a future above water.

Chasing Copenhagen has involved interviews with foreign ministry officials, business developers, green homebuilders, photovoltaic installation trainers,

Continued on page 22

beat US aerospace engineers. The Tvind two megawatt turbine, built in 1978 out of rebar and concrete at a cost of half a million dollars, is still running. In contrast, the MOD-1 of Boone, N.C., was the same size, built at the same time by NASA at 100 times the cost. It was scrapped as a failure

Appalachian Voices To Make A Virtual Appearance at Copenhagen

By Maureen Halsema

Thanks to Google, Appalachian Voices and Coal River Mountain Watch (CRMW) will be one of 15 stories featured at the United Nations Climate Change Conference in Copenhagen this December.

Google Earth designed 3-dimensional interactive tours to help international representatives visualize climate change. The tours feature regions and groups that are devising localized solutions, such as the Coal River Wind Project.

Former U.S. Vice President Al Gore leads the "tourists" through the main tour and introduces them to the other tours—some of the world's best stories told about global warming through Google Earth technology.

"Google Earth revolutionized the way we tell people about mountaintop removal coal mining," said Benji Burrell, Technolo-



A screen shot of the Google Earth tour featuring Lorelei Scarboro of Coal River Mountain Watch

gist for Appalachian Voices. "You used to have to fly in a small plane over the coal-fields to see the extent, but now you can take a tour right from your home and get more than you ever would from a plane."

Continued on page 22

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Hiking the Highlands

Joe Tennis is the author of "SOUTHWEST VIRGINIA CROSSROADS: An Almanac of Place Names and Places to See" (The Overmountain Press).



War Spur Trail at Mountain Lake Wilderness

Story by Joe Tennis

WAR SPUR TRAIL

HIKING LENGTH: 2.5-mile loop.

WHERE TO START: From U.S. 460, west of Blacksburg, turn west on VA-700 and follow the signs for about seven miles to Mountain Lake Resort Hotel. Then continue north on VA-613 for three miles. The War Spur trailhead is on the right.

PARKING: No fee required.

DURATION: Less than two hours, including time to take pictures and soak up the scenery. Hike is easy to moderate. Watch for uneasy footing on rocks and logs.

INFORMATION: (540) 552-4641

Call this a place of highlands and headwaters—an old growth forest where solitude and breathtaking vistas are unmatched—a getaway in southwest Virginia's Jefferson National Forest.

Here, in the Mountain Lake Wilderness Area of Giles County, Va., lies the Eastern Continental Divide. Streams in this region flow into either the New River, their waters weaving through West Virginia and onto the Gulf of Mexico, or into the James River, heading east towards the Chesapeake Bay.

In this place lies a 2.5-mile loop challenge called the War Spur Trail.

War Spur Trail lies a few miles west of Blacksburg, Va. It is also hardly more than three miles from the plush Mountain Lake Resort Hotel.

Mountain Lake—a natural pond of about 55 acres, at full pool—lends its name to the wilderness area, where lush ferns grow amidst massive boulders.

Here, in stands of red spruce, listen for the flocks of red crossbill or the American woodcock. Ruffed grouse are also known to make appearances. A hard look may find a salamander peeking out from under a slick stream rock.

War Spur stands at an ear-popping 3,765 feet. Yet, it is also a place that provides a great escape in naturally refrigerated air with breezes that smell so fresh you can practically taste them.

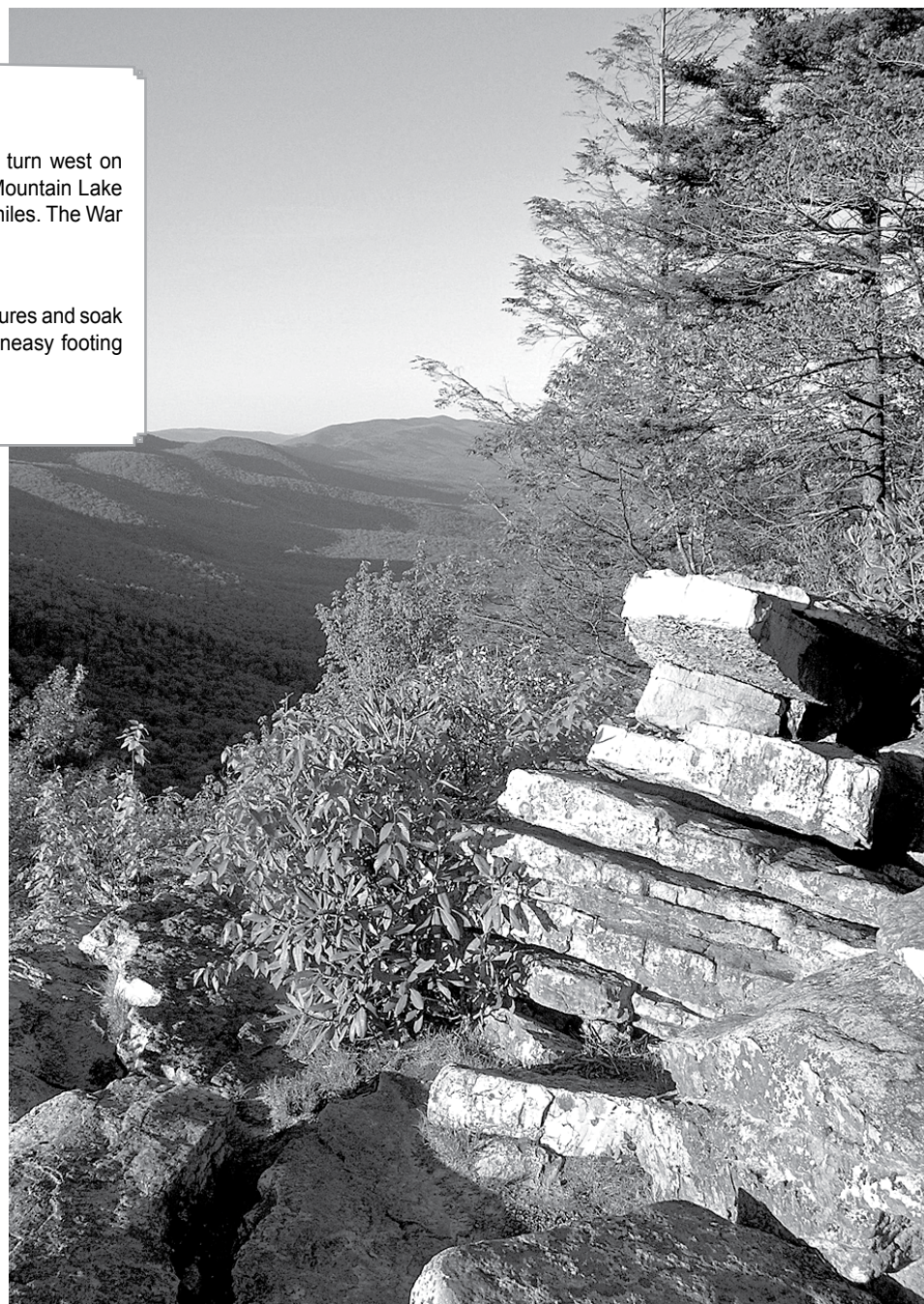
Combing the War Spur and Chestnut Loop trails will form a moderate loop spanning about 2.5 miles. Actually, it is a fairly easy journey, save a few spots where you must be extra careful stepping over stones, sticks or even a stream.

Starting on the loop, veer left from a small parking area and observe how the first mile cuts through a mammoth rhododendron thicket and a stand of virgin hemlocks. Here, too, you'll see an occasional chestnut tree.

Midway, you will reach a short spur that extends hardly more than a few yards to the War Spur Overlook.

This rocky cliff provides an exquisite view of unspoiled mountains, valleys and forests. And, here, you will likely linger, soaking up views, not wanting to make the mile-long return trek to the parking lot, thus ending your getaway to this Virginia vista.

The moderate War Spur Trail follows along the Eastern Continental Divide in the Mountain Lake Wilderness of Giles County, Va.




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Green Gifts That Keep on Giving

By Maureen Halsema

The holidays are upon us and as visions of sugarplums begin to dance through our heads, thoughts of presents for loved ones are not far behind.

Instead of searching the crowded stores for a gift that may get thrown in the back of the closet, this year give a gift that really means something—a gift that could make a difference.

Keeping it Fresh

Give the gift that keeps on giving all year, with a subscription to a local community supported agriculture (CSA) project. Purchasing this membership supports local farmers and in return your giftee is given a share of fresh seasonal produce each week for the entire course of the farming season. LocalHarvest.org is one way to find a your local CSA.

Bottled Sunshine

Give a sun jar! This \$40 present captures sunshine in its frosted glass during the day so that it can be reused at night. The energy efficient sun jar has a solar-powered cell and a rechargeable battery that offers five hours of LED light. So turn off the regular lights, because here comes the sun. Find your sun jar at PerpetualKid.com.



Seasonal Inspiration

Give a movie that gives back to the environment. "Four Seasons: Peak Escape," directed by Justin Goff, shows the beautiful views of each season in Appalachia throughout North Carolina and Tennessee. The scenic vistas of Mount Mitchell, Roan Mountain, Grandfather Mountain, and Linville Falls among others are accompanied by music by Tom Middleton, Briza, and Secede. A percentage of all the proceeds from the sales of this stunning film will be used to support environmental causes in the Appalachian region. Find out more about "Four Season: Peak Escape" at YourPeakEscape.com.

Share music that makes a difference. Aurora Light's CD, "Still Moving Mountains: The Journey Home" is a collection of songs and stories that illustrate the devastation wrought by mountaintop removal coal mining. It sings of hope for the future of Appalachia and of the strength of those who stand up to protect their landscapes and communities. The album features 14

musical tracks by Appalachian artists, such as Kathy Mattea, Del McCoury, Blue Highway, and Andrew McKnight, and includes interviews by Mattea and Robert Kennedy, Jr. All of the funds raised by the sale of the CD will contribute to grants, education, and charities related to raising awareness about mountaintop removal coal

mining. Pick up your copy of musical inspiration at AuroraLights.org/Journey.

Saving Appalachia

You can be a Mountain Protector with a gift membership to Appalachian Voices. The nonprofit organization is dedicated to bringing people together to solve environmental problems that have the greatest impact on central and southern Appalachia. Your gift plays a critical role in helping to protect Appalachian heritage and environment. Right now, your gift donation of \$50 or more comes with a Coal Country CD and/or DVD. Turn to page 3 for details.

The Great Outdoors

The National Park Service offers some truly unique gifts that have lasting impacts for the Appalachian region. A National Parks and Federal Lands Recreation Pass grants an all access passport to the nation's treasured parklands. There are several categories of the park pass, including "America the Beautiful", an \$80 gift that permits the giftee plus up to three passengers free entrance into any of the parks all year long. To purchase your pass and support the national parks and federal lands visit store.usgs.gov/pass.



Sharing Wisdom

Give the gift of enlightenment with Tom Butler's book, "Plundering Appalachia: The Tragedy of Mountaintop Removal Coal Mining." This book reveals the struggles Appalachia faces with a collection of photographs and essays giving

insight to the truth about mountaintop removal. It is a graphic depiction of the ravaged environment and the effects that mountaintop removal has on Appalachia's people. The book is a plea for the protection of these beautiful mountains that define Appalachia. Find out more at PlunderingAppalachia.org.

TerraPass

If everyone lived as Americans do, several planets would be necessary to support the current global population. Help reduce your loved one's personal carbon footprint with the Terra Pass. Your gift helps to fund projects that strive for considerable carbon reductions to curb climate change and protect natural habitats. Over 1 billion pounds of CO2 emissions have been curbed by the Terra Pass program. To make your loved one carbon neutral click to terrass.com.

These are but a few of the many ways to give a gift that keeps on giving. Choose a gift that best reflects where your loved ones would like to make a difference.

Be a Locavore: SUPPORT YOUR COMMUNITY AND SUSTAIN YOURSELF

By Maureen Halsema

As you are savoring your roasted turkey, dumplings, cranberry sauce, and hot apple pie this holiday season, keep in mind the average item in the grocery store travels over 1,000 miles to your table.

Appalachia is rich in farmer's markets and food co-operatives featuring locally grown and organic foods.

Besides being fresher and even healthier, buying local foods can be a boon to your community. As a locavore—a person who buys produce, meats and other food products from local sources—you encourage sustainable agricultural practices and support the rural

heritage of Appalachia. Your purchase directly supports local farmers, giving them an edge against the corporate competition in an already tough economy.

Many local farmers use organic farming methods, which also benefit you and your fellow locavores. Eating organically reduces your exposure to chemicals like growth hormones or antibiotics, because organically raised animals, fruits and veggies generally do not use these products. Pesticide-free farming methods keep water, soils, and air cleaner, and animals are raised on organic feed so that pesticides do not accumulate in the meat and get passed on to you. This is one of the many ways that buy-

ing locally benefits you and your community.

To find local places where you can acquire your holiday feast, visit LocalHarvest.org. This site is a database of farmer's markets, restaurants, groceries, co-ops, and community supported agriculture where you can purchase local produce. Simply type in what you are looking for and where you are from and the site will compile a list of the places you can do your holiday shopping.

The Appalachian Sustainable Agriculture Project also has a local food guide database at ASAP-Connections.org that allows you to search for farms, natural food stores, restaurants, and other businesses that sell local foods in

southern Appalachia.

If the locavore lifestyle intrigues you, take on a challenge this holiday season—try the 100-mile diet. This growing social movement involves eating foods that come from a 100-mile radius of your home. Spend the holidays supporting your local community while enriching your diet with locally grown foods.

So cut the mileage out of the meals this holiday, lower your carbon footprint and support your local community. Visit AppVoices.org/locavore to find links that will help you locate locally grown food for your holiday feast!



Delicious holiday food is even better if you buy the ingredients from local sources, and organic if available.
Photo by William Hockaday

For the Birds: CHRISTMAS COUNT IS A HOLIDAY TRADITION

By Maureen Halsema

The longest-running wildlife census—the Christmas Bird Count—will kick off its 110th year starting Dec. 14, 2009. The annual event is sponsored by the National Audubon Society and other collaborative organizations, and will run until Jan. 5, 2010.

This massive event was started in 1900 by an ornithologist named Frank Chapman, who was one of the early officers in the Audubon Society. Chapman replaced an annual holiday hunting tradition, the Christmas “Side Hunt”—in which teams competed for the biggest lot of birds killed—with a census of live migratory birds.

The first Christmas Bird Count involved 27 counters—ranging from Toronto, Ontario to Pacific Grove, Calif.—who counted 18,500 birds, including 90 different species. Over the past century the number of counters and regions have grown. The 2009 count reported an all time high of over 59,000 observers who counted 65.5 million birds.

Local counts take place in count circles. Each circle has a 15-mile diameter and is led by a local compiler. Groups are arranged so that beginning birders team up with more seasoned birdwatchers, allowing people of all experience levels to join in on the fun.

The Christmas Bird Count is a valuable resource for assessing the long-term health and status of bird populations and for shaping bird conservation efforts. The Christmas Bird Count—combined with the North American Breeding Bird Survey—provides an idea of how bird populations across the United States have changed over the past hundred years.

The Breeding Bird Survey is a collaborative effort between the U.S. Geological Survey’s Patuxent Wildlife Research Center and the Canadian Wildlife Service’s National Wildlife Research Centre. The two organizations cooperatively monitor the status and long-term trends of North American bird populations.

Data from the Christmas Bird Count and the Breeding Bird Survey can help scientists identify environmental factors that may impact humans. For instance, changes in migratory behavior can indicate groundwater contamination.

“Bald eagles are starting to come back to Morgantown because we have cleaned up our waterways and there are more fish now,” said LeJay Graffious, coordinator for the Morgantown Mountaineer Audubon Christmas Bird Count. “You know, 15 years ago we would have never seen a bald eagle—now we get three or four on a count.”

The biggest threat to migratory birds is loss of habitat. Residential developments take away habitats for birds such as the meadowlarks. Industry also impacts bird habitats.

“I don’t know of any counts that were near any of the mountaintop removal sites,” said Graffious, “but habitat-wise it is probably the biggest threat to Appalachian species.”

The Audubon Society has tools that help people to access data collected by the thousands of Christmas Bird Count volunteers. The output tools arrange the data in a visual format, allowing users to make maps of bird distributions, construct graphs of species trends over time, preview the raw count data, and even look up data on their favorite species.

In southern Appalachia, a wide range of species migrates across the diverse landscape. The counters in this region are likely to encounter American black ducks, mallards, hooded mergansers, pied-billed grebe, several species of hawks, American kestrels, Eastern screech owls, and American goldfinches.

To participate in this year’s bird count, contact your local compiler via Audobon.org to find out how you can volunteer. Express your love for birds and enjoy a little friendly competition with all the other bird count circles!



(Top to Bottom) Black-capped chickadee, Evening Grosbeak, Red-breasted nuthatch, and the Yellow-bellied sapsucker. Photos by Matt Orsie.

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Across Appalachia

Environmental News From Around The Region

N.C. Residents Speak Out About Four-Lane Highway Proposal

By Julie Johnson

A proposal for a four-lane highway through the Stecoah Valley drew residents from Graham County, N.C. and surrounding areas to speak out at a packed community center on Oct. 28.

This ten mile, split-median road is being proposed by the North Carolina Department of Transportation (NCDOT) at an estimated budget of \$350 million and will fill a gap in "Corridor K," a number of four and two-lane roads that connect Chattanooga, Tenn. to Asheville, N.C.

Ed Lewis, director of the Human Environment Unit at NCDOT, moderated the hearing. He explained the department's reasons for proposing the highway, saying "[it] will improve safety and boost economic development for the county."

The purpose of the hearing was not to decide if the highway should be built, but to determine which of the two routes Lewis presented the public preferred.

Of the 25 people who chose to speak, 23 preferred neither route, and strongly opposed construction of the four lane in favor of improvements to currently inadequate two-lane roads. Many argued that the highway would bypass their businesses, not bring people to them

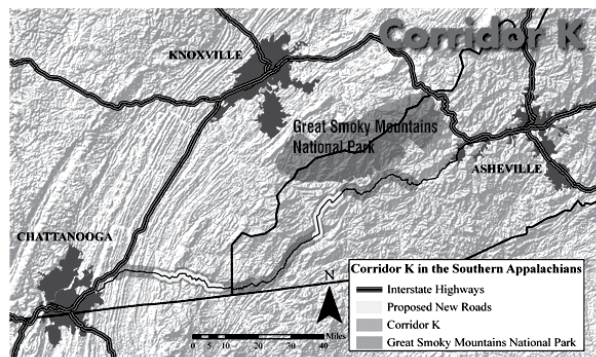
Aurelia Stone, general manager of a Best Western hotel in Murphy, N.C., spoke of her experience with a four-lane highway in her town.

"Interstate-style roads bring transient traffic, not people coming to stay and spend money," Stone said. She added that her hotel has not seen an increase in business from the expansion.

Many who spoke agreed that Graham County's economy was faltering, but did not see the highway as a viable solution.

"I don't know if these roads will be built," said County Commissioner Steve Odom, "but I see more immediate needs, and if the state and federal governments have \$350 million to spend, they should look at those needs as well."

Construction of the highway will



Map of the proposed section of highway by Walter Smith, courtesy of WaysSouth.org.

displace 35 to 45 homes and business and under "Right-Of-Way" laws, NCDOT will pay for these residents' moving expenses.

Randy Knight, whose home will lie on the fringe of the new highway, said that he worries his neighbors will be relocated and replaced with noise pollution. "I'm 64 and I don't want to spend the rest of my days listening to jake brakes and motorcycles," Knight said.

Dr. Melanie Mayes, a geology professor at the University of Tennessee, said NCDOT's Environmental Impact Statement (EIS) "does not include enough geologic study or investigation of hazards." Mayes said that it contained neither the results of drilling studies in the area nor a geologic map, and expressed concern about this lack of transparency as well as

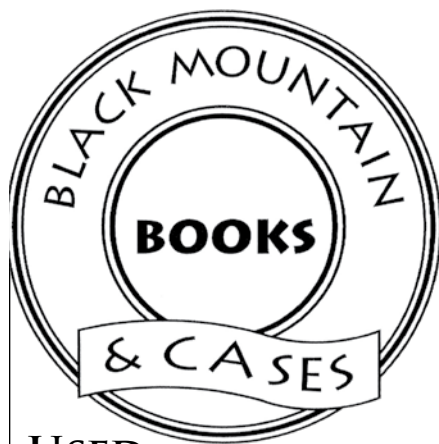
about acid drainage and water pollution which will occur as a result of construction blasting.

Lamar Marshall is working with nonprofit organization WildSouth to map historical Cherokee trails in and around Stecoah Gap. "The EIS contains no archaeological study of the project area and construction could devastate historical artifacts," Marshall said.

The EIS states "[past studies] and coordination with the USFS suggest that there is a strong probability for archaeological resources associated with the Trail of Tears along the proposed project."

Hikers often visit the county, which incorporates part of the Nantahala National Forest, to hike the portion of the Appalachian Trail that passes through Stecoah Gap. If the highway is built, a 160 foot cutwall will be visible from the trail. The EIS claims that the wall will be incongruous with the natural terrain and that "at least five view points [from the Appalachian trail] would have unobstructed views of the project."

The NCDOT will continue to take written public opinion on the proposed road until Dec. 4. Construction of the first half of the project is slated to begin in early 2012.



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Photography Competition Deadline January 29

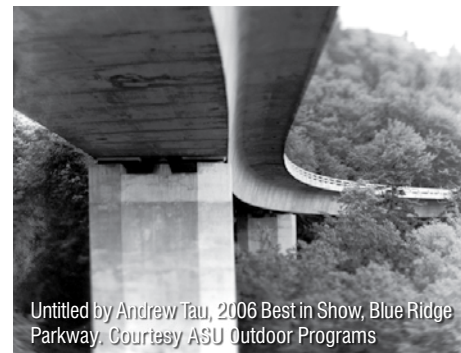
Amateur and professional photographers are encouraged to enter the 7th Annual Appalachian Mountain Photography Competition (AMPC), which focuses on images that portray various aspects of Appalachian life.

Sponsored by Outdoor Programs at Appalachian State University in Boone, N.C., the competition is divided into seven separate categories, and over \$4,000 in cash and prizes will be awarded.

The show will be judged by regional photographers, and finalists will be shown in an exhibition at ASU's Turchin Center for the Visual Arts Mar. 5 through Jun. 5, 2010.

Deadline for the competition is 5 p.m. on Friday, Jan. 29, 2010. Photographers must be 13 years of age or older to enter.

Please visit www.appmntnphotocomp.org for details or to enter the competition.



Untitled by Andrew Tau, 2006 Best in Show, Blue Ridge Parkway. Courtesy ASU Outdoor Programs

For more information, call ASU Outdoor Programs at 828-262-4954.

Competition Categories

- Adventure
- Blue Ridge Parkway Vistas
- Blue Ridge Parkway Share the Journey® (2010 Theme – Picnicking on the Blue Ridge Parkway)
- Culture

- Our Ecological Footprint
- Flora and Fauna
- Landscape

This year, *The Appalachian Voice* and Appalachian Voices will serve as the sponsoring supporter of the former environmental category, now known as "Our Ecological Footprint." Entries to the category should document environmental injustices and detrimental practices that are damaging the rich eco-systems of the Appalachian mountains. Winner for this category will receive a \$200 cash prize, a year membership to Appalachian Voices, and have their image published in a future issue of *The Appalachian Voice*.

The AMPC is a partnership between Appalachian State University's Outdoor Programs, The Turchin Center for the Visual Arts and the Blue Ridge Parkway Foundation, and is made possible through the sponsorship of: Virtual Blue Ridge; Appalachian Voices; Bistro Roca, Incentive American Cuisine; Footsloggers Outdoor and Travel Outfitters; Mast General Stores; and Peabody's Wine and Beer Merchants.

Across Appalachia

Environmental News From Around The Region

AIRE and MOTM: Combining Music With Renewable Energy

By Jeff Deal

The 4,200 folks who turned out for this year's Music on the Mountaintop (MOTM) raised \$5,000 for community driven renewable energy.

The August festival in Boone, N.C. hosted stellar performances by four-time Grammy Award winner Sam Bush and music favorites Acoustic Syndicate and Kellar Williams.

The Appalachian Institute for Renewable Energy (AIRE)—an organization that promotes and cultivates community-developed renewable energy in Appalachia—received the contribution as part of its recognition as the "Featured Non-Profit" by this year's Music on the Mountaintop Festival.

"AIRE's mission inspires us," said Music on the Mountaintop creator and Executive Director Jimmy Hunt. "We look up to their progressive attitude and we're proud to be a part of Appalachia's Green Business Future and Community."

In addition to its generous support of renewable energy in Appalachia, this year's 2nd Annual Music on the Mountaintop—voted the Greenest Music Festival for 2009 by *Blue Ridge Outdoor Magazine*—also:

- recycled 1,900 lbs of aluminum cans
- 75% of the festival's total waste

- showcased over 25 non-profit organizations, specializing in environmental stewardship, renewable energy and social justice
- attracted tourists from 35 U.S. States and Canada to the N.C. mountains
- partnered with River and Earth, a local outdoor adventure business, to offer free public transportation from Boone, N.C. to the festival
- supported local businesses by contracting and partnering with neighborhood and regional enterprises whenever possible for services and goods required to produce the festival

"This year's festival was a huge success!" said 25 year old entrepreneur Hunt. "After the first [festival], we wanted to step up our green initiatives- recycling, proper composting, and lowering our carbon footprint—and luckily for us, the town ... really supported our efforts."

"Our goal is not to be the biggest or most well known event; rather we strive to have the most well produced and sustainable festival in the country."

If you missed this year's Music on the Mountaintop - don't worry! The folks at MOTM invite you to the 3rd Annual Music on the Mountaintop Festival in August 2010 for more good times and

Music on the Mountaintop Festival creator and Executive Director Jimmy Hunt hands a \$5000 check to Steve Owen from the Appalachian Institute for Renewable Energy. AIRE was the featured non-profit at this year's festival.



good works!

For more info, visit www.aire-nc.org or www.musiconthemountaintop.com.

Students Protest Naming Dorm After Coal

Despite student and faculty protests, a new dorm at the University of Kentucky will bear the name "Wildcat Coal Lodge" per a request by funders from Alliance Coal.

The request was part of Alliance Coal CEO Joseph Craft's stipulation for a \$7 million donation to build a new dorm for the men's basketball team. In a 16-3 vote, the university's board of trustees approved incorporating the word "coal" in the building's name.

The three voters opposed to the decision included Robynn Pease, the representative for university staff, Ernie Yanarella, a faculty representative, and Ryan Smith, the student government president,

"There were a lot of students that were opposed to this for a variety of different reasons," said Smith. "Some for the selling of tradition, some for the precedent that it sets, and some students and individuals were upset because of the stigma associated with coal in the state."

"From my perspective, I am a representative of the student body and I needed to represent the people that I serve," Smith said.

A Race for the Mountains

The High Country Conservancy's 10th Annual Stick Boy Mayview Madness 5K Race on Nov. 7 was the biggest it has been in its decade-long history. In an effort to raise money and awareness for the Appalachian mountains, 190 runners took to the streets of downtown Blowing Rock, N.C., bringing in over \$5,500.

The High Country Conservancy is a non-profit land trust that was founded in 1997 to protect Appalachia's natural resources. The organization has worked with landowners to create 32 conservation easements, preserving 1,805 acres in Avery, Ashe and Watauga Counties in northwestern North Carolina. They group has also used funds to purchase 20 properties for conservation, including one covering 945 acres.

iLoveMountains Is In GOOD Company

iLoveMountains.org, a website dedicated to the issue of mountaintop removal, was named one of the "Good 100," a list sponsored by *GOOD* magazine to acknowledge organizations, projects and individuals who are striving to improve the planet.

The website was created by Appalachian Voices for the Alliance for Appalachia—an umbrella organization of 13 groups working to end mountaintop removal coal mining in Appalachia. The site features a number of Google Maps and Google Earth tools including the My Connection tool, which allows visitors to determine if they are using mountaintop removal by typing in their zip code.

According to *GOOD*, "The website *iLoveMountains.org* is providing people with the resources to fight mountaintop-removal mining in Appalachia...[it] shows



how the energy we use is connected to mountaintop removal, and connects people with their lawmakers to lobby for change."

GOOD, launched in September 2006, produces a website, videos, live events and a print magazine with a mission to "provide content, experiences, and utilities to serve [the people, businesses, and NGO's moving the world forward]." *GOOD* has collected praise for its unique editorial perspective and fresh visual aesthetic.

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Tensions Continue to Grow Over Mountaintop Removal Mining

By Sandra Diaz

From civil disobedience with ever-increasing fines to public-hearings-turned-shouting-matches, the tension between mountaintop removal factions has turned explosive.

Fines for acts of civil disobedience in actions opposing mountaintop removal have been increasing, but the additional costs have not stopped the protests.

On Sept. 9, four protesters, along with a journalist covering the event, were arrested for blocking the road to Massey Energy's Regional Headquarters in Boone County, W.Va. Bail was set for \$5,000 each, \$3,000 for the journalist.

On Oct. 22, four protesters blocked a road leading into a mine site in Kanawha County, W.Va. Bail was set at \$2,000 each, but was eventually reduced to \$200. And a protestor in the Climate Ground Zero campaign received the campaign's first jail sentence—twenty days—for participating in a five-person road blockade at Massey Energy Regional Headquarters in Boone County, W.Va.

Protests continue to grow outside of the coalfields as well. A crowd gathered outside of J.P. Morgan Chase offices on Oct. 30 to protest the company's funding of mountaintop removal mining and new coal plants; the same day, more people gathered at U.S. Environmental Protection Agency regional offices and EPA headquarters, calling on the Obama administration to do more to end it. Fourteen activists conducted a peaceful sit-in at the EPA headquarters in Washington, D.C., while others recreated a funeral procession outside.

One of the more non-confrontational protests was a Senior's March Against Mountaintop Removal that started in

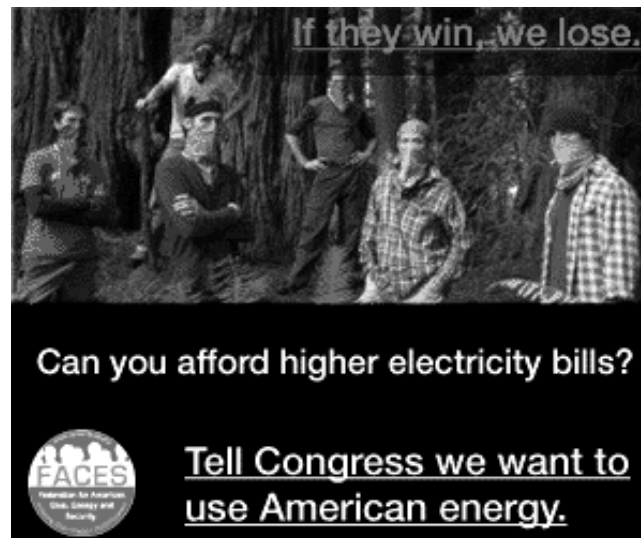
Charleston on Oct. 8. The 25-mile march—consisting of over 28 seniors—was punctuated by talks given by Larry Gibson of Mountain Keepers and others.

On March 3, two teenagers hung a banner off of the Walker Cat building in Belle, W.Va., that read "Yes, Coal Is Killing West Virginia Communities" as the march passed by. The West Virginia Metro News reported that Walker Machinery CEO Steven Walker equated the two youths to suicide bombers in the Middle East.

In October, coal industry representatives distributed an image across the internet that characterized protests as the work of terrorists. The image—also posted as a banner ad on the coal industry front group FACES of COAL website—depicted protesters as terrorists with bandannas covering their faces with the phrase, "If they win, we lose."

Tensions are also flaring at public hearings as the Obama Administration looks at various options to regulate mountaintop removal. During the fall, the Army Corps of Engineers held hearings near the Appalachian coalfields in Kentucky, Ohio, Tennessee, Virginia and West Virginia on a proposal to end the streamlined "Nationwide 21" permitting process for valley fill permits—a process used in about one-third of mountaintop removal projects.

At a hearing in West Virginia, coal supporters verbally and physically threatened environmental advocates. Some environmental advocates were removed before the hearing by police for "security reasons."



This banner ad depicting mountaintop removal mining protestors as terrorists appeared briefly on the website of industry front group FACES of COAL.

At other hearings, those in favor for ending the Nationwide permits were shouted down by mobs as soon as they tried to speak. The U.S. Army Corps of Engineers did little to control the disruptive crowds.

The move to regulate mountaintop removal mining on a federal level has been met with great resistance from the coal industry and government officials in West Virginia.

During a House Transportation and Infrastructure Committee hearing on the Clean Water Act, West Virginia representatives Nick Rahall and Shelley Moore Capito questioned Lisa Jackson, the head of the U.S. Environmental Protection Agency, about the agency's position on mountaintop removal coal mining.

Jackson was "happy to clarify that to say unequivocally neither EPA nor I personally have any desire to end coal mining."

But Jackson also stated that, "what we are seeing with the science here is that as these watersheds have more and more valley fills in them, frankly, we see water quality impacts ... and we believe that over time that's going to be a larger problem and not a smaller one."

A new review process created in June between the EPA, the Department of Interior and the Army Corps of Engineers allows for closer scrutiny of the permits for their impact on water quality. Seventy-nine mountaintop removal valley fill permits are currently going through that review process. Over 2000 miles of streams have already been buried or polluted by mountaintop removal mining waste.

Back in West Virginia, Governor Joe Manchin convened a closed door meeting with local, state and federal officials as well as representatives from the coal industry in order to speak "with one voice" to the Obama Administration about concerns over the tougher permit review process instituted by the EPA.

Last month, employees at A&G Coal Company in Virginia received notice of impending layoffs, with the company claiming that "a minority group of people against mining...[who] along with several of the regulatory agencies have partially succeeded at this time in slowing down our permitting process."

Coal industry officials, however, have acknowledged that the extended reviews of the mountaintop removal valley fill permits will not affect mining operations for at least a year.

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Wise Energy Hosts "Coal Country" Screening

The Wise Energy for Virginia coalition is holding special screenings in Charlottesville, Va. of the movie "Coal Country," a new film that tells of the dramatic struggle around the use of coal in America.

The screenings will begin at 7 p.m. on Dec. 9 and 10 at the Vinegar Hill Theatre at 220 W. Market St. There will also be a wine-and-hors d'oeuvres reception and benefit before the showing



on Dec. 10 at 5 p.m. at Sips Resturant, 212 E. Main St., with musical entertainment and special guests Kathy Selvage and Larry Gibson, who are featured in the film.

Tickets for either screening are \$5 or \$40 for the reception plus screening. To purchase tickets call Kayti Wingfield at 540-470-0643 or visit WiseEnergyForVirginia.org/coalcountry.

Blasting Begins on Coal River Mountain

By Julie Johnson

On Oct. 24, Massey Energy began blasting on Coal River Mountain, a ridgeline that has become symbolic in the nationwide campaign to end mountaintop removal coal mining.

This West Virginia mountain is home to the highest peaks ever slated for mountaintop removal in the state. The state's Department of Environmental Protection has stated that the mining operation on the mountain is "actively moving coal."

Since 2007, residents of the Coal River Valley have rallied behind plans to replace mountaintop removal operations with a 328-megawatt, utility-scale wind farm on the mountain. Coal River Mountain Watch's Coal River Wind campaign has focused on asking West Virginia Governor Joe Manchin to rescind the mining permits for Coal River Mountain.

Massey Energy owns permits that if completed would strip close to 6,600 acres of the mountain. So far, Gov. Manchin has

denied the Coal River Mountain Watch's request.

According to the Coal Wind campaign, a potential wind farm could "employ over 200 local residents during the 2 year construction phase, and create 40-50 permanent maintenance jobs afterwards." A study commissioned by the group revealed that wind potential on the mountain would provide electricity for over 85,000 homes and would pump \$20 million per year into the economy during construction and \$2 million per year thereafter.

"Coal River Mountain, the last standing mountain in the valley, should remain intact as a symbol for a new day in the Appalachian coalfields," said Lorelei Scarbro, organizer for Coal River Mountain Watch.

The blasting also threatens the Brushy



This aerial photo by Carl Galie shows evidence of mining on Coal River Mountain.

In 2008, Massey Energy, one of the largest coal mining companies in central Appalachia, paid \$20 million to the U.S. Environmental Protection Agency in the largest settlement to

date for violating the Clean Water Act more than 4,500 times in seven years. "My community is already being forced to endure silica blasting dust, boulders, mudslides and floods from a mountaintop removal operation on Cherry Pond Mountain," said Bo Webb, a resident who lives directly downhill from an existing mountaintop removal operation near Coal River. "The annihilation of Coal River Mountain will leave us trapped in the middle beneath both mountains of destruction."

Fork slurry impoundment, an earthen dam holding 8.2 billion gallons of wet toxic coal waste. The impoundment lies within 100 yards from the current blasting site. According to coalimpoundment.org—maintained by Wheeling Jesuit University—the Brushy Fork impoundment is a Class C dam, in which "failure would cause possible loss of human life." The impoundment is uphill from the communities of Pettus and Whitesville where residents would have 12-18 minutes to evacuate if the dam were to burst.

Other News From Coal Country

Marsh Fork: The School Board in Raleigh County, W.Va., has asked for funding from the state to move Marsh Fork Elementary School, a facility which sits immediately below a 2.8 billion gallon coal sludge impoundment and a mountaintop removal mining site, and within a few hundred feet of a coal processing plant. Some local residents have been campaigning for years to move the school due to the dangers of the dam breaking and the toxic coal dust that falls on the school.

OSMRE Director: Joe Pizarchik's nomination for director of the federal Office of Surface Mining Reclamation and Enforcement was unanimously confirmed in the Senate after being held up for several months. Coalfield citizen groups had opposed his confirmation, stating issues with his leadership as director of the Pennsylvania's Bureau of Mining and Reclamation.

New Resources—*Plundering Appalachia*, a coffee table book published by Earth Aware and edited by Tom Butler, shows both the beauty and the destruction of Appalachia through large-format photography. Includes essays from Wendell Berry, Judy Bonds, Denise Giardina, Robert F. Kennedy Jr. and others.

Still Moving Mountains: The Journey Home— Produced by Aurora Lights, this CD is a sequel to *Moving Mountains*, and is a combination of music and interviews with residents living with mountaintop removal. It is interactive with the website journeyupcoalriver.org, an interactive mapping project that combines music, audio, photography

and the written word to tell the story of the Coal River Valley, W.Va.

Hazardous or Not?—The EPA is considering delaying the Resource Conservation & Recovery Act (RCRA) rules for regulating coal ash as a hazardous waste because of concerns in the Department of the Interior (DOI). The EPA's proposal is to consider coal ash hazardous except for when it is reused such as in ingredients for concrete or drywall.

Let's Learn About Coal—Friends of Coal (FOC) targeted a youthful audience in a recent public relations blitz, handing out a coloring book called "Let's Learn About Coal" to school children through West Virginia's "Coal in the Classroom" campaign.

Senator and the Mayfly—"I don't think so much about mayflies, but I do think about those people [who live downstream]. There will have to be adjustments," said West Virginia Senator Jay Rockefeller in a discussion regarding whether increased regulation of mountaintop removal is necessary.

ACCCE Foots The Bill—Congressional investigators uncover internal documents revealing that the American Coalition for Clean Coal Electricity (ACCCE) paid over \$7 million in 2009 to the Hawthorn Group, the same company that hired Bonner & Associates, the astroturf lobbying firm that was responsible for forging letters from nonprofit groups to Congress regarding the climate change bill.

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ENERGY Today, Tomorrow & Beyond

THE CHANGING OF THE GRID Unlocking the infrastructure for the next energy generation

By Bill Kovarik

If the inventors of the telephone, the adding machine and the light bulb could visit their legacies today, the first two – Alexander Graham Bell and Herman Hollerith – would see enormous change, with satellites, cell phones, computers and more.

But Thomas Edison would scarcely notice a difference. The systems that lit up his incandescent bulbs a century ago run on the same principle today: large central power plants boiling water to turn turbines and feed regional monopolies.

The idea of smaller, distributed, more flexible power systems, with all their environmental and national security benefits, is only beginning to dawn.

What's driving change today is a recognition of the opportunities being missed.

Today, over 200,000 megawatts (MW) worth of wind projects, the equivalent of more than 200 nuclear reactors, are waiting in the wings in the Midwest, according to renewable energy industry groups.

The country needs both a smarter and bigger energy grid,

Dan W. Reicher, director of climate and energy policy for Google, told a congressional hearing recently.

"A smarter grid will let us see our energy use, measure it, price it and manage it in a way that lets us cut waste and get the most out of every watt," Reicher said. "And a bigger grid will allow us to tap our nation's vast clean energy resources – wind in the Midwest, solar in the Southwest, geothermal in the West and gulf coast, biomass in the Southeast – and deliver them where needed."

"We are headed to an era of energy production where you have smaller scale energy producers scattered across territory," said Scott Sutton, spokesman for Progress Energy of North Carolina.

"The grid has to be smart enough to know who is producing when and who is demanding where."

In late October, Progress was one of several dozen utilities that were awarded a total of \$3.4 billion in federal grants for "smart grid" initiatives announced by President Barack Obama. Progress will spend \$100 million on smart metering systems in North Carolina.

Big questions about grid expansion

Congressional hearings this summer and fall have brought out many questions surrounding the smart grid, such as how siting

decisions will be made, how to give renewables an incentive, and who will pay for grid expansion.

One bill would make the Federal Energy Regulatory Commission the final authority in breaking state level deadlocks over crucial transmission line decisions. While some, like Reicher, say its needed as a "backstop," others urge a skeptical look.

To have forced the introduction of new power lines only to have them expand the use of coal is one night-

mare scenario. "There's enormous financial incentive for the oldest and dirtiest coal plants to access markets through transmission," said Chris Miller, President of the Piedmont Environmental Council of Virginia. "Unless we have a change in transmission rules, all this work on the national grid will mostly result in just more coal-fired power."

Not everyone loves big systems

Building big superhighways for electricity is not necessarily a good idea, according to the Institute for Local Self Reliance. "A transmission superhighway is a one-way street for centralized power stations; it is not a smart grid. Nor is it smart policy," the ILSR said, reacting to the Obama administration's "smart grid" initiative.

"Renewable energy by its very nature is available everywhere and in most cases it is economical to use it where it falls", says John Farrell, co-author of the Energy Self-Reliant States

report and senior researcher at the Institute for Local Self-Reliance. "A smart grid will encourage that dynamic. A new national high voltage grid may well undermine it."

One of the first developers of the internet, Bob Metcalfe, said something similar recently, and was quoted by L.D. Gussin at Solveclimate.com:

"The killer lesson energy can take from the Internet's history is: go distributed. As software and hardware remake the energy infrastructure, the smart grid or 'Enernet' will become distributed—more peer-to-peer, multi-vendor, standards-based. I see an 'Enernet' that is distributed, layered, symmetric, and asynchronous—with networked intelligence extending to trillions of leaves of the smart

Who Generates Electricity in the US?

TYPE OF UTILITY	BILLION KWH/YR	%
Investor owned <i>(Duke, Dominion, Southern, etc)</i>	2479	66
Public <i>(cities, some others)</i>	561	15
Rural electric co-ops	386	10
Federal <i>(TVA, BPA)</i>	42	1
New non-utility generator <i>(industry cogeneration & new initiatives)</i>	283	8

Source: US Energy Information Administration, 2007 figures

grid, with energy harvested and stored off, on, and in the grid."

A similar issue is being debated in Europe. The Desertec Project, backed by some of Europe's largest corporations, could involve over \$500 billion dollars worth of solar electrical generation in the deserts of North Africa.

Although Desertec could be a good idea for North African countries, "Sahara power for northern Europe is a mirage," said Hermann Scheer, a German parliament member. While Europe can generate its own renewable energy, it's a mistake to play off large systems against small ones.

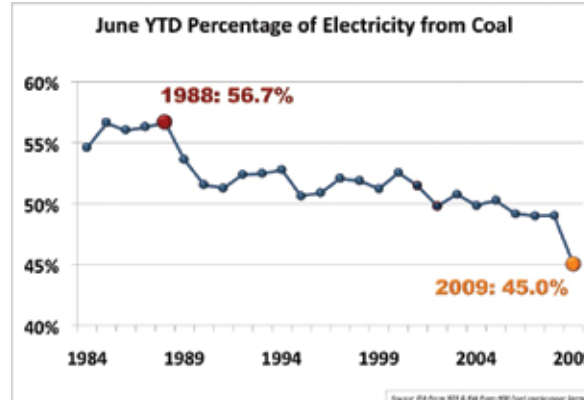
"As a contribution to climate protection and affordable energy prices the potential of both sources must (and will) be used," he said.

View the full "Changing of the Grid" story on our website at appvoices.org/changing-grid.

The Costs According To.... (rated in U.S. dollars per kilowatt hour)

	TVA ¹	IEA ²	DOE 2009 ³	REALITY CHECK
Coal	2.5¢ - 3.5¢	8¢	9.8¢	+ 3.2¢ per kwh (health costs) **
Nuclear	2¢	9¢	10.2¢	around 20 - 35¢ per kwh - Note: Bids for new nuclear plants in Texas and Ontario came in at \$6,300 to \$10,800 per MW capacity this fall. Both were rejected as too expensive.
Solar (pv)	30¢ +	20¢ - 30¢	23¢	Declining to as low as 5¢ by 2050
Wind	5¢ - 30¢	8.5¢	9.9¢	Around 5 - 12¢ /kwh and declining

¹ Tennessee Valley Authority, published in the Chattanooga Times, June 29, 2009..... ² International Energy Agency, Energy Outlook, May 2009
³ Department of Energy Levelized electrical costs for new power plants, March 2009 ** National Academy of Science report estimating direct health costs from coal

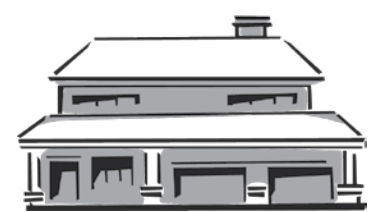
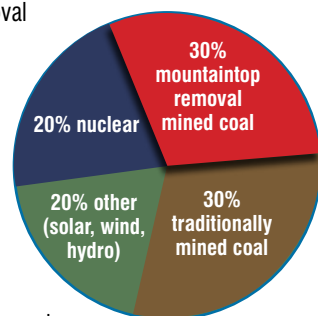


THE CYCLE OF LOSS - The Inefficient Life of Coal-Fired Electricity

Sources of N.C. Electricity

The following diagram calculations are based on North Carolina's consumption of mountaintop removal mined coal. From the mining process to your home, electricity generated by coal—especially mountaintop removal mined coal—results in a surprising loss in raw resources. Only about 21% of the raw energy that is taken out of the mountain actually reaches your electrical outlets, and only 5% of the mountain material blasted apart in mountaintop removal mining is actual useable coal.

North Carolina is now the largest consumer of mountaintop removal mined coal.



The average NC home uses **13,716 kWh / year**

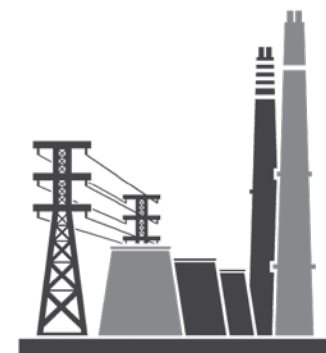
About **4,000 kWh** of this, comes from coal mined by mountaintop removal
Producing that much electricity requires **1085 pounds of mountaintop removal mined coal**

14% of electricity is lost in transmission and distribution across power lines or used at the power plant itself



At this point in the process it actually requires **1253 pounds of coal** to deliver 30% of a North Carolina home's electricity. But there are further losses to account for...

68% of the energy is lost in conversion (burning) of the coal

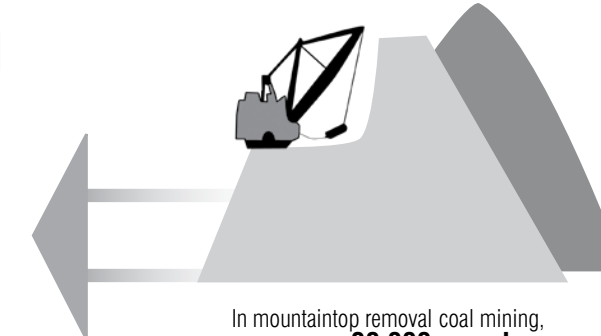


Power plants actually have to burn **3918 pounds of mountaintop removal coal** to generate enough electricity to deliver that 30% to a North Carolina home

28% of the burnable energy of coal is lost in processing (washing)



All told, processing plants have to start with **4,992 pounds of coal** to end up with 1085 pounds-worth of coal energy needed to generate 30% of the average North Carolinian's electricity



In mountaintop removal coal mining, it takes about **90,000 pounds** of mountain to yield the 4,992 pounds of coal needed to eventually produce 30% of the electricity for the average North Carolina home

POUNDS OF MOUNTAINTOP REMOVAL COAL USED PER YEAR BY AVERAGE HOMES IN: **VA:** 3,603 ... **KY:** 3,095; **WV:** 2,782 ... **TN:** 3,134 ... **GA:** 3,001; **AL:** 9 ... **SC:** 3,159 ... **US Average:** 570

AVERAGE KILOWATT HOURS /YEAR PER HOME: **VA:** 14,484 ... **KY:** 14,604 **WV:** 13,656 **TN:** 16,128 ... **GA:** 14,052 **AL:** 15,660 **SC:** 14,520 ... **US Average:** 11,232

The average family could cost-effectively reduce 30-40% of their electricity use just by implementing energy efficiency measures (replacing inefficient appliances & bulbs and insulating their home)

Community-Owned Electricity Gets A Breath of Fresh AIRE

By Jamie Goodman and Jeff Deal

Why is there so little renewable energy in Central and Southern Appalachia?

It was this question that launched the Appalachian Institute of Renewable Energy (AIRE), a grassroots organization working to promote and provide renewable and community-owned energy in Appalachia.



One of AIRE's primary programs is the Community Megawatt Initiative, which seeks to create significant community-owned solar electricity generation in Appalachia. Stage one of the project is to produce enough clean green electricity for 224 energy efficient Appalachian homes. Last July, AIRE installed a pilot system, consisting of 2.4-kilowatts of solar photovoltaic panels in Boone, N.C.; the group is working with that town's civic and business leaders to develop an additional 40-kilowatts by the end of 2010.

The group also plans to incorporate community-scale wind projects in the future, and will focus on systems ranging from a single 600 kilowatt wind turbine up to three 2 megawatt turbines. The community-owned model places emphasis on the benefits of local control; the size and scope of wind projects are to be determined by the community rather than by utility companies or institutional investors.

AIRE is currently developing innovative financial models which will allow community members to participate in and become part owners of a community wind or solar electric/photovoltaic installations. Even those with limited household budgets will be able to be an owner participant in these renewable energy developments.

"We need to reduce the scale of our energy production to the point where we can participate in its

Continued on page 22

Complete source information is available online at appvoices.org/cycle-of-loss

ENERGY FUTURE

Saving North Carolina, One Watt At A Time

By Austin Hall

Amid the growing discussion of energy use, global climate change and how to implement renewable energy, North Carolina state legislators and a coalition of grassroots organizations have proposed a measure that directly tackles the issue of using electricity efficiently in state.

North Carolina SAVE\$ Energy is an initiative to create a statewide, independent energy efficiency program. The program's goal is to lower electricity bills and keep the savings in the pockets of residential customers, especially those that fall into lower income categories.

Energy efficiency is widely accepted to be the most effective way to reduce energy usage and cut the cost of utility bills. Customers can ultimately save money on their utility bills and lower their demand for energy by auditing individual energy usage, weatherizing existing homes and businesses, and replacing inefficient appliances and incandescent light bulbs. In addition to saving the customers money, energy efficiency also significantly reduces the demand for the construction of costly coal-fired power plants.

"By using electricity efficiently and retrofitting our homes and businesses, we can lower utility bills, reduce our dependence on fossil fuels including mountaintop removal coal, create 'green jobs,' and combat global climate change—all the while saving money for North Carolina ratepayers," said state Representative Pricey Harrison from Greensboro, co-sponsor of the initiative.

A critical element of the N.C. SAVE\$ initiative is that the entire program will be administered by an independent non-profit organization rather than utility corporations such as Duke and Progress Energy. Because utility companies earn profit in the sale of electricity—the more they sell, the more they make—members of the N.C. SAVE\$ coalition see a conflict of interest in utility companies becoming directly involved in the program.

The N.C. SAVE\$ coalition is working with state legislators to pass the N.C. SAVE\$ ENERGY bill (H.B. 1050) through the General Assembly this year. When passed, the bill will create North Carolina's first independently run energy efficiency program. Currently the bill is before the committee on Energy and Energy Efficiency and will be heard in the legislative short session, which begins in May 2010.

A Vision of Virginia's Energy Future

Commentary by Tom Cormons
Special to The Voice

My 21-month-old daughter seems to know no greater joy than that of splashing in the cool, clear waters of our mountain creeks, or walking along a rocky trail beneath the lush hardwood canopy, happily chewing on a birch twig.

A favorite destination is the Blue Ridge's Humpback Rocks. From there—on a good day—you can clearly see our town, nestled in the foothills 25 miles to

ticles from coal-fired power plants cause nearly 1,000 deaths, over 1,400 non-fatal heart attacks, and 24,000 asthma attacks each year. Coal plant emissions also make Shenandoah National Park the second most polluted of our national parks. Many of the state's rivers bear fish consumption advisories due to contamination with mercury deposited from coal plant emissions. And mountaintop removal has already destroyed 67 mountains in Virginia; a total of 156,000 acres of mountainous terrain have been destroyed in the state.

Fortunately, the state has alternatives to its current approach to energy. According to the Virginia Coastal Energy Research Consortium, the state can meet 20 percent of its electricity

are much cheaper than electricity generation—about three cents per kilowatt-hour for efficiency versus upwards of 10 cents for power from a new coal plant—so they can dramatically lower consumer electric bills. In Austin, Texas, for example, the city's utility scrapped plans to build a large 500 megawatt power plant and invested instead in efficiency measures, saving as much electricity as the plant would have generated—avoiding a new pollution source and saving consumers money.

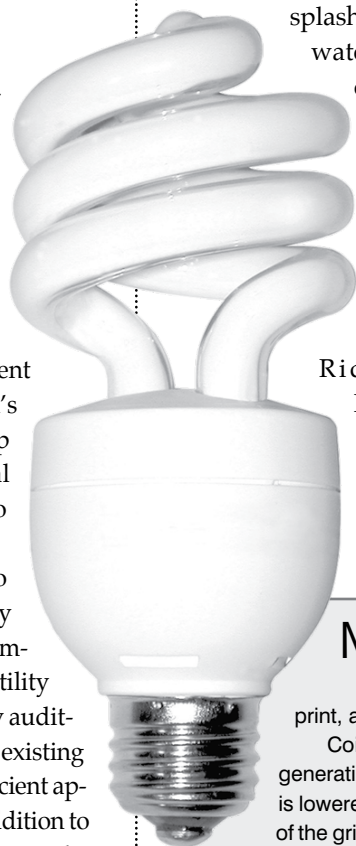
Efficiency also employs more people per kilowatt-hour than coal. According to ACEEE, even relatively modest efficiency investments would directly create nearly 10,000 net jobs in Virginia by 2025. And a report by the Appalachian Regional Commission shows that efficiency measures in Appalachia could produce 77,000 jobs in the region by 2030.

During 2009, Virginia citizens weighed in with their legislators on the subject of energy efficiency. As a result, Virginia's largest electricity provider is now proposing the state's first major investment in efficiency by a utility. While

the proposal would capture only a portion of the state's untapped efficiency potential, it demonstrates the extent to which citizens have already influenced energy policy in the state.

As corporate interests compete with citizen voices for attention on energy issues, the struggle to change energy policy will require continued diligence. But one look at my toddler daughter bounding through the woods makes me sure the fight is worth it.

To learn more about Wise Energy for Virginia's campaign against coal-fired power plants and mountaintop removal, and for energy efficiency, please visit their website at wiseenergyforva.org or call Appalachian Voices' Virginia office at 434-293-6373.



Negawatts - Make Electricity By Saving It

Energy efficiency is one of the most effective methods of curbing our carbon footprint, and it can happen one negawatt at a time.

Coined by Amory Lovins, "negawatt" describes conservation as a means of actually generating electricity through the act of saving it. For instance, if your power consumption is lowered, for every Megawatt you save, a negawatt of energy is made available to the rest of the grid. If a person uses 60 megawatts of electricity less during a month thanks to energy efficiency measures—installing better appliances, applying window and wall weatherization, using compact fluorescent bulbs—they have actually made 60 negawatts of electricity available for their neighbors to use.

Science-minded individuals may want to read Lovins' original discourse of negawatts at the 1989 Montreal Green Energy Conference, available online at ccnr.org/amory.html. Everyone else can be content to know that through reducing consumption via energy efficiency, they are actually adding to the energy grid.

the east. Too often, however, the view is obscured by smog caused mainly by emissions from coal-fired power plants—plants fed by coal obtained by blowing up mountains not unlike the one we stand on, and not far away. Southwest Virginia's Wise County, a half-day's drive away, is the second most strip-mined county in all of Appalachia.

The smog is a reminder that the air my daughter breathes is polluted, and that emissions of CO₂ from power plants are causing a climate crisis with untold implications for her entire generation.

Virginians pay a steep price for our electricity. According to a study released by the Clean Air Task Force, in Virginia alone fine airborne par-

demand with offshore wind turbines covering an area just the size of Virginia Beach, at a cost that is competitive with coal and insulated from the prices of fossil fuels. Virginia also has significant onshore wind potential, which is even more economical.

The lowest-hanging fruit is Virginia's vast energy efficiency potential. A report by the American Council for an Energy Efficiency Economy (ACEEE) shows that 27 percent of the state's projected electricity demand can be met through cost-effective energy efficiency measures by 2025.

Energy efficiency means getting more use out of less energy, through more efficient lighting, heating and cooling systems, and better windows and insulation. Efficiency measures

ENERGY FUTURE

ASHEVILLE GO: Green Opportunities

By Maureen Halsema

There is much ado about green collar jobs, but who is qualified to work them?

An Asheville-based program called Asheville Green Opportunities (Asheville GO) is ready to fit the bill, training unemployed young adults to launch careers in this growing industry.

Asheville GO provides training, education and services to help enhance and restore the environment through lowered greenhouse gas emissions, increased efficiency, ecological restoration, and sustainable agricultural methods.

"We've worked on a great diversity of projects including community gardens, habitat restoration, invasive species control, storm water management, weatherization and green construction," said Dan Leroy, co-founder of Asheville GO.

According to the United States Department of Labor, as of August, 17,500 people in Asheville are unemployed.

Asheville GO teaches technical job skills through hands-on experience. Students work directly in their



Young adults get training in the green industry. Photos by Dan Leroy, co-founder of Asheville GO.



own communities, positively impacting the environment and the quality of life. This semester the program has 12 members learning the skills necessary to thrive in a green economy.

"We have a really solid group of members this cycle," Leroy said. "All of the members came to us during recruitment really needing an opportunity and they are all taking the program very seriously."

The program began in 2008 with a successful pilot year, placing six of the eight apprentices in green jobs in the Asheville community.

Asheville GO is divided into two semesters—a

Continued on page 22

The JOBS Project Proposing A Community-Owned Biopower Association in West Virginia

Story by Julie Johnson

Appalachia has been hit hard by the economic downturn, but communities of the region are collaborating to find a way to rebound.

Enter the JOBS project—a nonprofit organization proposing a sustainable solution. The program calls for a number of small-scale biomass and wind power generation facilities in the most impoverished areas of West Virginia.

In a draft of the project prepared for President Obama's Council on Environmental Quality, JOBS developers explain that the project will be community owned, meaning that ownership of the facilities will be distributed to a number of community investors and shareholders, excluding commercial developers as primary owners.

"This model stimulates small-scale entrepreneurship and encourages local economic diversification," said Jenny Hudson, one of the project's founders.

One of the proposed projects is a 2.4 megawatt bio-fuel power generation facility in Mingo County, W.Va. This facility will become a model for the burgeoning field of sustainable technology, and be the first renewable energy power facility in the Appalachian Community Biopower Association.

The proposed biomass facility will generate low emission power using a recycled substance—secondary timber residue—a left over byproduct of commercial woodworking. Though it usually finds its way into landfills, the substance is ideal for renewable power generation.

Researchers at the JOBS project are collaborating with MATRIC, a West Virginia-based technology company, to find a viable way to use a firing process called pyrolysis. This would burn the timber residue at such a high heat that it would create biofuel, to power the grid, and biogas that could be captured and used to power the facility itself.

"The goal of this facility is not to maximize the amount of wattage it can produce or to monopolize the distribution of power," said Chris Shepherd, policy director of the JOBS Project and a native West Virginian. "It is meant to stay small and efficient, leaving ample opportunity for other similar facilities to arise and fulfill the remaining energy needs of the county, providing still more sustainable job opportunities for county residents."

Earl Long, renewable energy developer of the JOBS project, is helping to develop a Monroe County wind farm. "Mother Nature's got the coal on back order for the next few million years," Long says, "A community-owned, renewable energy model is the way to go; people have a vested interest in taking care of what's theirs."

Unemployment and poverty have long plagued the communities hardest hit by Appalachia's extraction industries. Jobs have declined significantly in the last two decades. The West Virginia Coal Association reports that between 1985 and 2005 the number of coal miners in the region declined from 122,102 to 53,509. Mechanization, mountaintop

Continued on page 22

Energy Efficiency Jobs

HOPE FOR THE APPALACHIAN ECONOMY

By Maureen Halsema

Energy efficiency policies have an enormous potential for creating jobs in the Appalachian region, stated a report commissioned by the Appalachian Regional Commission (ARC).

In November, the Environmental and Energy Study Institute held a briefing to discuss "The Energy Efficiency in Appalachia: How Much More is Available, at What Cost, and by When," a report which studied the economical impacts their energy efficiency policies and programs could have on the Appalachian region.

"We are interested in energy not for energy's sake, but for its potential for economic development,"

said Anne Pope, federal co-chair of the ARC.

According to the report, increased energy efficiency policies and programs can potentially create more than 77,000 jobs by 2030 in the 13-state Appalachian Region. In addition, the policies would facilitate a \$27 billion reduction of energy use to the consumer. Within the first year, consumers could save a collective sum of \$800 million in energy costs.

The report was prepared by the Southeast Energy Efficiency Alliance (SEEA), in partnership with Georgia Institute of Technology, the American Council for an Energy-Efficient Economy, and the Alliance to Save

Energy.

The researchers designed 15 efficiency policies for the study.

"Many of these policies are not overreaching, they are pretty realistic and they can actually be relatively achieved at a pretty easy level," said Ben Taube, executive director of SEEA.

The top five policies that had the highest impact on the region were: efficient commercial HVAC and light and retrofit incentives; expanding industrial assessment centers; commissioning existing buildings; raising fuel efficiency standards for vehicles; and doing residential retrofit incentives on the resale of properties.

Prenter Hollow Sues Coal Companies Over Contaminated Water

By Maureen Halsema

A clean glass of water is difficult to find in Prenter Hollow; a glass from the tap looks more like a glass of dirty tea.

In Boone County, W.Va, nearly 300 people are suing nine coal companies for water contamination.

Residents in Prenter claim that their private water wells were contaminated from toxic coal slurry that the companies injected in the abandoned underground mine shafts surrounding their community.

"The legal premise is multi-layered," Roger Decanio, attorney for the Prenter Hollow case said. "We are claiming personal injury, property damages and a request for medical monitoring against a variety of local coal companies."

The suit was filed in 2008, and preliminary motions were heard in the summer of 2009. The trial date is set for April 2011, but it may be years before the case is resolved.

"When you go home and have a glass of water or when you put your kids in the bath tub, you don't think about it, but unfortunately these people have to because it could harm them."

- Roger Decanio

Maria Lambert, a resident of Prenter Hollow in West Virginia, holds jars of contaminated water from a Prenter home. Behind her are jugs of water brought in for the community to drink. Photo by Paul Corbin Brown.

According to the EPA, "[coal slurry] contains harmful contaminants which ... may present an imminent and substantial endangerment to human health."

Over 2 billion gallons of coal sludge and slurry have been injected in the abandoned underground mine shafts that



border the community.

The Prenter court case is similar to the case in Mingo County where 750 people sued Rawl Coal Sales & Processing - a Massey subsidiary - for groundwater contamination also allegedly linked to coal slurry injections into underground mine shafts.

The drinking water in Boone County - the largest coal-producing county in the state - is now riddled with the same chemicals and toxic heavy metals that are found in coal slurry, such as iron, manganese, barium, arsenic and lead.

These chemicals have been found at concentrations that exceed the U.S. Safe Drinking Water Standards and can have serious health effects.

"In studies I have done of mining areas in West Virginia and Appalachia, the types of health problems I see include higher rates of some forms of cancer, cardiovascular disease, respiratory disease, kidney disease, dental health problems, and poor birth outcomes including low birth weight and congenital abnormalities," said Dr. Michael Hendryx, director of the West Virginia Rural Health Research Center. "These problems are consistent with exposure to mining pollution through either air or water transport routes."

Dr. Ben Stout of Wheeling Jesuit conducted water tests for some of the residents in Prenter Hollow. "What bothers me the most is that these folks have been unknowingly exposed to heavy metals in their

drinking water for some period of time," said Dr. Stout. "Many of the elements of concern, like barium, aluminum, beryllium, antimony and lead are odorless, colorless, and tasteless, even when they exceed drinking water quality standards."

The plaintiffs are suing for personal injury and property damage. "The personal injury claim is based on exposure to contaminated water," Decanio said. "These are chemicals in concentrations that are normally not found in that high amount nor in that small of a geographic area, which has to be related to the coal industry." In addition, property values have plummeted, "because no one wants to buy a home with contaminated water," Decanio said.

The case also calls for medical monitoring to continue observing the medical status of Prenter Hollow residents, who may have latent diseases that could develop as result of chronic long-term exposure to the contaminants.

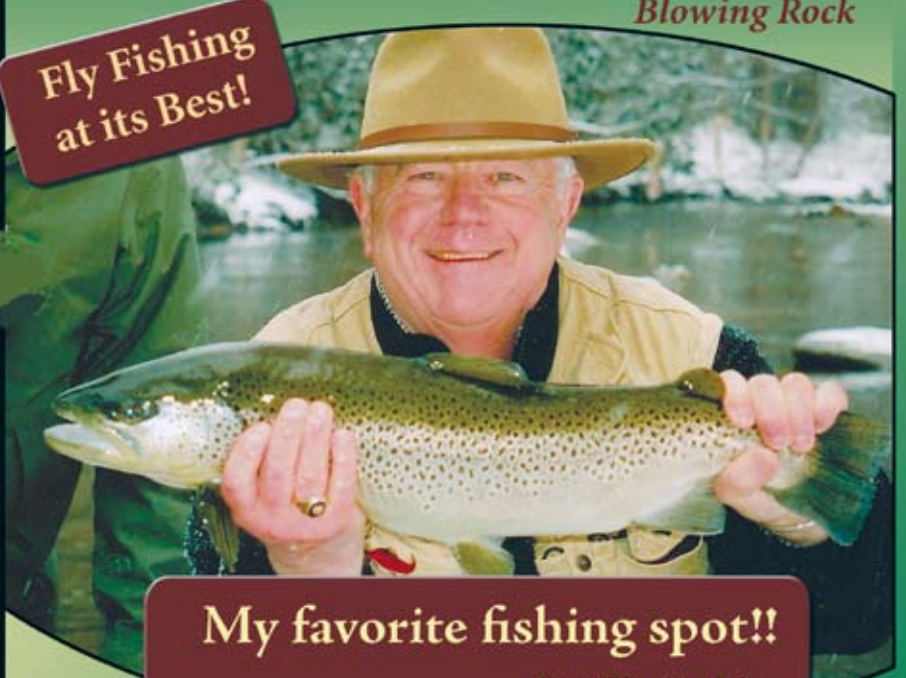
In 2008, the community founded the Prenter Water Fund, which is supported through private donations. Since residents can no longer use their well water for potable purpose, they have set up a delivery system where 55-gallon water barrels are installed in their homes to provide clean drinking water.

"When you go home and have a glass of water or when you put your kids in the bath tub, you don't think about it, but unfortunately these people have to because it could harm them," Decanio said.

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Toxic Ponds: COAL ASH PONDS POLLUTE NORTH CAROLINA WATER

Story by Maureen Halsema

Thirteen coal ash ponds in North Carolina are contaminating ground water with toxic pollutants known to cause cancer and organ damage, a recent report shows.

Appalachian Voices' Upper Watauga Riverkeeper team conducted an analysis of groundwater contamination data and reviewed the test results of wells surrounding 13 coal ash ponds located adjacent to the North Carolina's coal-fired power plants. All of the coal ash ponds studied have been leaking toxic pollutants into groundwater—some for years.

Of the 13 coal ash ponds, seven are on the U.S. Environmental Protection Agency's list of high hazard ash ponds in the United States, which was released in August 2009. According to the EPA, "A high hazard potential rating indicates that a failure will probably cause loss of human life."

After reviewing the data, Upper Watauga Riverkeeper Donna Lisenby concluded that all of the tested coal ash ponds were found to be leaking toxic heavy metals and other pollutants into nearby groundwater. The pollutants included arsenic, boron, cadmium, chloride, chromium, iron, lead, manganese, pH and sulfate. In all, the analysis found 681 instances where levels of pollutants were in excess, ranging from 1.1 to 380 times higher than North Carolina's groundwater standard.

"The results of this data are very alarming, and we now know that some of these ponds have been leaking into the groundwater for years," said Lisenby. "We intend to call for further oversight and clean up of coal ash pond waste to prevent additional heavy metals and other toxins from being released into our groundwater and rivers."

Coal Ash Ponds in North Carolina

Company	Plant Location	Confirmed Leaking	High Hazard Ponds
Duke	Riverbend	Y	Y
Duke	Marshall Steam Station	Y	Y
Duke	Cliffside	Y	N
Duke	Buck	Y	Y
Duke	Belews Creek Steam Station	Y	Y
Duke	Allen	Y	Y
Duke	Dan River	Y	Y
Progress	Asheville	Y	Y
Progress	Cape Fear	Y	N
Progress	Lee	Y	N
Progress	Mayo	Y	N
Progress	Sutton	Y	N
Progress	Weatherspoon	Y	N

This chart shows the plant locations which were included in a data analysis conducted by Watauga Riverkeeper Donna Lisenby. The data was originally collected by Duke and Progress Energy. Lisenby's analysis confirmed that all of the tested coal ash ponds were found to be leaking toxic pollutants into the ground water. The information in the fourth column is based on EPA's list of high hazard coal ash ponds as of August 2009.

In North Carolina, utilities generate millions of pounds of toxic coal ash waste annually as a byproduct of coal combustion. After coal is burned in a power plant, the leftover ash is stored in large retaining ponds, ranging in size from 26 to 512 acres.

According to Earth Justice, a nonprofit environmental law firm, "enough coal combustion waste (CCW) is generated each year in the United States to fill a train stretching from Washington, D.C. to Melbourne, Australia."

The power plants, which are typically located on rivers, routinely discharge water from the coal ash ponds directly into the waterways. Three of the analyzed waste ponds border the Catawba River Basin, a watershed that provides drinking water to nearly 1 million residents in the Charlotte region.

A 2007 EPA Risk Assessment concluded that residents with wells who live in close proximity to coal ash ponds have as much as a 1 in 50 chance of getting cancer from drinking water contaminated by toxins such as arsenic, one of the most common and dangerous pollutants in coal ash.

The assessment also states that living near ash ponds increases the risk of damage to the liver, kidneys, lungs and other organs as a result of being exposed to toxic metals like cadmium and lead. Wildlife and ecosystems are also threatened by coal ash contaminants like boron, which at North Carolina ash ponds can be found at levels ranging from 1.4 to 16 times the safe threshold.

North Carolina's two power utilities, Duke and Progress, submitted the original test results to the N.C. Department of Environment and Natural Resources (NCDENR). The tests were conducted as part of a voluntary program in an agreement with the U.S. Environmental Protection Agency for utilities companies to self-monitor coal waste ash ponds.

Because testing has been voluntary and the frequency and distribution of sampling was determined by the power companies and not by federal or state regulation, NCDENR is still trying to confirm the results before they determine whether corrective action can be required under current state law.

"Because coal ash is minimally regulated in North Carolina, the exact impacts to downstream communities are unknown, and further testing is needed," said Lisenby.

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Environmental Stewardship **WHEN BELIEFS BECOME ACTIONS**

“The world’s religions have a crucial role to play in the fight against global climate change.”

United Nations Secretary General Ban Ki-Moon, speaking to the leaders of nine major religious movements.

By Julie Johnson

Approximately 85 percent of the world’s population adheres to some form of organized religion, and these organizations could be the key to changing how humanity views and treats the environment.

“Major social movements of our time have gained the most momentum when the faith community got on board,” said Jill Rios, director of North Carolina Interfaith Power and Light (IPL).

In Appalachia, the faith community is getting on board in a number of ways. Interfaith Power and Light has created the “Cool Congregation Calculator,” a tool which helps churches conduct energy audits of their buildings. Rios says that many North Carolina congregations have started using the tool, not only to be more efficient, but also to spark discussions within their communities about environmental issues.

At Bethlehem Farm, a solar-powered Catholic community in Pence Springs, W.Va., environmental education becomes a hands-on experience. During service weeks, volunteers come to the farm to learn to “be an authentic local community that seeks to ‘be the change we wish to see in the world’ and which, therefore, supports sustainable practices.”

In Knoxville, Tenn., the Lindquist-Environmental Appalachian Fellowship (LEAF) says “concern for God’s Cre-

ation is not a matter of being liberal or conservative, a Republican or a Democrat. We believe people of faith can look beyond such distinctions and do the Lord’s work together.”

A large part of LEAF’s work is campaigning for state legislation to end mountaintop removal. As part of their campaign, the group erects billboards showing mountaintop removal sites and the phrase “Only God Should Move Mountains.” Their view of stewardship is “using land with a forethought born of reverence.”

Peter Illyn, director of the Christian group Restoring Eden, says “there is a rich history of the Church drawing closer to the divine through nature...[however] a lot of Christians who care about nature have no idea how it works.”

Restoring Eden provides youth with a better understanding of nature and humanity’s effects on it through tours of mountaintop removal sites and service

days in the communities affected by the practice.

Thomas Jefferson Memorial, a Unitarian Universalist Church in Charlottesville, Va., is in the early stages of planning an eco-justice program called “Go Tell It on the Mountain, which will help educate and organize their church to take action against mountaintop removal. In October, they hosted an interfaith vigil with Jewish, Quaker and Presbyterian churches to pray for an end to mountaintop removal.

Rios says furthering awareness and education of the issue is a crucial first step to empowering the faith-based community to action. “Many people of faith get the social justice issues but don’t necessarily connect them to environmental degradation,” said Rios. “The goal of groups like IPL is to provide a bridge between these two issues.”

Once that understanding is gained, people of faith use their deeply rooted social networks to spread the word on an international level.

“The faith community talks about climate legislation differently than scientists or environmentalists,” said Cassandra Carmichael, director of the Washington office of the National Council of Churches,



(Above) Churches are organizing for the environment. Photo of old Cades Cove, TN Methodist Church by Chad E. Purser. (Below) During Interfaith Power and Light’s Project Energize, AmeriCorps member Casey Burger insulates duct work to make low-income housing more efficient. Photo courtesy of Casey Burger.



Faith-based Groups Greening Guide

Christian for the Mountains: Christians working in the coal fields to end mountaintop removal. christiansforthemountains.org

Catholic Climate Covenant: “Care for Creation. Care for the Poor. Who’s under your carbon footprint?” catholicclimatecovenant.org

COEJL: Coalition on the Environment and Jewish Life, “Protecting creation, generation to generation.” coejl.org

Evangelical Environmental Network: Publishers of Creation Care magazine; “Grounded in the Bible’s teaching of God’s people to “tend the garden.” creationcare.org

Green Muslims in the District: Member Sarah Jawaid says “Islam is a religion of reflection...the ayats of the Qu’ran, which literally mean “signs,” prove to us a direct

connection of the covenant God has bestowed on mankind to take care of the earth.” dcgreenmuslims.blogspot.com

North Carolina Interfaith Power and Light: ncipl.org

Quaker Earthcare Witness: a spiritually-centered movement of Quakers and like-minded people seeking ways to integrate concern for the environment with Friends’ long-standing testimonies for simplicity, integrity, peace, and equality. quakerearthcare.org

Restoring Eden: restoringeden.org

Tennessee LEAF: tnleaf.org

The Association of United Pagans: “By giving back to Gaia we show the world the environmentally conscience nature of the Pagan earth based traditions.” aupagans.org

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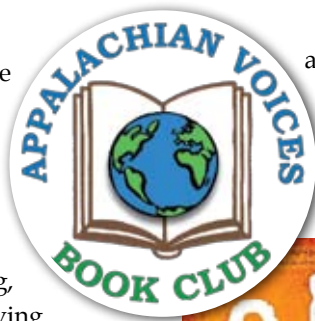
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SIX DEGREES: Read the Crystal Ball of Climate Change

By Sarah Vig



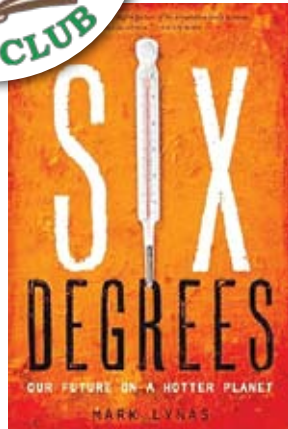
For this issue, the AV Book Club choose to read a book that delves into an issue with the potential to impact the lives of every human being, indeed most every living thing on the planet: global warming.

In "Six Degrees: Our Future on a Hotter Planet" (HarperCollins, \$16.95), British journalist Mark Lynas makes the daunting world of climate modeling and scientific research papers surprisingly readable and coherent.

As the title might suggest, the book breaks down the projected effects of global warming by degree Celsius. Each chapter confronts the changes and problems of a warmer and warmer world.

This structure is the greatest virtue of the book; it succeeds in breaking up a vast amount of information into digestible pieces, while at the same time reminding readers just how much can happen with seemingly small rises in temperature globally.

"Six Degrees" ultimately operates as a kind of layperson's trail map to scientific research on global climate change. The text is occasionally peppered with overly theatrical turns of phrase meant to punctuate



the sometimes-dry science with interest, but the science (and Lynas's thorough explanations of earth systems and past climates necessary to interpret it) speaks for itself: If the planet keeps warming, things could get hairy.

The beauty (or tragedy, as the case may be) is in the details though, and in this book they are not in short supply. The details make global warming—the ultimate in big picture problems—more "real," more terrifying and hopefully more urgent in the mind of everyone who reads it.

"Six Degrees" is kind of like a crystal ball, it shows us our future but not when it will get here. Perhaps if enough people read this book, it can be prevented.

Reading Questions

1 In the introduction, Lynas writes that he is surprised to hear people call his book "depressing." He thinks terrifying and motivating are more apt descriptors. How do you feel as you read? Do you encounter this reaction in yourself or from others? Why do you think people feel this way about climate change? Are there other issues you feel get similar reactions?

2 Lynas cites a certain article regarding an out of control carbon cycle as being a trigger for his activism on global warm-

ing. If you are already active on the issue of climate change, did you have a similar catalyst? What was it and why did it have an impact on you? If not, what would get you passionate?

3 Appalachia is one of the biodiversity hotspots in North America, how did the book's projections on shrinking zones of habitability for many species affect you?

4 In the final chapter, Lynas explores a number of possible reasons why dramatic action against climate change has not

yet occurred. Do you see these forces in action on other issues? What actions, if any, do you see yourself taking now that you have read this book?

5 Appalachia and the southeastern United States have long had a connection to the production and consumption of coal, the most greenhouse-gas intensive form of fossil fuel. How do you see global warming having an impact on the way we use our resources now or in the future? Has the information in this book changed your perspective in any way?

Online Resources

Interactive Tools

An interactive map allows you to watch real-time CO₂ emissions and compare the differential impact various countries have on the warming atmosphere: breathingearth.net

Calculate your carbon footprint with any number of tools available online. I like the carbon calculator provided by the Nature Conservancy, because it takes into account lifestyle choices with secondary carbon impacts (like dietary choices): nature.org

The National Geographic series "Six Degrees Could Change the World" is a useful companion

to Lyman's book. The visual components bring the numerous scenarios in the book to life. In addition, interactive maps help show each degree's global impacts: nationalgeographic.com, search for 'Six Degrees'

Further Reading

Along with drought, much of the havoc created by global warming is agriculture-related and one of the most interesting proposed mitigation proposals is carbon storage-focused organic farming. Rodale Institute's research is compelling food for thought when start thinking about solutions to global warming! rodaleinstitute.org/global_warming

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Chasing Copenhagen

Continued from page 5

hydrogen car manufacturers, urban bicycle route planners and many others. Much of it will be posted on the Appalachian Voices and "Chasing Copenhagen" blogs in months to come.

And yet the strongest impression I walk away with is from a simple farm co-operative and biogas plant at Hashoj, about 50 miles west of Copenhagen.

Erik Lundsgaard, plant manager, tours us through a remarkable process.

On one end is a closed off pit, where farm manure, slaughterhouse wastes and other noxious items are thrown into an anaerobic (airless) digester. The mixture produces a 600 btu per cubic foot gas, which is then cleaned up and sent to a 2 MW Rolls Royce electric generator. Along with hydropower from Sweden and Norway, 22 of these Danish gas plants fill in the power gaps when wind isn't blowing.

The extra heat from the electric generators is sent into a district steam system to warm the homes in the farming village. And the treated solids from the digester are disease free when they come out of the process, ready to be spread on farm fields as fertilizer.

What's impressive is this integration of farm-scale technology and crafts know-how into the larger renewable electricity grid. The biggest challenge, Lundsgaard says, is to get the right mix of raw materials so that you get the best production of gas.

Even though the biogas plant is held up as a model -- it's been visited by dozens of delegations from around the world -- Lundsgaard doesn't have a lab or a standard manual. He regards the technology with a matter-of-fact attitude.

It's one more example of how a relatively modest nation, with an ethical commitment to technology and crafts know-how, is developing renewable energy, and in the process, changing the world.

Americans tried biogas technology and never had much success, in part because of the attitude of land grant universities and federal research agencies towards renewable energy in the past three decades.

As these final lines are written, in November of 2009, the pathetic political stand-off in Washington over climate legislation may mean that the US will not lead the world at Copenhagen.

We know the chase will never be in vain, and those who try never lose.

But it now seems as if American engineering leadership is a lost dream, and high noon for America will be remembered as the moment we backed down and stopped chasing agreements like the one in the offing at Copenhagen.

Virtual Appearance at Copenhagen

Continued from page 5

Appalachian Voices and Coal River Mountain Watch produced the video tour. Lorelei Scarbro from Coal River narrated, with help from Bob Kincaid of Head On Radio Network.

Scarbro begins the tour explaining the threat of mountaintop removal coal mining by Massey Energy on Coal River Mountain. Scarbro talks about the wind potential on the mountain while viewers are able to interactively explore Coal River Mountain via Google Earth. A red overlay reveals the shocking extent of mining in the region.

The overlays then fade into visuals of the wind power potential of Coal River Mountain, as well as a high definition video of a typical explosion on a mountaintop removal coal mine - a stark contrast of the potential futures for the mountain.

As the tour progresses, an employment potential chart appears showing that the wind farm will produce more jobs in the long run than will a mountaintop removal coal mine. There are also charts that plot the energy potential of the wind farm against the energy potential of mining operations on Coal River Mountain.

After viewing the facts and figures, you meet the people-members of the community who share their stories and their support for the wind project.

Many communities that have been affected by mountaintop removal coal mining have health issues related to poor water quality as a result of the blasting. The video relays images of some of the health problems coalfield communities face.

An interesting feature of this innovative tour is that at any time you can pause it and move around Coal River Mountain to learn more about the area.

The conference, COP15, will be held Dec. 7 to Dec. 18 and the film will be available on YouTube.com and at www.google.com/landing/cop15.

A Breath of Fresh AIRE

Continued from page 15

ownership, where we can have control, enjoy its economic benefits and be producers instead of mere consumers," said Steve Owen, Executive Director of AIRE. "And to do all of that, we're going to need to understand how to organize communities financially, how to engage in the permitting and policy worlds, and how to change the rules."

The AIRE team works constantly to educate Appalachian communities about the benefits of locally produced renewable energy, and seeks to facilitate dialogue with residents in Appalachian coal producing and coal consuming regions about the alternatives to largely coal dependent electric generation policies.

"There is much talk about the 'cheap' electricity and energy available in central and southern Appalachia, but often these discussions do not include the rampant poverty and economic depression in Appalachian "coal field" communities," Owen said, "not to mention the environmental devastation levied on the health of our region's air, water, and forests by mountaintop removal coal mining and heavy coal consumption."

"AIRE seeks to cultivate the green energy economy in our beautiful Appalachia," he concluded. "It is our goal to unshackle our communities from the unsustainable environmental damage and economic stagnation of our heavily fossil fuel dependent energy policy."

For more information about AIRE, visit aire-nc.org or call 828-262-5022. To read about their Community Megawatt Initiative, visit aire-nc.org/community-megawatt

ASHEVILLE GO

Continued from page 17

four-month pre-apprenticeship phase followed by a five-month apprenticeship with local businesses, government agencies or nonprofits in the green economy. Participants are prepared for jobs in the green economy while earning a stipend during the training cycle.

"Members will apply to businesses according to their interest," Leroy said. "...We try to ensure that the members are motivated and excited about their placements." Some participating groups include the Bountiful Cities Project, the Southern Appalachian Highlands Conservancy and

Conservation Pros.

In addition to job skills, apprentices learn life skills such as team building, money management, effective communication and leadership training. Asheville GO participants can also work with tutors to prepare for the GED or to assist with college coursework.

GO members' service work is supplemented by classroom work at Asheville-Buncombe Technical Community College. The program works with members to design a course plan that suits each of their specific goals. Members are also certified in Occupational Safety and Health Administration Construction Safety.

As a supplement to the apprenticeship program, they have created the GO Energy Team. "The GO Energy Team is a microenterprise we started to provide low-cost energy audits and weatherization services to the community, while providing hands-on training opportunities," Leroy said. "This allows us to hire Asheville GO members directly as apprentices rather than relying on local businesses to do all of it. It serves a critical need in this community."

The JOBS Project

Continued from page 17

removal and other surface mining techniques have reduced the need for employees and miners displaced by this transformation in mining practices have scarce other regional industry in which to apply their skills.

"If we are to transition from a carbon-reliant economy to a carbon-neutral economy," said Eric Mathis, *Smart-Tech* coordinator of the JOBS Project, "we have to figure out how to mitigate the employment impact to the miners whose work helped bring America to the modern age."

The JOBS project proposes equipping the facility with technology similar to that of traditional coal-fired power plants to allow displaced workers to easily transfer their existing skill sets. Workers will be encouraged to provide feedback to help improve the facility. They will also be encouraged to expand their skills through educational partnerships with West Virginia University, empowering workers to take an active role in their employment.

"It is time to devote new innovation and ingenuity to energy policy and blaze new trails," said West Virginia Senator Robert Byrd. "...such energy will produce spin-offs that create jobs, improve life and secure our energy future."

Editorials

A Prayer for Peace in Appalachia

Amid Christmas hymns and Hannukah lights, we ask you to join us in a prayer for peace in Appalachia.

No one who follows events would ask why we need this prayer. Clearly, the climate of political violence escalated in 2009 with these incidents:

- A US Census worker murdered in Kentucky, the word "FED" scrawled across his chest;
- Judy Bonds, Goldman prize winner, slapped at a peaceful demonstration for Marsh Fork Elementary School;
- Maria Gunnoe, Goldman prize winner, shouted down at a chaotic Corps of Engineers hearing;
- Signs at demonstrations saying "Hang a Treehugger;"
- Fabricated photos of "environmentalists" as "armed terrorists."

A prayer for peace in the coalfields might begin with the idea that if our Appalachian ancestors could speak today, they would ask those for whom they sacrificed to lay aside hatred and strife. They would ask us to seek a better future.

A prayer for peace might hope that we learn -- as country singer Kathy Mattea has suggested -- to speak with love, respect and humility.

A prayer for peace would focus on people, first, but also the wild creatures and the treasured environment of Appalachia. This would follow Aldo Leopold's concern that ethics should encompass the land as well as the people.

A prayer for peace might have us recalling folk singer John McCutcheon's song about Christmas in the trenches of World War I, where combatants asked themselves whose family they had fixed in their sights.

A prayer for peace might have us falling on our knees to be guided by the King of Kings—and not "king coal."

A prayer for peace might conclude with the certainty that our blessings far outweigh our differences, and that none of us can meet our challenges or carry our burdens alone.

May we find the blessings of peace and forgiveness in our hearts, one and all.



*en-co-mi-um: noun... 1. Warm, glowing praise. 2. A formal expression of praise; a tribute.

Letters to the editor

Appalachian Voice welcomes letters to the editor and comments on our website. Letters are subject to editing due to space limitations (letters can be read in full on our website). The views expressed in these letters, and in personal editor responses, are the opinions of the authors and are not necessarily the views of the organization Appalachian Voices. Write to editor@appvoices.org.

Is Climate Change Becoming Back Page News?

To the Editor,

Being a journalist, I have seen how issues come to the forefront, and then how people tire of them and move on to another subject. There is an initial frenzy of interest, then editors feel that people have heard enough.

Despite the myriad of new findings, I am concerned that this is becoming the story of climate change. The science is getting more and more clear, but journalists are not continuing to cover the story commensurate with its importance. We are permanently harming all life on our planet, and all life to come. This is by far THE most important issue.

Many scientists, such as Sir James Lovelock, warn that billions of people will likely die this century because

of the impacts of climate change, unless we make major changes to reduce greenhouse gas emissions. The group Christian Aid found that 185 million people are expected to die from the disease impacts of climate change in sub-Saharan Africa this century, unless major changes are made.

Climate change is a creeping disaster, as an Alaskan Senator described it. But its also accelerating and unpredictable, as a 2004 Pentagon report on abrupt climate change details. That report, done by Defense Advisor Andrew Marshall, found that climate change is a much more serious threat than terrorism.

The recent passage of the American Clean Energy and Security Act by the House of Representatives is the most important step our country has taken to combat this crisis. We

must mobilize to pass this act through the Senate.

Misinformation, such as claims that the legislation will require home owners to do an energy audit before they sell their homes are simply not true according to the National Association of Realtors. The insurance industry and several energy companies are in favor of the legislation, which does not go nearly far enough to reduce greenhouse gas emissions.

Still, it is a critical step, that will create nearly two million jobs, and clean up our air, water and landscapes as we transition to clean, renewable energy used far more efficiently, while combating the most serious crises our species faces: climate change.

Chad Kister

Nelsonville, Ohio

Kister is an author of environmental issues and climate change. His fourth book, "Arctic Screaming" is scheduled to be released soon, and he is at work on his fifth book about his adventure through the Tongass National Forest, America's largest old growth forest that is under assault.



INSIDE APPALACHIAN VOICES

Hope in the Colombian Coalfields: A Lesson For Appalachia?

Part 3 of 3

Story by Sandra Diaz

This article is the last in a series about a trip organized by Witness for Peace to the coalfields of Colombia, South America for people in the Appalachian coalfields and other parts of the U.S.

Last month, I wrote about the dangerous working conditions of the La Loma mine, and the huge obstacles that the local union faced in attempting to organize, including the open assassination of its labor leaders. In this issue, I want to talk about the other major coal mine in the country—the Cerrejón mine, owned by a consortium of multi-nationals—and its more positive experiences with unionizing.

Working conditions at the Cerrejón mine—located in the northeast region of Colombia—are significantly better than they are at La Loma mine. A job at the Cerrejón mine is actually decent by Colombian standards. Workers enjoy a strong union, health benefits, and pensions. Subcontracted workers, however,

are not covered by union contract, and their jobs are often lower-paid with allegations of abuses.

Our delegation was able to meet with Freddy Lozano and Jairo Delgado, leaders for SINTRACARBON, the union at Cerrejón. SINTRACARBON is currently working with the subcontractors to get SINTRAS—the second union that the subcontractors have formed—recognized by SOTRANS, the transport company serving the mine. Lozano and Delgado have employed methods such as mobilizations, marches, and meetings with several work groups at Cerrejón.

SINTRACARBON has not only worked to get subcontractors the rights they deserve, the union strongly identifies with the struggle of the indigenous and Afro-Colombian communities that are being mistreated by Cerrejón. SINTRACARBON has even attempted to negotiate benefits for the communities impacted by



(left) Jairo Delgado, the union president for SINTRACARBON and Mickey McCoy, Kentuckians for the Commonwealth member. (above) The entrance to the Cerrejón mine. Photos by Sandra Diaz.

the mines, such as a share of tax revenues and royalties collected by the government.

Lozano and Delgado believe that their struggle for better conditions is tied to the struggle of working people all across the world. In their spare time, the two leaders advise people affected by the mine's social or environmental impact about their rights and support them in negotiations with the authorities. They allow local communities access to their offices to meet and to use their office equipment.

One witness on the tour, Willa Johnson from eastern Kentucky, was deeply moved by their ideas.

"There was so much passion, hope and poetry when they spoke that I wished so badly that our miners still had that source of power in Kentucky," Johnson said.

The union leaders of the Cerrejón mine were inspiring for Johnson because their spirit reminded her of her grandfather in his younger days. He, too, was a proud

union leader in the coalfields of eastern Kentucky. Johnson hopes to organize a letter exchange between retired union miners from eastern Kentucky and the union leaders from the Cerrejón mine.

"Maybe the Colombian union miners can learn something from the history lessons my grandfather has to share, while my grandfather can see that there are still strong union coal miners out there," she said.

It's an example of the power that unions can exert not only for themselves, but also for their community and the others that their industry impacts, such as subcontractors and local communities.

It left me to wonder what the possibilities might be if coalfield communities and United Mine Workers in Appalachia came together to work for better conditions for all parties involved.

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A perfect shadow from the Appalachian Voices' window decal falls on a new mountain-themed mural in the AV main office, currently being painted by Mar Startari-Stegall and her daughter, Blue. Startari-Stegall created the iconic symbol in the Appalachian Voices logo; the pair have been volunteering for the organization since Blue was 2 years old. Photo by Jamie Goodman

INSIDE APPALACHIAN VOICES



Riverkeepers and law enforcement officials work together to keep prescription drugs out of rivers and off the streets. Appalachian Voices' Upper Watauga Riverkeeper, Donna Lisenby, and her assistant, Eric Chance, helped to organize the event. (Right) Thousands of pills and liquid medications were collected for safe destruction. Photos by Holt Menzies, courtesy of The Appalachian newspaper.



Operation Medicine Cabinet MISSION ACCOMPLISHED!

By Maureen Halsema

River conservationists led by law enforcement officials collected a significant amount of drugs during Watauga County's first prescription drug take back.

During Operation Medicine Cabinet, hosted on Oct. 3, approximately 56 people turned in their expired, unwanted and unused medications.

Approximately 40,000 pills, 12 gallons of liquid medication, 2,000 sharps-needles, syringes and lancets, and a glucose meter were collected, filling more than one and a half 55-gallon drums with drugs.

"I feel it was a great success and it will probably be an annual event now that we see the outcome," said Toby Ragan, a Boone patrol officer.

The medicines were collected and safely destroyed, effectively keeping them out of the region's water systems and out of children's hands.

"For the High Country to create such an event is a real testament to our commitment to a healthier environment and a safer community," said Crystal Simmons, a volunteer at Operation Medicine Cabinet. "I give kudos to all the volunteers that helped make this event happen, and to the people that turned out to responsibly dispose of unused pharmaceuticals."

Google Earth: A Tool for Inspiring Change

By Maureen Halsema

Appalachian Voices and *iLoveMountains.org* are trying to save the world, one Google Earth widget at a time.

Google Earth recently honored Appalachian Voices—along with other members of the Alliance for Appalachia—as a Google Earth Hero. A tribute film by Google Earth features Appalachian Voices' Matt Wasson and Benji Burrell, and Coal River Mountain Watch's Lorelei Scarbro.

"We are thrilled by the fact that hundreds of millions of people around the world use Google Earth to discover, explore, and learn," said Google Earth Outreach. "But perhaps we're even more proud of the fact that many people have used Google Earth as a tool to help them change the world; ordinary people achieving extraordinary goals with the help of Google Earth."

The film salutes Appalachian Voices' mission to end mountaintop removal in a behind-the-scenes story highlighting *iLoveMountains.org*,



org, one of the first platforms to make extensive use of Google Earth as an educational tool.

"The real heroes are the people in Appalachian coal mining communities who are literally putting their lives on the line to speak out against the devastation of their mountains," said Matt Wasson, Appalachian Voices' Director of Programs. "At Appalachian Voices, we have the remarkable privilege to work with those people and to help broadcast their stories to the world -- and Google Earth and Google Maps are some of the most effective tools we've ever found to do that."

To view the video, click to AppVoices.org/GoogleEarthHeroes.

Appalachian Treasures Takes the AV Message On the Road Again

By Maureen Halsema

Appalachian Treasures is on the road again—this time to the desert Southwest.

The Appalachian Treasures project, started in March 2005, is a national campaign to bring an end to mountaintop removal. On each tour, Appalachian Voices sends out a field organizer, accompanied by volunteers from Appalachia's coalfields. Recently, Austin Hall, Appalachian Voices' North Carolina field organizer, traveled the western plains with Mickey McCoy from Kentucky, giving presentations at places such as rotary clubs, universities, churches and political organizations to educate about mountaintop removal.

"It's about one person talking to another person," said Lenny Kohm, campaign director at Appalachian Voices. "It is a personal way to talk about mountaintop removal because it engages people and allows them to share in our concerns."

The tour has been to nearly every state, building a national network of

people who will work together to end mountaintop removal.

"This is a unique opportunity for people to hear what it is like to live under mountaintop removal and also for people in the coalfields to get to hear people concerned about it," Kohm said. "It is empowering for both sides."

The tour is also an opportunity to talk to people across the nation about two bills currently in Congress. The Clean Water Protection Act (H.R. 1310) in the U.S. House of Representatives and the Appalachian Restoration Act (S. 696) in the U.S. Senate would amend the Clean Water Act to protect waterways from valley fills associated with mountaintop removal.

Thus far, Appalachian Voices has signed 160 cosponsors in the U.S. House of Representatives and 8 in the U.S. Senate. The Appalachian Treasures tour has been in every district and state where there is a cosponsor.

To find out more about the Appalachian Treasures tour, click to AppVoices.org/apptreasures.

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Naturalist's Notebook

Ruffed Grouse: Drummer of the Woods

By Maureen Halsema

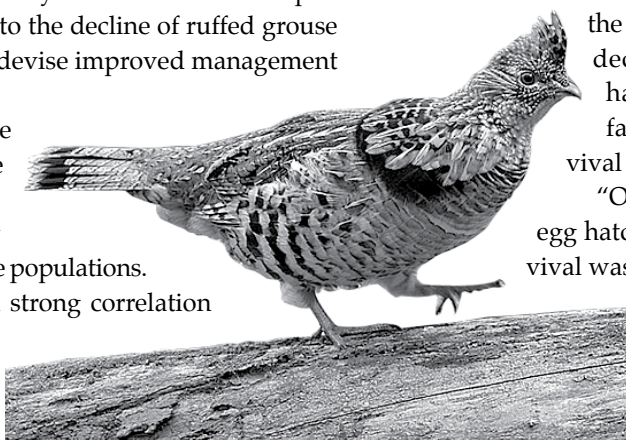
It sounds like a drum beat; starting slow, the tempo increases as the air compresses between his cupped wings flapping towards the side of his body. The ruffed grouse stands on his display log in early spring performing this theatrical display to advertise his territory, confuse predators or attract nearby females.

The ruffed grouse is a highly valued nonmigratory game bird that is found all across the Appalachian Mountains and up into Canada and Alaska. Their territories can range from 50 to 100 acres of deciduous forests with dense undergrowth for coverage from predators. The ruffed grouse is approximately 15 to 19 inches long with a small crest on top of its head.

An extensive research project conducted by the Appalachian Cooperative Grouse Research Project (ACGRP) involved 12 study sites in eight different states in the central and southern Appalachian region for a period of six years. More than 200 researchers were involved during the course of the study, representing five universities and a variety of state, federal, and private organizations.

The study observed over 3,000 grouse that were captured and fitted with radio transmitters, and then tracked using radio telemetry. The observations helped to isolate factors related to the decline of ruffed grouse in the study area and to devise improved management methods.

A major goal of the research was to estimate reproductive and survival rates, and identify factors influencing grouse populations. The researchers found a strong correlation between hard mast production, particularly acorns, and reproduction success rates and post-hatch chick survival.



Ruffed grouse on his display log. Photos by Harold L. Jerrell, VA Coop. Extension, Lee County, VA.

Ruffed Grouse Facts

Size: 15 to 19 inches long

Wing Span: 18 to 25 inches

Weight: 15 to 26 ounces

Terrain: Deciduous forests with dense undergrowth and Aspen woodlands.

Range: 50 to 100 acres

vival of ruffed grouse.

"We found that in years following a very good acorn crop, chick survival was much higher than in years following a poor acorn crop," Dr. Dean Stauffer, Virginia Tech's academic and university coordinator for ACGRP, explained. "We felt the main reason was that when the hens eat a lot of acorns, they have a higher fat content, which provides a better early food supply and better chick condition when they hatch."

This year produced an average to slightly above average acorn crop, meaning that chick survival should be about average.

The primary contributor to shrinking grouse populations in the Appalachian region over the last several decades has been the decline in young forests, a critical habitat for grouse. An additional factor is related to poor chick survival rate.

"One notable finding was that while egg hatching success was high, chick survival was very low, with a 5-week survival rate of only 22 percent over the course of the study," Stauffer said.

Chicks are often lost to predation like Cooper's hawks, broad-winged hawks, great horned owls and bobcats.

Exposure to cold



weather is another danger because the chicks cannot maintain their own body temperature during the first few weeks of life.

"The chicks are pretty much full grown by November, though, so they are well prepared to enter the winter," Stauffer said.

In the winter, ruffed grouse actually grow small fringe projections along the sides of their toes to help them walk across the snow,

like avian snowshoes. In the more northern regions of their habitats, ruffed grouse may also burrow in the snow to roost below the surface for the night.

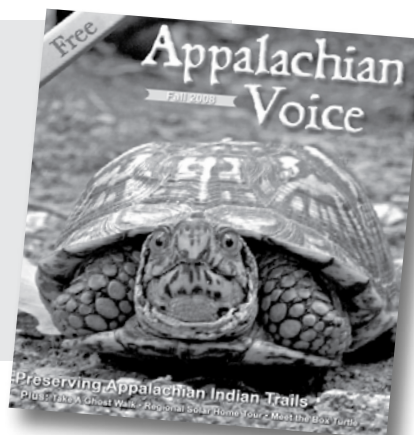
One of the goals of the ruffed grouse research project was to determine whether hunting was detrimental to grouse populations, and ACGRP was given a unique opportunity to conduct a true experiment to address this question. During the last three years of the study, with the cooperation of Virginia, West Virginia, and Kentucky, the ACGRP was able to close the hunting season on three study sites. In the end it was determined that, "hunting did not have a negative effect on grouse populations," Stauffer added.

The study culminated in the publication of ACGRP's monograph, "Ruffed Grouse Population Ecology in the Appalachian Region" in Wildlife Monographs. The report was awarded the Wildlife Society's Outstanding Publication in Wildlife Ecology and Management in the Monograph Category in 2008. Since then, approximately 30 articles have been published from the cooperative work.

ACGRP is also in the production phase of a book about their study, edited by Stauffer. "One of our goals was to write a book that was more for the common reader, somebody just interested in grouse, less technical for individuals interested in grouse ecology and management," Stauffer said. ACGRP expects the book to be published in late winter or early spring.

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Sarah Murphy, Morgan Goodwin, and Tom Owens of the Avaaz Action Factory donned suits made from astroturf to attend a Congressional hearing on forged letters sent from the lobbying firm Bonner and Associates to members of Congress regarding climate bill legislation. The American Coalition for Clean Coal Electricity has been implicated in the forgery. Photo by Oscar Ramirez.

GET INVOLVED environmental & cultural events in the region

To be included in our listing of environmental and cultural events for the Appalachian areas of VA, W.Va, NC, TN and KY, please email voice@apvoices.org. Keep in mind that our publication is bi-monthly. Deadline for the next issue will be Monday, January 18, 2009 at 5 p.m.

A Frontier Christmas

December 4-5

A frontier Christmas candlelit tour of historic Martin's Station at Wilderness Road State Park in Ewing, Va. Take part in historical festivities or enjoy a warm fire in a settler's cozy cabin. Friends of Wilderness Road State Park will hold a Christmas open house at the Karlan Mansion Dec. 6 from 2 to 4 p.m. Free, though parking fees may apply.

Ravine Scramble

December 5

This guided ravine scramble will be an entertaining look at what water has created along a slope of Chimney Rock Mountain in Chimney Rock State Park, N.C. Hike departs at 9:30 a.m.

Appalachian Story Telling

December 5

A gathering of authors living in or writing about the Appalachian mountain region, featuring a presentation by storyteller Randell Jones, editor of *Scoundrels, Rogues, and Heroes of the Old North State*. Event hosted for free at McDowell County Public Library in Old Fort, N.C.

COP15

Dec 7-18

United Nations Climate Change Conference in Copenhagen, Denmark. For details go to en.cop15.dk.

Coal Country Premier

December 10

Wise Energy for Virginia will premier the documentary *Coal Country* in Charlottesville, Va. In addition to the screening on Dec. 10 there will be a reception. To purchase tickets call Kayti Wingfield at 540-470-0643 or visit wiseenergyforvirginia.org/coalcountry.

Festival of Christmas Past

December 12

The festival at Sugarlands Visitor Center in Great Smoky Mountains National Park, Tenn., will feature a blend of mountain music, storytelling, crafts, and skills demonstrations ongoing throughout the day. gosmokies.knoxnews.com/events/festival-of-christmas-past

Solar Tree Lighting

December 16

Appalachian State University's Sustainable Energy Society will be hosting the solar tree lighting and fundraiser in Boone, N.C. The night kicks off at 5:30 p.m. with a dinner and reception at Gallelio's. The lighting is at 7 p.m. at the Jones House and the after party is at Halleliops. Asuses.appstate.edu.

15th Annual Possum Drop

December 31

Possum Drop at Clay's Corner in Brasstown, N.C. Ring in the New Year with a Miss Possum Contest, bluegrass music, Little Brasstown Church Choir, the Blessing, cider and good clean fun.

Conscious NYE Party

December 31

The Conscious New Year's Eve Party at Camp Rockmont in Black Mountain, N.C., hosted by One Love authors Julia and Robert Roskind will include reggae bands Chalwa and Satta Lions, midnight fireworks, a late night drumming circle and a vegetarian potluck. The party is intoxication-free, \$25 for adults and children under 12 are free. Bring a potluck dish. Reservations suggested. Go to onelovepress.com.

Recycle Your Tree

January 1-15

Check locally for tree recycling programs in your region.

Frozen Sasquatch Trail Run

January 2

First Annual Frozen Sasquatch 25k/50k Trail Run in Kanawha State Forest, W.Va. Contact West Virginia Mountain Trail Runners at wvmttr.org.

Rescue Reenactment

January 16

Virginia Creeper Trail, Damascus, Va -- Siberian Husky rescue hosts a reenactment of the 1925 Alaska Serum Run on the Virginia Creeper Trail from Abingdon trail head to Damascus, Va. siberianhuskyassist.com.

Dear Companion

February 17

Ben Sollee and Daniel Martin Moore's album, "Dear Companion" is released. The album, produced by Jim James of My Morning Jacket, aims to raise awareness about mountaintop removal. Check apvoices.org for future updates.