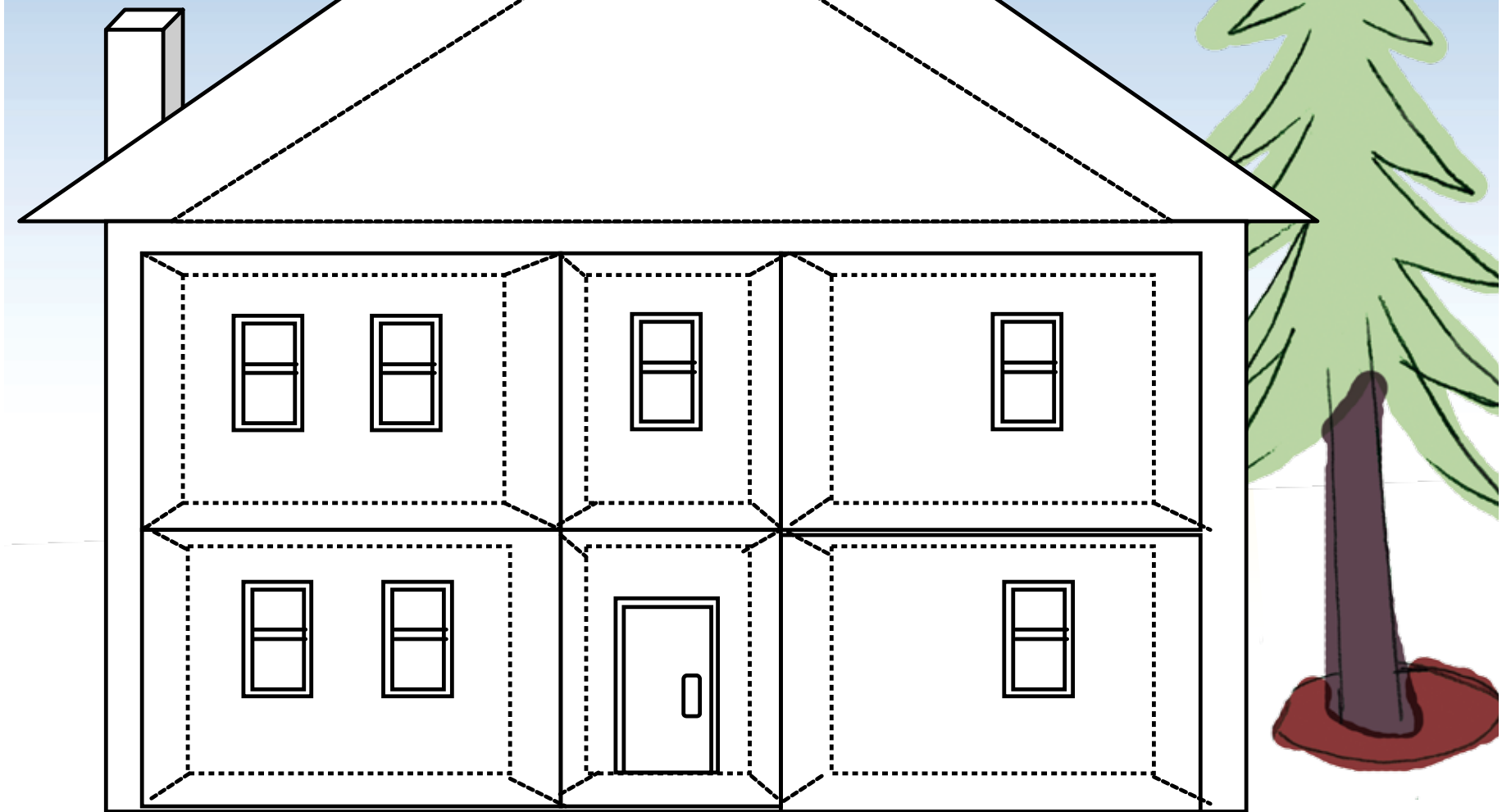


FREE

# The Appalachian VOICE

April / May 2013



## The Dollars and Sense of Energy Savings

Protecting the planet has never been better for our bottom line

### POWERING WITH CHANGE

How to win with on-bill financing

### CHATTANOOGA'S VISION

A city that leads by example

### THE SMART GRID

The future is happening now



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## A Note from our Executive Director

Dear Readers,

I am honored to be writing you for the first time as executive director of Appalachian Voices.

I still remember my excitement when I first learned about Appalachian Voices 12 years ago after a day of climbing at West Virginia's Seneca Rocks. Relaxing in town after descending from the knife-edge summit, I was elated from the climb and the beautiful view from the top: a bucolic patchwork of fields and woodlots in the river valley surrounded by lushly forested mountains stretching as far as the eye could see. It was in this state of mind that I picked up my first copy of The Appalachian Voice newspaper.

Here was a celebration of the Appalachian Mountains and our connection to them – from fishing to kayaking, homesteading to hunting – that resonated deeply with my experience. But it was something more that really drew me in.

Appalachian Voices was about our shared responsibility for this natural heritage: bringing people together to address the monumental environmental threats to the region, from mountaintop removal coal mining to water and air pollution. I soon became a member, and even while I was away at UCLA law school, I closely tracked Appalachian Voices' work. When I returned, I was proud to join the team and open our Virginia office.

I am still inspired every day by that shared connection and commitment. My wife, Heather — who was my climbing partner that day at Seneca Rocks — and I now have three young children, and my view naturally reaches farther than before. I'm devoted to a future when kids throughout Appalachia can swim in clean creeks, drink pure water, breathe healthy air, and still have mountain peaks to climb.

We've made tremendous progress, but important work lies ahead.

We must continue fighting the companies that are pushing the true costs of coal onto our communities, while we also secure real solutions to help our region prosper with sustainable energy sources and jobs that respect our natural heritage. We are engaged in nothing short of a fundamental shift that starts with a positive vision and a sense of shared responsibility for stewardship of this region we all love.

For the mountains,

*Tom Cormons*

Executive Director



## Across Appalachia

Environmental News From Around the Region

### Build-It-Up! Prepares Young Leaders

By Kate Cahow

Tessa Gore's passion for creating positive change in the Appalachian region was sparked during her time with Build-It-Up West Virginia.

"My first summer, we traveled to several mountaintop removal sites, and I witnessed the impact on the environment and surrounding communities," says Gore, a student at Lindsey Wilson

College in Columbia, Ky. "That's when I became an environmental activist. Build-It-Up opened my eyes to grassroots organization and mobilization, and showed me one person can definitely make a difference." The Ohio native is using her experiences to establish a Build-It-Up program in southeast Ohio.

Build-It-Up West Virginia and sister chapters in Tennessee and Virginia engage participants in service-learning projects focused on healthy, sustainable and locally-based economies. Through community partnerships, they have planted gardens in lower-income neighborhoods, hosted workshops on sustainable food production and preservation, and shadowed local leaders to learn about water-testing standards and local mine safety rules and legislation.

"Appalachian youth are strong leaders," says Johanna de Graffen-



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reid, co-coordinator with Build-It-Up West Virginia. "They've experienced the impacts of the coal mono-economy, and through Build-It-Up they're learning to build solutions."

For Joe Gorman, program coordinator with Build-It-Up West Virginia, the most gratifying part of his work is witnessing the personal growth of alumni. "It's exciting when participants grasp a

deeper understanding of what's at risk in their communities, and then work to change it," he says.

Build-It-Up is part of a national network of grassroots youth organizations called Grand Aspirations. The Virginia and Tennessee chapters are starting this summer, and this fall the West Virginia chapter is transitioning to a year-round program with West Virginia State University.

### Build-It-Up! in Appalachia

**East Tennessee:** [zval33.wix.com/builditupetn](http://zval33.wix.com/builditupetn)  
**Virginia:** [grandaspirations.org/sw-va-201/](http://grandaspirations.org/sw-va-201/)  
**West Virginia:** [facebook.com/builditup.wv](http://facebook.com/builditup.wv)  
**Age:** 13-18 (high school and college undergraduates)  
**Dates:** June to August – specific dates TBA  
**Cost:** Free  
**Contact:** Joe Gorman, program coordinator, Build-It-Up West Virginia (for all three programs)  
**Phone number:** (703) 307-4011 or (304) 518-0248  
**Registration form:** [bit.ly/12f6BJE](http://bit.ly/12f6BJE)

### EPA Finds Impaired Streams Across Nation, Cites West Virginia

According to a recent report by the U.S. Environmental Protection Agency, more than 55 percent of the country's rivers and streams are in poor biological health, unable to support healthy populations of aquatic insects and other creatures. The most widespread problem is excessive levels of nutrient pollution; high levels of phosphorus, found in detergents and fertilizers, were found in 40 percent of the nation's rivers and streams.

The EPA also found more impaired waterways in West Virginia than the West Virginia Department of Environmental Protection had reported. In March, the EPA gave the DEP a list that included 1,176 waterways previously designated as impaired by the state, and an additional 255 waterways identified by the EPA. The DEP left many streams off their impaired list as a result of a law passed in 2012 that ordered the

DEP to abandon its existing methods of measuring stream health, and to instead come up with new methods to define biologically impaired streams. As a consequence of the law, when the DEP submitted their most recent list of impaired waters to the EPA, the state agency did not include the 255 new waterways that would have been considered impaired under the old system.

### Landing Opportunity

Kentucky Gov. Steve Beshear signed a bill into law last month that allows qualifying land trusts to apply for conservation funding through the Kentucky heritage Land Conservation Fund. Under the law, land trusts are required to provide a one-to-one cash match for any funding given. The Nature Conservancy of Kentucky lauded the move, saying that the next step for the state would be to implement a state tax credit for land donation.

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House illustration by Jil Lee, a Public Relations student at Appalachian State University

### The Dollars and Sense of Energy Savings

Using electricity wisely is vital for Appalachia, a region that has borne the burdens of our national appetite for cheap energy. Unlocking the Southeast's vast energy savings potential could be the key to forging a cleaner, greener future.



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## Spring into Action



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## Williamson, W.Va. – A Gateway to Sustainability in Central Appalachia

By Kate Cahow

The Coal House, built in 1933 from its namesake rock, sits in downtown Williamson, W.Va., in the heart of Appalachia's coal mining region. It is home to the Tug County Chamber of Commerce.

Next door, construction of a high-tech "smart office" is underway in the lobby of the historic Mountaineer Hotel. The office will function as an incubator for sustainable design and construction projects in the region.

The incongruity of the buildings, one grounded in the past and the other

looking to the future, encompasses the vision of Sustainable Williamson: to create replicable models of sustainability for economically distressed communities throughout Central Appalachia.

"Whether we're recruiting renewable energy businesses, organizing farmers' markets or developing 5K events through the local diabetes coalition, our goals for Sustainable Williamson are to diversify the region's economy and build a healthier community," says Darrin McCormick, mayor of Williamson.

Williamson is in a region with one

of the nation's highest early death rates, where childhood obesity is rampant and more than 30 percent of the residents live below the poverty line. Sustainable Williamson — a non-profit formed in 2010 by the city's redevelopment authority — hopes to turn the tide by creating job opportunities, building sustainable community infrastructure and promoting health care initiatives. Projects include construction of a multi-million dollar community health center, upgrading school nutrition programs, plans for a recreation complex that will support local tourism, and career

training for renewable-energy businesses such as the solar energy company in town.

"The smart office will play an important role in this effort," says Eric Mathis, a Sustainable Williamson organizer and commissioner with the Williamson Redevelopment Authority. "The symbolic relationship between the house made of coal and the futuristic smart office is about friends working together in both buildings to create a healthy future for all."

For more information, or to contribute to the smart office's capital campaign, visit: [sustainablewilliamson.org](http://sustainablewilliamson.org).

### A Failure To Cooperate Over Wilderness Right-of-Way

Rutherford Electric Membership Corporation filed a condemnation petition in January that would allow the utility to build power lines through Box Creek Wilderness, a 5,100-acre tract of preserved forest east of Asheville, N.C. REMC says the utility needs the line to supply power to members in McDowell County and has almost reached capacity with current

power lines. The wilderness is owned by Epic Games founder Tim Sweeney, who said in a press release that he's "going to do everything [he] can to protect this beautiful, unique ecosystem from the proposed devastation." The N.C. Dept. of Environment and Natural Resources recently designated Box Creek as the 24th most significant natural heritage area in the state. Sweeney had until the end of March to respond to REMC's petition.

### Seeing is Believing: Air Quality Improves in Great Smoky NP

A new Colorado State University study of air quality in national parks shows a major reduction in particle pollution in the Great Smoky Mountains National Park. "In the Eastern United States, most of our air pollution comes from power plants and vehicle emissions. Nitrates in the air and sulfates are a lot of what we see," Molly Schroer, park spokesperson, said in an interview with WBIR in Knoxville, Tenn. "It's getting better. That is the trend that we are seeing in our data as far as the air."

### Unhappy Appalachia

Gallup and Healthways recently released their annual Well-Being Index for 2012 and, as in years past, Appalachia's health and happiness ranked low. West Virginia (50<sup>th</sup>) and Kentucky (49<sup>th</sup>) brought up the rear, while Tennessee slid down a few spots over the last year to 47. The Well-Being Index compiles survey results from all over the nation on subjects from emotional and physical health to food access and healthcare.

### Virginia's Dominion Settles in Clean Air Pollution Lawsuit

In April, Dominion Resources Inc., a Virginia-based electric utility, agreed to pay \$13.2 million to settle federal air pollution violations for three out-of-state coal plants. While the company denies the allegations that it violated

the Clean Air Act, it settled rather than engage in a drawn-out and expensive legal fight. The company's shareholders will bear the cost of the settlement, said company spokesperson Dan Genest.

### Road Trippin': Corridor K Still Threatens Goforth Creek

The Southern Environmental Law Center recently named Goforth Creek Canyon as one of its "Top 10 Endangered Places in the Southeast for 2013." The wild resource is threatened by the proposed Corridor K, a highway that would connect Chattanooga and Asheville. The Tennessee Department of Transportation said that different alternatives for the highway are being reviewed, and that studies are ongoing to help find the best solution. TDOT will release its draft environmental impact statement about the project late this summer.

### Unquenchable Thirst: Water Runs In Ga./Tenn. Land Dispute

Georgia legislators in March passed a resolution authorizing the state's attorney general to sue the state of Tennessee if it refuses to voluntarily give up a 1.5 square-mile parcel of land that they say is rightfully theirs. The land would grant Georgia access to the Nickajack Reservoir, which is fed by the Tennessee River. The move comes as rapidly expanding metropolitan Atlanta struggles to find a stable water supply after suffering severe droughts in recent years.



## ENJOY TAIL-WAGGING TRAVEL ADVENTURES

We know Fido likes to travel and see the sites as much as you do. He already has a fabulous coat, but he still needs a few accoutrements in his travel case. Leashes, travel bowls, packs, treats, toys, and perhaps even a nice pair of boots for the trail can all be found at your local Mast General Store.



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# Hiking the Highlands

## Trek Across Georgia's Rooftop

Story and photo by Peter Barr

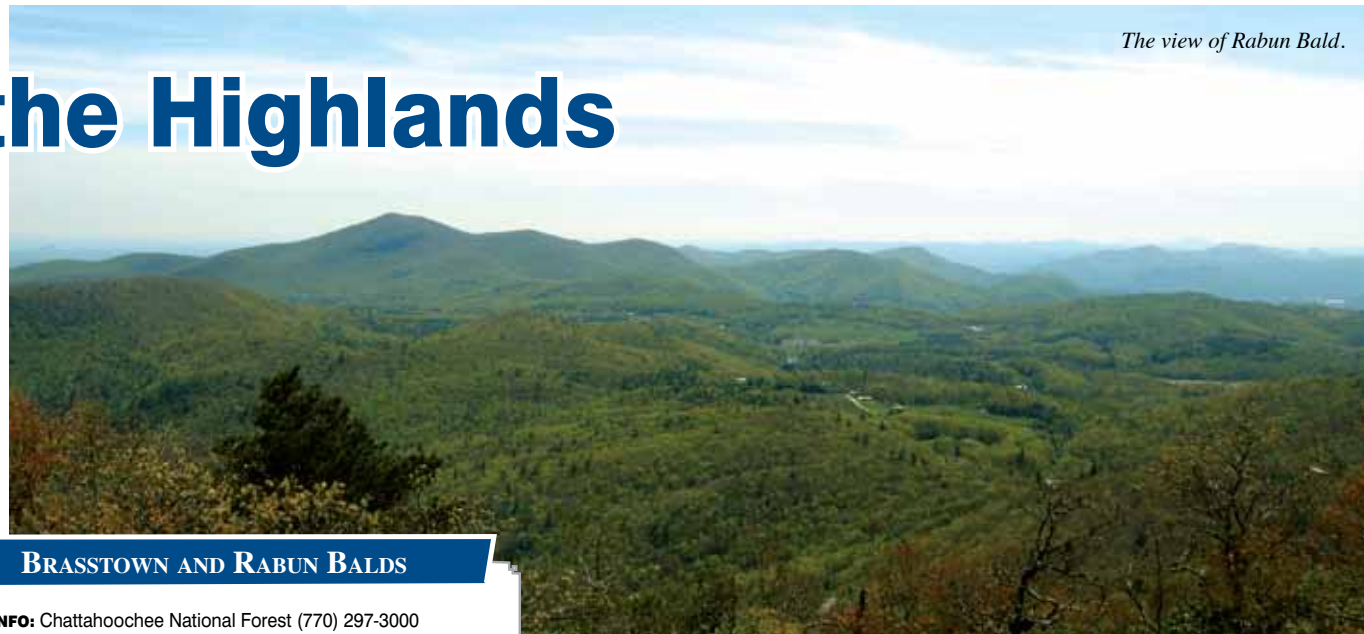
Two short hikes in northern Georgia's Blue Ridge Mountains climb to the state's highest peaks and reward visitors with its most stunning views. While the elevations of Brasstown Bald and Rabun Bald reign supreme in the Peach State, their picturesque scenery and fascinating cultural history are also difficult to surpass.

### Brasstown Bald

At 4,784 feet above sea level, Brasstown Bald — beaming with natural beauty — is the highest peak in Georgia, and offers both moderate and strenuous excursions.

A paved road east of Blairsville enables visitors to drive most of the way up the mountain. From a parking area south of the peak, a half-mile trail climbs the remaining distance to the summit. The paved path ascends steeply, gaining about 400 feet in elevation while tunneling through a forest of rhododendron and mountain laurel. Hike to the summit in late spring for the added bonus of its colorful blooms.

The summit of Brasstown Bald — surrounded by Chattahoochee National Forest — is crowned with a tall structure that looks much like an air traffic control tower. The lookout is occasionally manned by the U.S. Forest Service to provide rapid detection of forest fires in the surrounding national forest.



The view of Rabun Bald.

### BRASSTOWN AND RABUN BALDS

**INFO:** Chattahoochee National Forest (770) 297-3000

#### BRASSTOWN BALD

**GETTING THERE:** From Blairsville, drive US 19/129 south 8 miles to GA 180. Turn left and drive 9 miles to GA Spur 180. Turn left and drive 3 miles to the parking area for Brasstown Bald. A \$3 fee is required to park.

**LENGTH AND DIFFICULTY:** Summit Trail, 0.5 mi., moderate; Jacks Knob Trail 4.5 mi., strenuous; Arkaquah Trail, 5.5 mi., strenuous.

#### RABUN BALD

**GETTING THERE:** From Dillard, drive US 441 north for one mile. Turn right and drive 4.3 miles on GA 246 toward Highlands, N.C., to Old Mud Creek Road. Turn right and drive 2.9 miles to Kelsey Mountain Road. Turn right and drive 0.9 miles to the end of the road and trailhead at Beegum Gap.

**LENGTH AND DIFFICULTY:** Reach the summit of Rabun Bald via the Bartram Trail in 1.5 mi., strenuous.

While the tower itself is closed to the public, an observation deck at its base affords hikers a 360-degree view of four states. On clear days, the skyscrapers of Atlanta are visible some 90 miles to the south.

Accompanying the observation deck is a small visitor center, open seasonally, that offers exhibits on the natural and cultural heritage of the mountain. The center's motion-activated animatronic mannequins — which

verbalize local lore — may be one of the most bizarre sights you ever encounter on a mountain hike.

What Brasstown Bald boasts in natural scenery, it matches in rich cultural history. For millennia, the mountain was frequented by Native Americans; hunting camps and petroglyph carvings have been discovered near the peak.

Hikers seeking a more challenging route may trek the 4.5-mile Jacks Knob Trail, which connects Brasstown Bald to the Appalachian Trail near Chattahoochee Gap, or the 5.5-mile Arkaquah Trail, which begins south of the town of Young Harris and links the summit to Trackrock Gap, the location of an archaeological petroglyph site. Both paths are designated National Recreation Trails.

### Rabun Bald

When famed naturalist William Bartram passed near northern Georgia's lofty Rabun bald in 1775, he wrote, "My progress was rendered delightful by the sylvan elegance of the groves, cheerful meadows, and high distant forests, which in grand order presented themselves to view."

Georgia's second-highest peak, at 4,696 feet, Rabun Bald is located 10 miles northeast of Clayton. To reach its summit, hike the Bartram Trail, the venerable footpath named in honor of the naturalist who was so enthused by the region's scenery nearly 250 years ago.

To access the Bartram Trail from

the trailhead at Beegum Gap, ascend steeply to the south on an unmarked but well-worn path. Climb through the hardwood forest until reaching a junction with the Bartram Trail, blazed with yellow rectangles, at 0.3 miles. Turn right and follow the Bartram Trail, climbing moderately to reach a roadbed crossing on the right at 0.8 miles.

Here, veer left to remain on the Bartram Trail and ascend up the steep and increasingly narrow ridgeline via a quick succession of switchbacks. The trail tunnels through a dense thicket of rhododendron, emerging at the summit of Rabun Bald at 1.5 miles.

Like Brasstown Bald, a fire lookout tower atop Rabun fosters a breathtaking view of the Blue Ridge range. The squat stone structure constructed by the Civilian Conservation Corps in the 1930s now hosts a wooden observation deck with a panoramic vista of the surrounding Chattahoochee National Forest. A keen eye can detect Brasstown Bald, 30 miles to the west.

"I beheld with rapture and astonishment a sublimely awful scene of power and magnificence, a world of mountains piled upon mountains," wrote Bartram when he climbed the nearby Nantahala Mountains, visible just to the north. There is no doubt that his feeling of awe and wonder can still be experienced with a hike up Rabun Bald today.

*About the Author: Peter Barr is the trails & outreach coordinator at Carolina Mountain Land Conservancy, as well as the author of "Hiking North Carolina's Lookout Towers."*

# A Story of Perseverance

Hiker Overcomes Medical Condition to Complete Final Leg of AT

By Molly Moore

Exploring the mountains wasn't a part of Kenneth Bordwell's childhood in Dayton, Ohio. His father read news clippings about Grandma Gatewood, a remarkable woman from southeast Ohio who hiked the Appalachian Trail from Georgia to Maine three times, but Bordwell didn't step foot on the fabled path himself until his honeymoon.

During that Smoky Mountains vacation in 1965, he covered a mere 2.5 miles of the 2,200-mile trail. That was all it took to draw him back. While on a return trip several years later, he picked up a book documenting a thru-hiker's adventure. After that, Bordwell started traversing the renowned trail in earnest, section by section.

"There's something about the Appalachian Trail — when you get the bug you've got the bug," says Bordwell, who now lives in Cincinnati. "Appalachia's the same way. It's lovely country, from one end to the other."

He tackled the trail intermittently throughout the years, beginning with the southern portions. Bordwell's favorite section is somewhere in those central and southern latitudes — he says it's either Tennessee's Laurel Falls, or the Mt. Rogers area of southwest Virginia. Or it could be the commonwealth's Grayson Highlands State Park, or the Nantahala range in western North Carolina. Or maybe it's the Smokies.

His ambitions hit a speed bump when he went to the hospital for back pain in 2008 and an X-ray of his spine incidentally uncovered a life-threatening weakness in the wall of his aorta, the body's main artery. An estimated 1.2 million Americans have this condition, known as abdominal aortic aneurysm. If the aorta wall fails, the consequences are often fatal, particularly for men like Bordwell who are over 60.

At the time, doctors said operating



Ken Bordwell (right) and his occasional hiking companion, Joe Shelton, on the Appalachian Trail in New Hampshire. Bordwell's advice to fellow hikers is simple. "Enjoy it!" he says. "I think everybody wants to do it a little too fast and would have more fun if they slow down a little and not expect so much of themselves. It's hard work." Photo by Mindy Wallace

interfere with peak hiking season. At that point, he was 100 miles shy of completing his goal.

Bordwell acknowledges that the ensuing days and weeks were "a little rough." Six weeks after the stent was inserted, however, he was fit enough to resume stacking firewood.

That spring, he strapped on his backpack and returned to the landmark trail's northern reaches. On Aug. 24, 2012, at 70 years old, Bordwell completed the Appalachian Trail.

With that goal accomplished, Bordwell is ready for a change of pace. His next adventures will also be on long-distance trails, but this time he's taking a bicycle.

would be premature and risky. Instead, they monitored his aorta every six months while Bordwell pushed onward, following the trail along the East Coast's spine.

Three years later, his condition had developed into a bulge that was close to rupturing. He was presented with a choice: go through surgery to replace the aorta, or try a new treatment where a stent is inserted into the artery near the thigh, threaded up to the troubled area, and expanded to seal the aorta.

He went with the latter, scheduling the procedure for December so as to not

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# Power to the People

## Energy Savings and the Public Trust

By Molly Moore

It's no coincidence that the words "electricity" and "power" can be used interchangeably.

Our society owes a huge debt to electricity — it's often easier to recount the aspects of our lives that are connected to an outlet than not. But instead of controlling our energy use, we've let our addiction to electrons take over.

Outdated appliances and leaky homes lead to high heating and cooling bills for those who can least afford to pay them, while clean water and air, our most fundamental needs, are often considered tradeoffs that can be exchanged for more juice.

Using electricity wisely is particularly vital in Appalachia, a region that has historically borne the environmental and economic burdens of our national appetite for cheap energy. The region's poverty, among the worst in the nation, ironically contributes to its wasteful energy consumption.

Investing in repairs to make old, drafty buildings more efficient requires upfront capital. Even though this is eventually repaid through lowered energy bills, the initial cost can be a hardship for many of the residents who could benefit most.

Although energy conservation is a natural fit for Appalachia, which prides itself on its resourcefulness, most regional states rank in the bottom half of the country in terms of energy efficiency.

The region's patchwork of power providers offer a window into the differing motivations for wise electricity use.

### Do Not Pass Go

Energy efficiency makes sense for consumers, but it's not that simple for utilities that rely on sales to fatten their bottom lines. Unlike government-owned power providers or member-owned electric cooperatives, the 800-pound gorillas of the Southeast's energy markets — investor-owned utilities such as Dominion and Duke Energy — are not obligated to act in the public interest.

The roots of this system stretch to the early 20th century, when some states began to allow monopolies to take over electricity generation instead of requiring that utilities compete for customers. Most southeastern states took this approach, putting their faith in the ability of politicians and regulators to prevent monopolies from abusing their power.

None of these monopolies impact as many ratepayers as Duke Energy. Following its merger with Progress Energy last year, the Duke-Progress hybrid, which operates in six states, became the country's largest electric utility.

For investor-owned utilities, profits are not solely determined by the sheer volume of kilowatt-hours sold, but are shaped by what rates the utility can charge consumers. These rates are based on Duke's investments. When it invests in big projects — such as a \$24 billion



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nuclear power plant — it usually earns a rate of return greater than 10 percent.

In North Carolina, where Duke and Progress control 95 percent of the market, the N.C. Utilities Commission is supposed to, among other responsibilities, "provide just and reasonable rates and charges for public utility service and promote conservation of energy." When seeking a rate increase, Duke needs to prove to the commission that there is sufficient need to warrant investing ratepayer money in building new power plants.

Flat and declining electricity use puts a wrench in that argument, says Pete MacDowell, program director for the clean energy advocacy group N.C. Waste Awareness and Reduction Network. He says that to boost demand, "the game plan has been to entice as many energy hogs into the state as possible." Duke has actively recruited server farms for companies including Google, Apple, Facebook and Disney to the state, enticing the Fortune 500 outfits with low electricity rates subsidized by the utility's other customers.

In February, Duke presented a 20-year plan, forecasting growing demand and proposing a corresponding increase in new electricity generation, which would be equivalent to building roughly seven nuclear power plants by 2032. According to N.C. WARN, Duke would likely have to double customer

rates between 2009 and 2019 to finance the new capacity. Meanwhile, renewable energy and energy efficiency would each account for just 2.2 percent of the company's power portfolio by 2032.

The American Council for an Energy-Efficient Economy recommends that utilities strive to reduce their overall electricity sales by 1.5 percent each year, a benchmark that has been adopted by more than ten states. In contrast, Duke is currently reducing its use by a rate of 0.7 percent — less than half of the suggested goal, but still the best pace in the Southeast.

MacDowell is concerned that changes in the state legislature might make it more difficult for the N.C. Utilities Commission to do its job. North Carolina's new governor, Pat McCrory, was a Duke employee for 28 years. Since taking office, Gov. McCrory's political appointees include three cabinet members, two members of the state's environmental agency, and the head of the utilities commission, all of whom are also former Duke employees. This spring, a bill passed the N.C. Senate that would remove the utilities commission's staff and allow the governor to pick their replacements.

### Slowly, Possibly Surely

The Southeast is not only home to America's largest private utility,

*Continued on next page*

## The Appalachian States of Energy Efficiency

By Matt Grimley

Every year, the American Council for an Energy-Efficient Economy releases rankings on individual state's energy efficiency performance. And every year, Appalachia is middling at best in saving energy.

The ACEEE's State Energy Efficiency Scorecard examines everything from building codes to utility programs and policies to determine who takes the top spot. 2012's top

three states were Massachusetts, California and New York; the bottom three were West Virginia, North Dakota and Mississippi. Below we indicate our regional rankings based on the ACEEE 2012 report, followed by the increase or decrease in ranking from the 2011.

Good news, locally: since 2011, the states in Central and Southern Appalachia improved by an average of 0.875 spots. Better news: there's always next year!

Recently, an Ohio Senate panel began its five-year checkup of those rules. State Sen. Bill Seitz, who is leading the review and supported the standard in 2008, said the policy reminded him of "Joseph Stalin's five-year plan." At least we know which way he's "Lenin."

### SOUTH CAROLINA

**#40 (+6)** — Duke Energy Carolinas wants to increase their electric rates for residential customers by 16.3 percent in South Carolina, in part to help pay for two new power plants, in part to not promote more energy savings programs. Luckily, in January, a law became effective in the state that requires builders of all new homes to adopt more efficient measures such as getting a third party to conduct air duct tests on the new abode. It's a start for this warm-weather state, which suffers from massive energy demand peaks.

### TENNESSEE

**#32 (-2)** — The Tennessee Valley Authority is meeting its annual energy savings goals, but budgets for the efficiency programs are lower than anticipated. In March, Pathway Lending announced that it lowered the interest rate of the Tennessee Energy Efficiency Loan Program to two percent. The program partners include the state of Tennessee and the U.S. Department of Energy. It has provided nearly \$10 million in funding to more than 50 Ten-

nessee businesses since 2010 in an effort to help businesses reduce operating costs and spur economic growth.

### VIRGINIA

**#37 (-3)** — ACEEE in a report found that aggressively pursuing all cost-effective efficiency measures today would supply 31 percent of Virginia's energy needs in 2025. The state currently has a goal of a 10 percent reduction in energy use by 2022, and if they choose to, utilities can voluntarily, maybe, help out. Dominion Virginia Power, thank everything, chose to help with their very own efficiency Blogspot: e-conserve.blogspot.com. It updates every two weeks, so get ready.

### WEST VIRGINIA

**#49 (-5)** — West Virginia's residential electric rates have risen more than 50 percent in the past five years. FirstEnergy Corp. isn't helping. The utility wants to sell the Harrison Power Station to a West Virginia subsidiary, and Mountain State customers would fund the purchase through increased electric bills. The state legislature, however, will soon look at House Bill 2803 to encourage greater investment in energy savings and House Bill 2210 to set definite demands for energy demand reduction by state electric utilities. At least that close there's a lot to gain.

### GEORGIA

**#33 (+3)** — In 2012, Georgia ranked second in the nation in annual growth of electricity consumption. To help combat that, the state utilities must file an integrated resource plan every three years that accounts for, but does not require, efficiency measures. The state also does not require its utilities to meet annual energy savings targets. In other news, last year the Georgia Nuclear Regulatory Commission approved the construction of two new nuclear reactors at the Vogtle plant. Peachy!

### KENTUCKY

**#36 (+1)** — With Gov. Steve Beshear's seven-point strategic energy plan, Kentucky is calling for improving the efficiency of its homes, buildings, industries and transportation fleet to offset at least 18 percent of the state's projected 2025 energy demand. Maybe the state could look at the nonprofit organization MACED and

their How\$Mart Kentucky program to see how on-bill financing (which helps residents pay for retrofits and save money on their electric bills) might expand?

### NORTH CAROLINA

**Tied for #22 (+5)** — The state's Renewable Energy and Energy Efficiency Portfolio Standard has saved an estimated \$577 million for the government and electric utilities since 2007. Recent state legislation was introduced seeking to repeal these standards. North Carolina has been a leader in the Southeast in efficiency — would N.C. Rep. Mike Hager, a former Duke Energy employee championing the bill, really want to undo that legacy?

### OHIO

**Tied for #22 (+2)** — The Buckeye State passed a strong standard back in 2008 for its utilities to meet energy savings targets.

## Power to the People

*Continued from previous page*

it's also the birthplace of the largest government-owned power provider, the Tennessee Valley Authority. As a federal entity, TVA is not beholden to shareholders and has more leeway to meet demand through conservation.

In an interview last spring, Bob Balzar, a vice president at TVA, called energy efficiency "the cheapest resource we can acquire," and noted that it costs the utility just two cents per kilowatt hour to deliver its energy efficiency programs. On top of the environmental benefits, he said, utilities that offer opportunities for customers to save electricity find higher customer satisfaction.

In 2010, TVA announced a goal of achieving 3.5 percent of its electricity sales through energy savings by 2015. So far, however, that benchmark is out

of reach. For the past two years the power provider has reduced its energy consumption by just one-third of one percent of its total sales, says Jimmy Green, energy policy manager at the nonprofit advocacy group Southern Alliance for Clean Energy.

"They've got a long way [to go], but I like to determine that there's a lot of potential there," he says. "They're working on it."

As with any government organization, politics also play a role. TVA's board of directors are appointed by the White House and confirmed by the Senate. In 2010, Marilyn Brown, who is widely recognized for her expertise in energy efficiency, was appointed to fill a two-year vacancy on the board. When President Obama nominated her to resume the position in 2012, her selection was blocked by Tennessee's two senators. The White House selected her once more in early 2013, and the nomination is pending.

### By and For The People

Much of rural Appalachia receives power generated by massive entities such as TVA, Appalachian Electric Power, Dominion and Duke, but delivered by smaller, member-owned electric cooperatives. In some cases, these cooperatives also join together to produce power independent of the Southeast's energy giants.

With investor-owned utilities, there are layers of competing interests between the average customer and the electricity provider. But by their very nature, member-owned electric cooperatives have a strong incentive to use energy efficiently, since lower bills benefit each member individually and reduce the cooperative's need to invest in new generation. According to the National Rural Electric Cooperative Association, 96 percent of co-ops nationwide offer an efficiency program, and 73 percent plan on significantly expanding their programs in the next two years.

Though these cooperatives are relatively small players on the national energy scene, they are participating fully in one of the electrical sector's most universal trends. Even states such as Oklahoma, which ranked 47th in energy efficiency in 2011, are promoting conservation. The state climbed to 39th in just a year and recently passed a mandate to improve state buildings' energy use by 20 percent.

In Appalachia and the Southeast, historically cheap energy prices created an electrical landscape where convenience trumped resourcefulness, and private utilities had a healthy profit margin to fuel perpetual stock gains. Today, however, residents, small businesses and municipal governments no longer seem content to pay extra for a wasteful system that harms neighbors, backyards and wilderness areas. The game has changed.

When it comes to energy efficiency, the question is not "if" but "when."

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# The Means to More Efficient Ends

## Energy Conservation Takes Businesses to New Heights

By Brian Sewell

If not in person, most Americans have seen the Empire State Building in pictures and postcards, along with the emerald light that often illuminates the upper reaches of the spire. The iconic building has held its share of marketable claims to fame over the years — the “tallest building in the world,” the “world’s most famous office building.” But in 2011, its green glow took on new meaning when the landmark became the tallest LEED-certified building in the United States.

Given that commercial buildings account for nearly 80 percent of the energy consumed in New York City, the building’s owners knew that retrofits to the skyscraper would benefit the company and its tenants directly. Once completed, renovations will reduce the building’s energy use by almost 40 percent and annual savings will expand to more than \$4 million. In the years ahead, the positive impacts will likely reverberate through the larger economy and continue to take the message of energy efficiency as a job-creator and money-saver to new heights.

The latest chapter in the Empire State Building’s 80-year lifespan sets a high bar for long-term efficiency investment. But regardless of their size or type, businesses are finding ways to improve sales and services while employing more people and reducing their overhead. Government policies, and utility and electric co-op rebate programs are helping break down barriers so that every day, energy efficiency and good business become more synonymous.

Energy-saving strategies are taking root in more modest ways in Appalachia, but for the same reasons. At Ashe Memorial Hospital, a

shareholder-owned facility in Jefferson, N.C., that receives no tax dollars and invests all profits back into operations, providing the best healthcare possible includes finding ways to maximize efficiency and minimize costs.

After receiving a government grant, Ashe Memorial paid a consultant for a comprehensive energy audit of the 100,000 square-foot facility. As a result, the hospital invested in lighting upgrades, installed energy management tools to closely monitor and regulate the HVAC system, and made other improvements that save the hospital more than \$50,000 each year.

It took Ashe Memorial two and a half years to pay off the renovations, but today the campus has improved services by renovating its nursing stations and birthing center, and opening a rehabilitation and wellness center. Last year the hospital, which serves a county of 26,500, was named by the publication of the American Hospital Association as one of the “most wired” hospitals for its use of information technology.

For significant portions of Appalachia and the nation struggling with high unemployment, Ashe Memorial’s story should be encouraging — cutting energy waste is proven to generate income that can be used to create direct, indirect and induced jobs. Companies that work to retrofit buildings hire more electricians, hospitals hire more physical therapists and physicians, and smaller businesses nearby thrive as a result.

“Transforming the market for energy efficiency services requires creating both supply and demand resources at the local level,” writes Eric

*On the outside, the Empire State Building looks much like it did when it was built more than 80 years ago. But when renovations to make the building more energy efficient are completed this year, the iconic building’s owners will save \$4.4 million annually, benefiting both the owners and their tenants. The building’s green makeover also created 252 jobs. Photo from epa.gov*



*By taking advantage of government loans, a team at Ashe Memorial Hospital in Jefferson, N.C., installed lighting upgrades and energy management tools that save the hospital more than \$50,000 each year. Today, Ashe Memorial has reinvested those savings in the hospital, renovating its nursing and birthing centers, and opening a rehabilitation and wellness center. Photo courtesy of Ashe Memorial Hospital*

Mackres, a local policy manager and senior researcher for the American Council for an Energy-Efficient Economy. “New approaches to finance, business models, marketing, and workforce development need to be implemented in communities to create self-sustaining local markets for energy efficiency.”

According to ACEEE, job creation is stimulated by direct investments, market forces, new technologies, policies and federal stimulus programs. These motivations can shift spending patterns to support a healthier economy and create jobs in labor-intensive sectors and those with disproportionately high levels of unemployment including healthcare, education and retail services. Some utilities and governments are doing their part to advance efficiency, others are falling behind.

In addition to benefits for residential customers, utilities including Duke Energy, Progress Energy, the Tennessee Valley Authority, Appalachian Power Company and Dominion Virginia Power offer rebates on equipment, appliances and upgrades to lighting,

heating and cooling, chillers and food service equipment. Success stories of those who have taken advantage of the rebate programs range from churches and colleges to family-owned auto shops and grocery stores.

Before Duke merged with Progress last year, the utilities agreed to new targets that will require successful development, regulatory approval and implementation of energy efficiency programs during the next decade.

Many utility rebate programs, including Duke’s “Smart Saver” and Progress’ Energy Efficiency for Business programs, and ratings agencies such as Energy Star, have networks of trade allies to connect businesses with energy service providers in their area. Using the Energy Star Portfolio Manager, small businesses can track their progress by setting benchmarks based on past performance, monitoring energy and water costs. Under the Energy Star brand, the EPA developed a benchmarking starter kit to help businesses of all sizes get off the ground.

More recently, consumer-owned electric cooperatives have begun developing their own residential and commercial programs. The National Rural Electric Cooperative Asso-

*Continued on next page*

### Resources for Businesses

- touchstoneenergy.com
- nreca.coop
- makeyourbuildingswork.com
- dsireusa.org
- aceee.org

## Central Virginia LEAPS into Energy Savings

By Cat McCue

For a nonprofit organization just barely three years old, the Local Energy Alliance Program has racked up some impressive numbers: 1,000 homeowners served, 7 million kilowatt-hours of electricity conserved and a total of \$500,000 annually saved on the homeowners’ electric bills.

LEAP started in 2009 with a seed grant from the federal stimulus package passed by Congress and a simple goal: use energy efficiency to help area homeowners save money and help strengthen the local economy.

Based in Charlottesville, Va., the energy services organization partners with utilities, colleges, developers, banks, contractors, environmental groups, government officials and others to connect homeowners with energy efficiency providers. The LEAP staff sorts through confusing energy rebates

*Guy Caroselli, senior technical advisor for LEAP, tests the energy efficiency of a home that has been retrofitted through the program to ensure quality. Photo courtesy of LEAP*

and tax incentives, finds funds to assist low-income homeowners, certifies energy efficiency contractors, and more. The end result is a one-stop shop for residents who seek easy-to-understand advice on weatherizing their homes, procuring low-interest loans, or claiming energy savings tax exemptions.

“Energy efficiency affects people in the most intimate of ways: through their homes and businesses, the places where we live and work,” says Executive Director Cynthia Adams. “LEAP has always had a mission of generating public good on the most individual level, and through aggregating those individuals, on a more macro scale.”

LEAP’s model has drawn much rec-



ognition; the organization was selected for the U.S. Department of Energy’s video on the BetterBuildings program, was invited to speak at the Governor’s Energy Conference, and received praise from the White

House Council on the Environment. In addition to Charlottesville, LEAP serves five counties in Central Virginia and last year expanded to Northern Virginia. For more information, visit: leap-va.org.

## More Efficient Ends

*Continued from previous page*

ciation’s website features a map and listings of energy savings initiatives offered by electric co-ops nationwide. Currently, the NRECA is working with Congress and the Rural Utilities Service to develop a national loan program that would provide consumers with low-cost financing for improvements to homes and businesses.

States such as Massachusetts, Oregon, Colorado and Hawaii — a few of the states that took top spots on the ACEEE’s 2012 State Energy Efficiency Scorecard — are seeing massive returns on their own policies. When the Connecticut Energy Efficiency Board released its 2012 report

at the beginning of March, it found that more than 4,500 businesses and municipalities took part in government-supported efficiency programs, saving approximately \$25.9 million last year.

In the “Saudi Arabia of wasted energy potential,” as the Southeast has been called, the policies to support businesses eager to become more efficient can continue if more utilities, electric membership corporations and governments enhance the incentives that protect ratepayers from price shifts, energy waste and unnecessary investments in fossil fuel-generation.

Attempts to introduce energy efficiency goals in Virginia and West Virginia, ranked 37th and 49th respectively on the ACEEE’s State report card, have re-

peatedly failed. A 2012 report by Optimal Energy Inc., titled “Save Money, Create Jobs: How Energy Efficiency Can Work for West Virginia,” found that while utilities operating in the Mountaineer State — including FirstEnergy and American Electric Power — have some efficiency programs in place, there is a massive, unrealized potential that has kept ratepayers vulnerable. Customers can make changes to increase efficiency, but suppliers must make good on promises to provide reliable, affordable electricity.

“We have a moral obligation to our membership,” says Ray Beavers, the CEO of the United Cooperative Services. “There is so much uncertainty within the electric utility industry right now, as far as providing the end prod-

uct at a certain cost ... just telling our members that the price is going to go higher and not giving them solutions or some assistance to deal with these rising costs, that kind of goes against the grain of who we are.”

Whether its an iconic building in the heart of Manhattan, a community hospital along the spine of the Blue Ridge Mountains, or any other type of enterprise, businesses can take advantage of existing programs to minimize payback time and maximize their return on investment. When utilities and businesses work together, the only direction energy efficiency can take America’s economic resourcefulness and environmental responsibility is up.

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# Green Visions

Chattanooga's high-tech advances are seeded with grassroots principles

By Molly Moore

As dusk falls on the north bank of the Tennessee River, streetlights turn on at Chattanooga's Coolidge Park. Rows of gleaming bicycles wait for the next morning's bikeshare riders, and the sun's last rays fade from a park building's green roof.

If the streetlights appear to glow brighter as the riverfront grows darker, it's not an illusion. Each bulb is part of a highly efficient and intelligent network that is helping the city reduce its carbon footprint and utility bills while expanding public services and bringing jobs back from China.

That's a lofty task for a lightbulb, but over the past few decades Chattanooga has overhauled ordinary city systems, such as electric grids and public buses, to deliver unprecedented services while putting Tennessee's fourth-largest metropolis on the short list of sustainability leaders. The polluted city derided by Walter Cronkite as the "dirtiest city in America" in 1969 has come a long way in cleaning up its air, water and reputation.

"There's an old saying, that when you see a turtle on a fencepost, you know there's one thing for sure, it didn't get there by itself," says Dave Crockett, formerly a city councilman and director of the city's Office of Sustainability. He attributes the city's turnaround to "a culture of how to make decisions" that considers new initiatives holistically. In recent years, Chattanooga has taken the lessons from their city's triumphs in environmental and economic revitalization and applied them to a problem that plagues the Southeast: energy waste.

## Lighting, the Chattanooga Way

Compared to incandescent bulbs, the 350 LED induction lights around Coolidge Park are brighter, require less maintenance, and demand less than half



Coolidge Park has served as a laboratory for sustainability initiatives in Chattanooga, Tenn. It sports state-of-the-art streetlights, a parking lot with a rain garden, a building with green roofs, and connects pedestrian and bike paths. Photos by Molly Moore

the electricity. If they are implemented across the city as planned, the system would pay for itself in about seven years.

At midnight the lights dim, reducing electricity use and light pollution. Outfitted with radio communications, however, the lights can be controlled individually and the luminosity can be raised by 200 percent or set to a strobe pattern at a moment's notice. The local company building the lights is bringing jobs back from overseas to fill the city's order and prepare

for contracts with the system's admirers.

Despite the energy-saving prowess of LED bulbs, technology is the least important element of this and other green advances, says Crockett. In the old streetlight system, about 5 percent of lights are broken at any given time, defaulting to the "on" setting where they run constantly until someone calls for maintenance. Installing highly efficient lights into that network, Crockett says, would be "like putting rocket boosters

on horseshoes." Upgrading the whole system with radio communications not only assists first responders, it saves an additional 25 percent in energy consumption by telling the city where broken lights are and which parts they need.

To truly capture the benefits of "geowhiz" technology, Crockett says, any plan must begin with careful consideration of the environmental, economic, social and educational goals. "If you think in a single dimension, by definition you're not thinking sustainably. And if you're not thinking sustainably, then you're giving up a lot of the benefits, including financial benefits."

## From the Ground Up

Chattanooga's green streetlight project is an outgrowth of a comprehensive Climate Action Plan that the city council ratified in 2009. Behind that report is a visionary band of four, a dedicated group of 14, the input of 500 concerned citizens, and a mayor who approved it all.

In June 2006, Gene Hyde, the city forester, and June Coppinger, a realtor, approached Mayor Ron Littlefield to ask whether he would sign on to the U.S. Conference of

Continued on next page

## Green Visions

Continued from previous page

Mayors Climate Protection Agreement. Prepared for a "no," they were floored by Littlefield's affirmative response. "I was the only city employee there at the time," Hyde says. "(The mayor) said, 'You want it, you got it, dude. Make it happen.'"

In his spare time, Hyde began meeting with Coppinger, Heather Adcox, now the director of the city's Office of Sustainability, and Anj McClain, who leads the nonprofit sustainable building center Green Spaces. The four pounded the pavement, making connections with community stakeholders such as Chattanooga Gas and the Association of General Contractors. Everyone agreed that increased sustainability was something that Chattanooga should tackle, though each organization had different ideas about how.

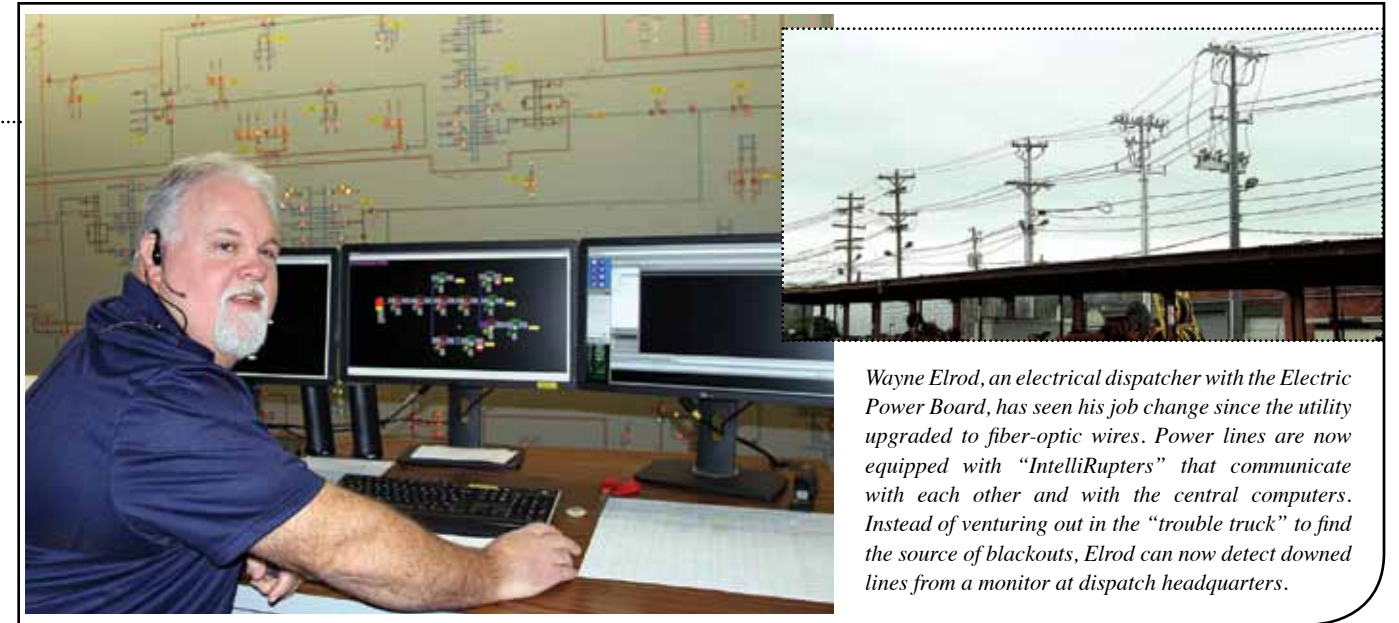
On Earth Day 2008, the newly formed, 14-member Green Committee turned to the public for suggestions on how to make the city more sustainable. A public brainstorm session with five hundred participants generated over a thousand ideas, which the committee distilled into a list of 47 action items to form the basis of the 2009 Chattanooga Climate Action Plan. The proposal, which included the creation of the Office of Sustainability, was unanimously approved by the city council.

Adcox and Hyde attribute the document's success largely to the Green Committee's diversity. Members represented a cross-section of business, civic and environmental leaders, including the executive directors of the Homebuilders Association of Chattanooga and the Chattanooga Manufacturing Association. Industry representatives had a vested interest, and the result was a plan for environmental actions that the business community could publicly support.

## Ordering Efficiency

One of the plan's overarching goals is reducing the city's carbon footprint.

On Aug. 5, 2012, Mayor Littlefield announced an executive order mandating 25 percent cuts in energy use at city departments and agencies by 2020, an initiative estimated to save \$2.85 million of the city's \$11.4 million annual budget each year. The order includes bench-



Wayne Elrod, an electrical dispatcher with the Electric Power Board, has seen his job change since the utility upgraded to fiber-optic wires. Power lines are now equipped with "IntelliRupters" that communicate with each other and with the central computers. Instead of venturing out in the "trouble truck" to find the source of blackouts, Elrod can now detect downed lines from a monitor at dispatch headquarters.

marks such as 35 percent reductions in buildings' electricity use and 20 percent cuts in water use, and recommends actions like turning off equipment when not in use, installing sensor-controlled lights, and upgrading HVAC systems.

These announcements weren't a surprise to most Chattanoogaans, Adcox says. The most common response she heard was, "What took (the city) so long?"

Adcox is passionate when she talks about energy efficiency, calling it "almost a no-brainer" for municipal government. "It's the easiest thing to measure, the quickest return on investment, it's impactful, it's visible, it's the city leading by example, it's job creation, it's all of those things," she says.

Progress has been slow, however, partially because of funding cuts to the sustainability office last spring. A new mayor, Andy Berke, is taking office in April 2013. His staff recently issued a statement supporting energy efficiency and saying that the incoming team will consider the existing goals as part of a comprehensive sustainability strategy. Adcox hopes he will back aggressive measures to curb energy use. "We can't do it one lightbulb at a time, that's not going to be an effective way to get things done," she says.

To Littlefield, the executive orders are about leading by example. The two-term mayor grew up in Georgia's textile country, and he remembers when mills routinely dumped waste into streams.

"Now industries are saying 'We're not going to do that anymore and we don't expect anyone else to do that,'" he

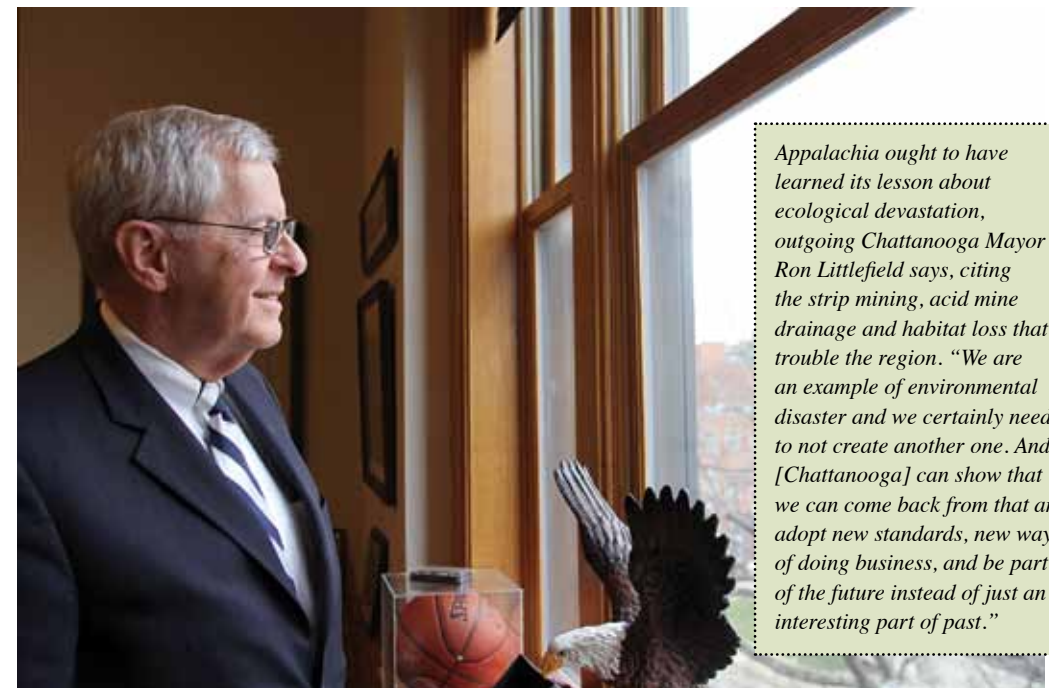
says. "[Chattanooga is] going to do our part to do just what we're asking these industries to do."

The outgoing mayor has good reason to believe that environmental standards can attract jobs. Under his watch, Volkswagen and Alstom Power, chose to locate new manufacturing plants in Chattanooga largely because of the city's commitment to what the mayor calls "a

high quality of life." Both facilities have achieved high LEED standards for green building, and the Volkswagen plant can churn out 12 percent of its overall energy use from on-site solar panels.

A high quality of life is important for its own sake, Littlefield says, but successful cities also need to recognize its economic value. Once a city views quality of life as goal, it makes sense

Continued on page 19



Appalachia ought to have learned its lesson about ecological devastation, outgoing Chattanooga Mayor Ron Littlefield says, citing the strip mining, acid mine drainage and habitat loss that trouble the region. "We are an example of environmental disaster and we certainly need to not create another one. And [Chattanooga] can show that we can come back from that and adopt new standards, new ways of doing business, and be part of the future instead of just an interesting part of past."

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# Powering with Change

On-bill financing helps low-income co-op members retrofit their homes

By Matt Grimley

The Great Depression was a time of dust bowls and poverty, but at least cities had electricity.

The rural areas had it rough. Citing high development costs and low profit possibilities, utilities often denied electric service to farms, hollers and other far-off places. And even when these country communities had the opportunity to purchase electricity, they often paid much higher prices than their urban counterparts.

This changed with Roosevelt's New Deal, which created the Rural Electrification Administration. Avoiding direct government competition with private industry, the agency funded and provided assistance to people who pooled their money together to form electric cooperatives. By 1939, with the administration's help, 417 rural electric cooperatives had formed to energize the outskirts. Today, more than 900 exist, generating and distributing electricity to more than 42 million customers across the nation.

Because electric cooperatives are owned by the members, their profits go right back to making the company more effective or paying back the member-owner. They're unlike investor-owned utilities, which must strive to create profit for their shareholders, and public utilities, which are mostly run by governmental interests.

In South Carolina in the late 2000s, the cooperatives' focus on serving member-owners meant recognizing some budding problems. Electricity demand was growing. Energy prices for coal were becoming more volatile. Building more lines and transmission equipment would mean that members would have to pay higher rates.

The cooperatives, which serve more than 1.5 million members across the state, had two paths: either build a new nuclear power plant or steer their members toward energy efficiency as part of a long-term, coordinated energy plan.

The South Carolina co-ops chose the latter, leading them to a pilot program called Help My House.

## The First Step

The Help My House pilot program was first made possible when the South Carolina legislature passed a bill enabling the use of on-bill financing in 2010.

On-bill financing has a few moving parts, but it's one basic concept: you get a low-interest loan for energy efficient retrofits on your home or rental property, and you pay it back on your utility bill.

The energy efficiency loan usually doesn't require a credit check or any money upfront from the customer. It doesn't follow the customer around, either — it is instead attached to the meter's monthly bill and paid back by the current renter or homeowner over the course of five to ten years. If properly charted out for the home, on-bill financing should save the consumer money over the life of the loan repayment.

To fund this project, Central Electric Power Cooperative, the generation and transmission co-op for the state's 20 distributing cooperatives, secured a \$740,000 loan from the Rural Economic Development Loan and Grant Program, the first time a loan of this type was

used for an energy efficiency program.

Eight of the state co-ops opted in. By February 2012, these cooperatives had installed energy retrofits in 125 homes across the state. The retrofits ranged from duct sealings to HVAC replacements, all of which were done with local contractors trained by Central Electric. These upgrades were screened after installation, to make sure that the work was satisfactory.

The pilot program is a win-win for South Carolina, says John-Michael Cross of the Environment and Energy Study Institute, which assisted with program design and outreach for Help My House. "Reducing per capita demands in growing regions allows co-ops to not have to build new capacity, but rather to serve their members... while keeping prices down," he says. "Individual homeowners get lower bills and more comfy homes."

## No Mountain High Enough

Robin Hollingsworth, 60, lives in an old farmhouse outside of Blacksburg, S.C. Every day at five, she feeds her horses, and her dogs run around the land.

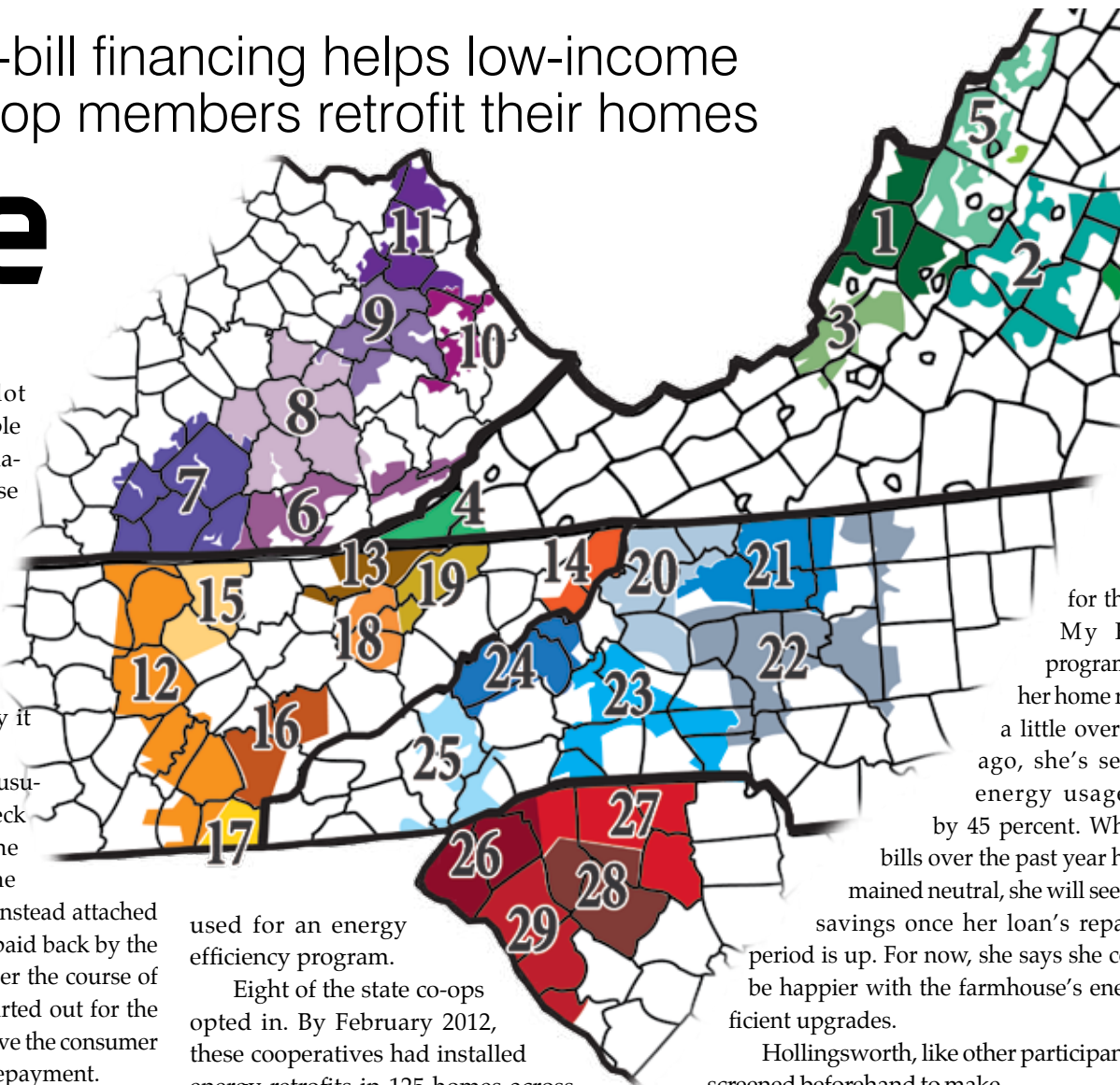
Hollingsworth's home was one of 16 chosen by the Broad River Electric Cooperative

for the Help My House program. Since her home retrofits a little over a year ago, she's seen her energy usage drop by 45 percent. While her bills over the past year have remained neutral, she will see energy savings once her loan's repayment period is up. For now, she says she couldn't be happier with the farmhouse's energy efficient upgrades.

Hollingsworth, like other participants, was screened beforehand to make sure that her bills would either be neutral or save her money on loan repayments. Not everyone is meant for the program.

That part sticks with Josh Crozter, member services coordinator at Broad River. He says that the cooperative's "intent was to push [Help My House] to lower income homes who wouldn't be able to afford this otherwise." A big part of the program's appeal is the elimination of the upfront capital that the member might balk at spending on the retrofit.

The Broad River cooperative runs in the Appalachian foothills of South Carolina, in Union, Spartanburg and Cherokee counties. Based on a 2012 cooperative survey, 25



Appalachia's Rural Electric Cooperatives			
<b>VIRGINIA</b>			
1. <b>BARC Electric Cooperative</b> barcelectric.com • 800-846-2272	8. <b>Jackson Energy Cooperative</b> jacksonenergy.com • 606-364-1000	16. <b>Fort Loudoun Electric Cooperative</b> flec.org • 423-442-2487	24. <b>French Broad EMC</b> frenchbroademc.com • 828-649-2051
2. <b>Central Virginia Electric Cooperative</b> forvec.com • 434-263-8336	9. <b>Licking Valley RECC</b> lvrecc.com • 606-743-3179	17. <b>Tri-State EMC</b> tsemc.net • 706-492-3251	25. <b>Haywood EMC</b> haywoodemc.com • 800-951-6088
3. <b>Craig-Botetourt Electric Cooperative</b> cbec.coop • 540-864-5121	10. <b>Big Sandy RECC</b> bigsandyrecc.com • 606-789-4095	18. <b>Appalachian Electric Cooperative</b> aecoop.org • 865-475-2032	<b>SOUTH CAROLINA</b>
4. <b>Powell Valley Electric Cooperative</b> pve.coop • 423-626-5204	11. <b>Grayson RECC</b> graysonrecc.com • 606-474-5136	19. <b>Holston Electric Cooperative</b> holstonelectric.com • 423-272-8821	26. <b>Blue Ridge Electric Cooperative</b> blueridge.coop • 864-878-6326
5. <b>Shenandoah Valley Electric Cooperative</b> svcec.coop • 540-434-2200	<b>TENNESSEE</b>		27. <b>Broad River Electric Cooperative</b> broadriverelectric.com • 864-489-5737
<b>KENTUCKY</b>			
6. <b>Cumberland Valley Electric</b> cumberlandvalley.coop • 606-528-2677	12. <b>Volunteer Electric Cooperative</b> vec.org • 423-334-5721	13. <b>Powell Valley Electric Cooperative</b> pve.coop • 423-626-5204	20. <b>Blue Ridge EMC</b> blueridgeemc.com • 800-451-5474
7. <b>South Kentucky RECC</b> skrecc.com • 606-678-4121	14. <b>Mountain Electric Cooperative</b> mountainelectric.com • 423-727-1800	15. <b>Plateau Electric Cooperative</b> plateauelectric.com • 423-569-8591	21. <b>Surry-Yadkin EMC</b> syemc.com • 800-682-5903
<b>NORTH CAROLINA</b>			
		22. <b>EnergyUnited</b> energyunited.com • 800-522-3793	28. <b>Laurens Electric Cooperative</b> laurenslectric.com • 864-682-3141
		23. <b>Rutherford EMC</b> remc.com • 800-521-0920	29. <b>Little River Electric Cooperative</b> lrecl.coop • 864-366-2141
RECC = Rural Electric Cooperative Corporation EMC = Electric Membership Corporation			

percent of Broad River's members make less than \$25 thousand a year — that's compared to 15 percent at that income level nationally.

There are at least 20 states currently with on-bill financing programs, but the model is not prevalent nationally. Nor is it prevalent in Appalachia, despite programs such as the How\$martKY pilot in eastern Kentucky.

Through a partnership with the Mountain Association for Community Economic Development, four cooperatives offered on-bill financing to members that used at least 21 thousand kilowatt-hours a year. At one of the participating co-ops, Fleming-Mason Energy, 30 percent of members are at or below the federal poverty line, often living in drafty mobile homes. With

## Cents of Completion

Last July, U.S. Secretary of Agriculture Tom Vilsack announced plans to form the Energy Efficiency and Conservation Loan Program, which would give up to \$250 million every year to kick off on-bill financing and other energy efficiency programs around the country. The rule just finished its environmental assessment and is now pending a final announcement.

John-Michael Cross says that, with South Carolina's pilot program and others, federal money will have to play a large role moving forward.

For Smith, the benefits of the program were many. "It's putting people to work, saving the environment and saving the members money," he says.

For others, such as Josh Crozter, it's about even more. "The co-ops brought electricity to rural America 75 years ago," he says. "But that's long forgotten."

With private investors still uncertain, easily repayable loans from Washington, D.C., will help projects like Help My House sprout and thrive.

Another boost would be the Rural Energy Savings Program Act, now a part of Congress's delayed Farm Bill. It would create a national program to offer zero-interest loans to rural electric utilities for on-bill financing projects.

Federal loans have already proved handy for some of the state's co-ops, says Lindsey Smith, member and public relations director for Electric Cooperatives of South Carolina, a trade organization. Four of the initial co-ops who participated in the pilot are moving ahead with versions of Help My House, and a few others who were not part of the pilot are launching their own on-bill financing efforts.

In May, Central Electric will assess a report of Help My House's first year of activity and decide where the statewide program will go. With more than 350 fields of data for the 125 participating homes, the report will comprise a year's worth of information, ranging from each participant's satisfaction with their upgrades to their historical energy use.

He stresses the importance of member satisfaction in an age when people feel like they can get electricity anywhere. "You have to dig beyond the surface of, 'We sell electricity, so people using electricity is good for us,'" he says. "A better informed, more stable membership makes for a much stronger co-op."



Josh Crozter, above, demonstrates Broad River Electric Cooperative's home energy efficiency kit (above). He says Help My House "makes ethical sense, makes sense on a public relations level, and... makes sense on an economic, straight-up business level." Rep. James Clyburn, right, led the way in 2010 for the original Rural Energy Savings Program Act, which would boost funding for on-bill financing projects across the country. Currently, RESPA is held up in the federal legislature's delayed Farm Bill.

Josh Crozter photo by Matt Grimley, Rep. Clyburn photo by Luis Gomez





# A Case for the Smart Grid

How adding intelligence to an aging system could put control in the consumers' hands

By Davis Wax

While we can often take our 21st-century technology for granted, whether it is the next smartphone, laptop or means of digital storage, there is at least one area such innovation has failed to revolutionize: today's electric grid system.

Calling it "today's grid" is even a bit of a misnomer, since the present grid technology is really the system of Thomas Edison's early 20th century, one which has been retooled and tuned over time but never fully reinvented.

## The Grid of the (Last) Century

Because we ask so little of the technology, longer lifespans for equipment, while inefficient, become possible. Seventy percent of U.S. transmission lines and power transformers are reaching 25 years in age, while 60 percent of the country's circuit breakers are over 30 years old, according to a 2012 study by the American Society of Civil Engineers.

These devices take electricity through a simple, one-way path, like a water's journey downstream. Energy is generated in a power plant and transmitted over long distance-high voltage lines.

That high voltage is then allowed to "step down" at another transformer into lower voltages, a form of energy that can be transmitted to local utilities, lowered in voltage again, and distributed in cascades to businesses, residential homes and city parks, which receive electricity at 120 to 240 volts.

Electricity then arrives at its final

destination, entering a delta of homes. Here the energy meets demand. But it is consumed whether or not a light bulb left on or electronics left plugged in are actually being used, and there are few devices in place to capture and store the energy we don't need.

The downstream-only design of the grid has a number of limitations, perhaps most noticeably is its inability to quickly detect obstructions from storms or accidents, making it difficult to reroute the flow of electricity to unaffected lines. Instead, we get massive blackouts like the 2003 event across Canada and the Northeastern U.S., when a single failure caused oscillations in the transmission system to overload and leave an entire region powerless.

The civil engineers' report also predicted that while U.S. investments in today's grid would reach nearly \$566 billion by 2020, there will still be a shortfall of \$107 billion if utilities are to adequately support future demand.

While there are ways to help lower future demand, the ever-increasing cost of an outdated system points to the need for a smarter way of controlling how we apportion out our energy.

## What is a "Smart Grid"?

"A good analogy for the smart grid is to think of the internet as people were thinking about it in the 1980s," says Dr. Ewan Pritchard, associate director of FREEDM at North Carolina State University. FREEDM is a research center created by the National Science Foundation in 2008 to pursue ways renewable energy

can be integrated into the grid system.

"Shrinking the size of technology and sharing data was the goal in the 80s," he says. As an end-product of this connectivity, though, no one would have guessed the multi-billion dollar search engine tool Google.

Similarly, a true smart grid will allow a complete sharing experience, Dr. Pritchard says. Smart appliances will gauge collective energy use and schedule when to power on and off to fit homeowners' needs. Smart meters will provide both the user and the utility the convenience of hourly rates.

Two-way communication will become possible, where the system detects faults more readily and transmission automatically reroutes to prevent the domino-effect of a blackout.

"We don't truly know the value of the smart grid yet," says Dr. Pritchard, "but we know it's huge." One asset FREEDM believes could be valuable is the equivalent of an internet "router" for the grid.

"This would work like a traffic light, telling the grid when to use power and when to turn it off," he says. Instead of having an ice maker always make ice, for instance, a homeowner could set it to make a number of cubes in the minutes leading up to when he or she returns home.

Another technology that would be helpful would be a direct current box for homes, something which FREEDM is working to develop.

Electricity enters households as alternating current. Devices such as smart-

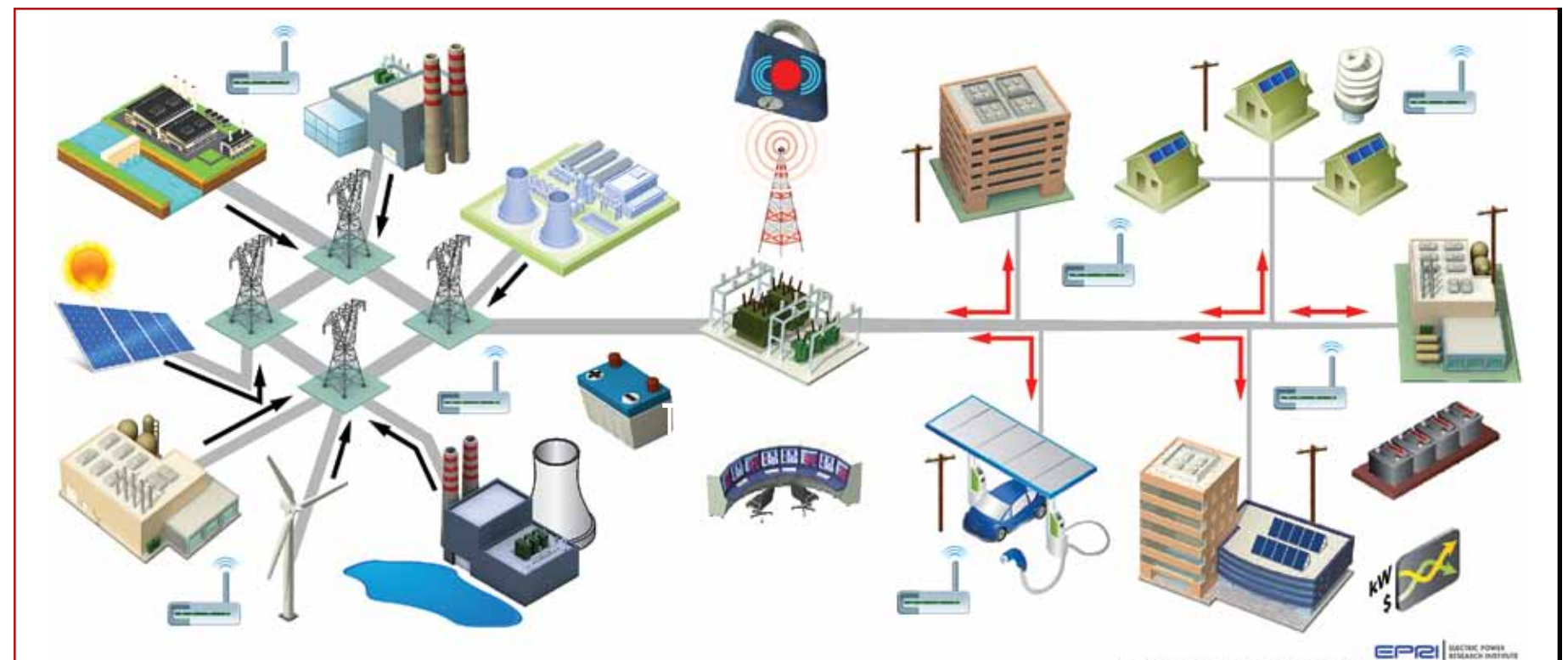
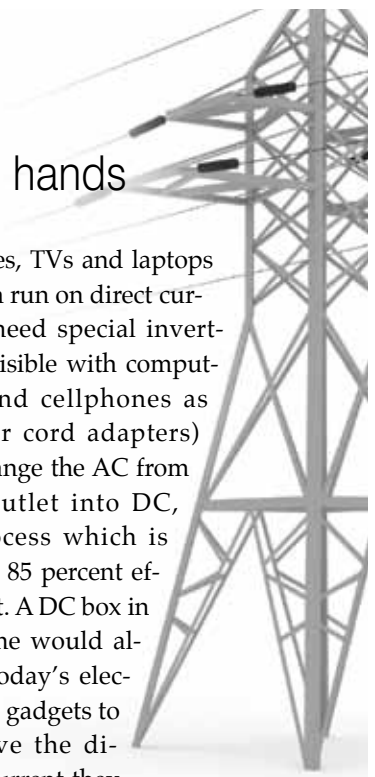
phones, TVs and laptops which run on direct current need special inverters (visible with computers and cellphones as power cord adapters) to change the AC from the outlet into DC, a process which is about 85 percent efficient. A DC box in a home would allow today's electronic gadgets to receive the direct current they need without jumping through the hoop of converting from AC.

This technology would also allow solar arrays to save 35 percent of the energy lost to inverters and an electric car could charge from the same source. Batteries could be included in these transformers to store energy.

Another smart grid plan in the Southeast is the Kentucky Road Map Initiative, a project electrical engineering professor Dr. Yuan Liao has worked on for the University of Kentucky and the University of Louisville since 2010. This research project began with a grant from the U.S. Department of Energy, with the goal of evaluating the state's current grid system.

Final findings from the Road Map report recommend consumers limit their power usage during peak demand

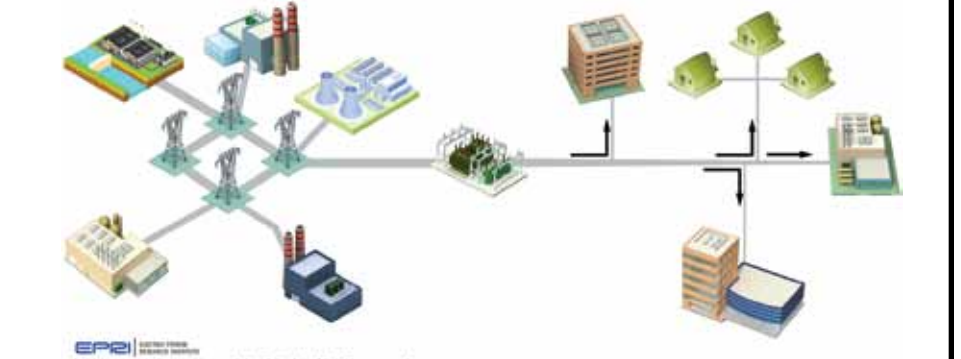
*Continued on next page*



## TOMORROW'S GRID-TECH REVOLUTION

In today's grid (right), electricity is generated from coal, gas, hydro or nuclear and transmitted over long distances through high-voltage power lines. The voltage is then "stepped down" at a substation for distribution. From there, electricity enters homes and businesses, with little technology for storage or two-way communication. In tomorrow's grid (above), two-way communication is key. Electricity from renewables is more aggressively involved, and storage batteries dot the system. Residential technologies like electric vehicles and home solar energy become increasingly integrated into a trackable, more accountable system. Smart meters will inform both homes and utilities of hourly use so residents can better understand their energy consumption and save money during times of peak demand. Overseeing this improved system is a computer network able to send and receive information on the grid instantly, with state-of-the-art cyber security protections in place. *Images courtesy of EPRI*

## CURRENT ONE-WAY SYSTEM



## Case for Smart Grid

*Continued from previous page*

times — the hours of the day when the energy load on the grid is highest (usually mid-day) — by being sure to run energy-heavy units like dishwashers and laundry machines in the evening.

Another issue is that more power plants have to be built to meet demand if it happens to jump further up. Therefore, using less energy during the afternoon can actually prevent more polluting energy generation from ever needing to occur.

The biggest recommendation from the report, however, is to simply spread awareness of the need for smarter technology. "What we need is better policy encouraging the use of advancements in the grid," says Dr. Liao.

## The Southeast Can Be a Leader

As examples like the Kentucky Roadmap Initiative and FREEDM's ongoing research at N.C. State show, the Southeast is poised to be a leader in this developing field.

According to a recent report from The Center for American Progress, a nonpartisan institute dedicated to improving the nation's quality of life, regional initiatives include General Electric's Smart Grid Technology Center in Atlanta, an educational initiative, and Duke Energy's ongoing \$700 million project to expand technology to the grid in North Carolina, South Carolina, Kentucky, Indiana and Ohio.

Potential savings for the region through the implementation of a smart grid are estimated at \$41 billion annually

by 2020 and \$71 billion annually by 2030, as well as 13 to 17 percent lower electricity rates compared to current projections for 2030. An estimated 20 billion gallons of water to be used by power plants by 2030 also could be saved, cutting current projected use in half.

According to GreenTech Media, North Carolina's Research Triangle Park currently has nearly 60 companies working on smart grid research. Smart meter companies like Elster and Sensus employ as many as 1,000 people.

However, the American Council for an Energy Efficiency Economy found in its 2012 annual survey that no southern states were in the top ten for energy efficiency policies and actions. Tennessee, Florida, and North Carolina did come in around the middle and could be leaders in the Southeast.

While the potential for smart grid advancements in the region look promising, the Southeast will only benefit if the proper investments are made both in the realms of funding and research.

Appalachia, one of the last regions to acquire electric power, cannot afford to fare similarly with the smart grid if it hopes to benefit from fewer risks of blackouts, more electric bill savings, and more efficient energy use.

By seizing intelligent control over how our electricity is transmitted and distributed, we can quench future power demands with less energy — a crucial ability in an increasingly populated world.

*To find out more about smart grid technologies and how you can prepare for their integration, check out smartgrid.gov.*

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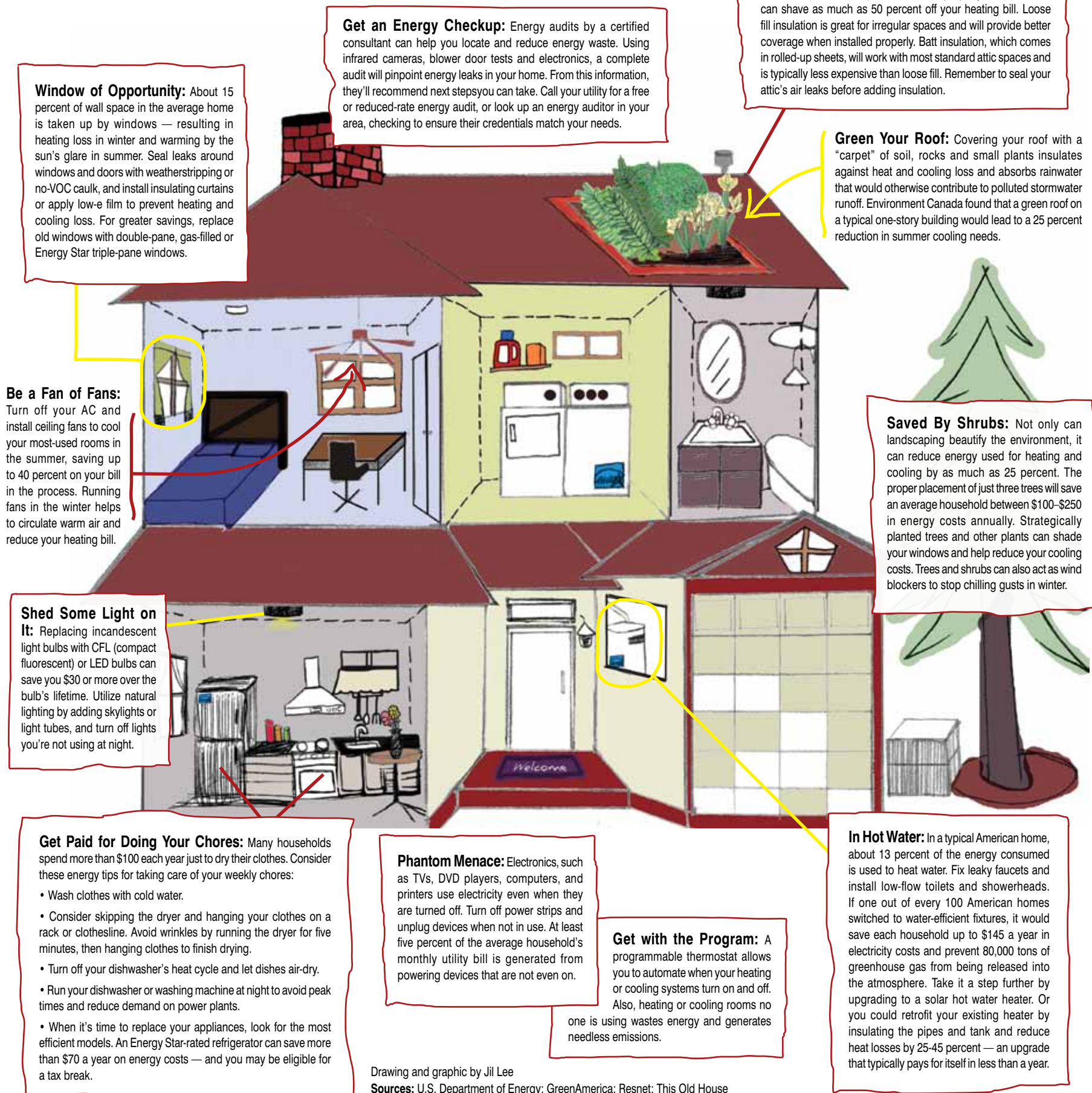
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# This GREEN House Simple Steps To Save Energy in Your Home

Making your home more energy efficient can sound like an expensive and complicated task, but in reality there are many easy steps homeowners and renters can take to convert a dwelling from an energy waster to a sustainable homestead. Below we have outlined ways to help you pay less and reduce your home's carbon footprint.



Drawing and graphic by Jill Lee  
Sources: U.S. Department of Energy; GreenAmerica; Resnet; This Old House

# The Inside Scoop on Residential Efficiency Policies

By Matt Grimley

Jim and Edrianna Stilwells' home in Fairview, N.C., is immersed in nature. It sits at 3,500 feet and offers nearly 360 degrees of mountainous views.

It was designed to be energy efficient, and with lessening their carbon footprint in mind, the Stilwells decided to add a solar thermal system to their home.

A solar thermal collector was mounted outside to provide hot water to the home's radiant floor heating, in addition to hot water for everyday use.

Jim Stilwell says that the system gave them a more efficient home, allowing them to pay about \$40 a month for their winter electric bills and \$300 a year for their backup propane heating system.

"[The solar water heating system] makes a lot of sense for someone who's going to be in their home for a while," he says. Looking ahead, he says that the next step for the home will be solar photovoltaic panels.

In installing the solar water heater, the Stilwells took advantage of the solar investment tax credit, one



Jim and Edrianna Stilwell used a federal energy tax credit to help them install a system that heats their home's water using solar energy. Photo by Jim Stilwell

of a few federal energy tax credits. It allowed them to take 30 percent of the system's cost, including labor and installation, and put it back into their wallets. Do you find yourself wanting to save on electricity and create a comfier home? Check out these energy efficiency policies for residential users. To see more state and federal energy efficiency policies, go to [energy.gov/savings](http://energy.gov/savings) or [dsireusa.org](http://dsireusa.org).

## Chattanooga's Green Visions

Continued from page 13

to enhance the environment, protect the energy supply and be more energy-efficient. "You can't be wasteful with energy and expect to not be wasteful with other elements," he says.

### Wired for Savings

If Chattanooga's electric grid is any indication, city-wide energy use is on the same path as its streetlights. The Electric Power Board, a city agency that distributes power generated by the Tennessee Valley Authority, has outfitted its 600-square-mile coverage area with fiber-optic cables that can deliver the fastest internet in the Western Hemisphere.

The same infrastructure that can deliver gigabit-speed connectivity also allows the utility to deploy cutting-edge "smart meters" to track when energy is used.

This lets the power board offer lower rates for electricity that's used during off-peak times. Savvy customers can then save money by drying a load of laundry at 9 p.m. rather than 5 p.m., and the utility avoids paying additional fees to TVA for using energy during high-demand hours. In theory, TVA can use those energy savings to avoid constructing a new power plant.

Smart meters are being discharged across the country, but Chattanooga is ahead of the curve, says Jim Glass, the distributor's manager of smart grid development. Once meter installations are completed this spring, the fiber-optic network will allow ratepayers see 15-minute updates to their energy use in real time via a secure online account. The whole idea, says Glass, is to make it easy for a customer to draw connections between their activities and electricity consumption.

As meter installations wrap up, Glass is excited about new ventures, such as experimental

devices that can help hot water heaters take advantage of their natural thermal properties to avoid draining the grid during peak hours. But he acknowledges Crockett's view that technology is only part of the solution.

"You can build all these great smart grids and put the best and the latest technology into the system but ultimately it really is up to the individuals trying to save," Glass says. "That's what we're trying to do is just get that conversation going." Regardless of how enthusiastic today's customers turn out to be, electricity consumption is headed in the direction of increased efficiency, he says, and the Electric Power Board is ready.

When asked about what he wants his legacy to be, Mayor Littlefield cites the old Boy Scout guideline to "leave the campsite better than you found it." When it comes to the city's energy future, however, it seems another Boy Scout mantra applies — "Be prepared."

### Energy-efficient Mortgage

**THE GOALS:** Finance the cost of energy-efficiency improvements into a new mortgage

**WHO BENEFITS:** Any property owner who qualifies for a home loan

**HOW IT WORKS:** A lender will issue you a mortgage based on the value of your home plus the projected cost of efficiency improvements. Because your home will be more energy efficient, you will save on utility costs and be able to devote more income to the monthly mortgage payment.

**WHERE IT HAPPENS:** Anywhere, through the Federal Housing Association. Check with local lenders to find who is FHA-approved.

**MORE INFO:** Be sure to get a Home Energy Rating Systems report done before. Go to [hud.gov](http://hud.gov) for more information.

### Property Assessed Clean Energy Financing

**THE GOALS:** Finance the cost of energy-efficiency improvements by providing upfront capital that is paid back through property taxes.

**WHO BENEFITS:** Whoever pays the taxes on the residence, be it a home or a condominium

**HOW IT WORKS:** In areas with PACE legislation, municipal governments offer bonds to investors. From the sale of the bonds, the local government offers a loan to consumers for energy efficiency retrofits. The loans are repaid over a specific term on the property tax bill. The loan is also attached to the property instead of the person.

**WHERE IT HAPPENS:** Anywhere with PACE legislation in place

**MORE INFO:** In 2010, PACE financing through secondary mortgage entities Fannie Mae and Freddie Mac was blocked, suspending many residential programs. Check out [pacenow.org](http://pacenow.org) to see if your state offers PACE financing.

### Energy Efficiency Tax Credit

**THE GOALS:** Provide tax credits to individuals who make energy efficiency improvements on their homes.

**WHO BENEFITS:** Taxpayers qualify and are allowed to take an aggregate amount of credit, up to \$500.

**HOW IT WORKS:** You can get tax credits for the purchase of a range of energy-efficient appliances and improvements, including biomass stoves, insulation, and windows and doors.

**WHERE IT HAPPENS:** Anywhere (as long as you pay your taxes)

**MORE INFO:** These tax credits expire at the end of 2013. Check out [energystar.gov](http://energystar.gov) for more information.

### Weatherization Assistance Program

**THE GOALS:** Provide low-income families with free weatherization services

**WHO BENEFITS:** As many as 20 to 30 million U.S. families are eligible for this free service, though requirements vary from state to state.

**HOW IT WORKS:** Every state has a different WAP. You must first contact a local agency and apply to see if your family qualifies. If so, you get an energy consultation at your residence. If everything is good to go, workers will come and complete the project in a day or two.

**WHERE IT HAPPENS:** Every state

**MORE INFO:** Go to [ere.energy.gov/wip/project\\_map](http://ere.energy.gov/wip/project_map) to see what programs your state offers.

# HOMEOWNER ENERGY SERVICES GUIDE

Below is just a sampling of the many local and regional businesses that conduct home energy audits. Each offers a variety of methods to inspect your home, review your energy bills and conduct tests to determine where your house is losing energy. Many of these businesses also serve commercial customers and provide weatherization upgrades. (If you are a business and would like to be included in our online listing of energy savings businesses, visit [apppoices.org/energysavings](http://apppoices.org/energysavings))

## Kentucky

### Bremen Energy Auditors, LLC

**Based in:** Berea  
**Service area:** east KY, northeast TN, western WV  
**Contact:** (859) 661-0528  
**Website:** [bremeninc.com](http://bremeninc.com)

### CSC Heating & Air

**Based in:** Lancaster  
**Service area:** Lancaster area  
**Contact:** (859) 548-4328  
**Website:** [cscheatingandair.com](http://cscheatingandair.com)

### Lexington Infrared

**Based in:** Lexington  
**Service area:** Lexington area  
**Contact:** (859) 625-0714  
**Website:** [lexingtoninfrared.com](http://lexingtoninfrared.com)

## North Carolina

### Building Performance Engineering

**Based in:** Boone  
**Service area:** southeast U.S., western NC  
**Contact:** (828) 265-4888  
**Website:** [buildingperformanceengineering.com](http://buildingperformanceengineering.com)

### BRESCO Limited

**Based in:** Morganton  
**Service area:** western NC  
**Contact:** (828) 584-3684  
**Website:** [brescoltd.com](http://brescoltd.com)

### Eco-Sense (new construction only)

**Based in:** Asheville  
**Service area:** Asheville area  
**Contact:** (828) 505-3853  
**Website:** [ecosensedesign.com](http://ecosensedesign.com)

### Environmental Solutions Group

**Based in:** Greensboro  
**Service area:** Greensboro area  
**Contact:** (336) 373-1538  
**Website:** [esg-energy.com](http://esg-energy.com)

### Evans Heating & Cooling Inc

**Based in:** Glade Valley  
**Service area:** Alleghany County area  
**Contact:** (336) 657-3423  
**Website:** [evansheatingandcooling.com](http://evansheatingandcooling.com)

### Green Horizons Innovators

**Based in:** Boone  
**Service area:** serves NC, SC, TN, VA  
**Contact:** (828) 773-2039  
**Website:** [gogreenghi.com](http://gogreenghi.com)

### High Country Energy Solutions

**Based in:** Sugar Grove  
**Service area:** 100-mile radius from Boone  
**Contact:** (828) 265-2683  
**Website:** [hcenergysolutions.com](http://hcenergysolutions.com)

### Home Energy Partners

**Based in:** Asheville  
**Service area:** 100-mile radius from Boone  
**Contact:** (828) 350-1155  
**Website:** [homeenergypartners.com](http://homeenergypartners.com)

### Home Energy Solutions

**Based in:** Granite Falls  
**Service area:** western NC  
**Contact:** (828) 217-0506  
**Website:** [homeenergysol.com](http://homeenergysol.com)

### Mountain West Builders

**Based in:** Jefferson  
**Service area:** Jefferson area  
**Contact:** (336) 846-4003  
**Website:** [mountainwestbuildersnc.com](http://mountainwestbuildersnc.com)

### Phillips Appraisals

**Based in:** Jefferson  
**Service area:** western NC, TN, VA  
**Contact:** (828) 964-1945  
**Website:** [phillipsappraisalsinc.com](http://phillipsappraisalsinc.com)

### Sunny Day Homes

**Based in:** Boone  
**Service area:** western NC, Caldwell  
**Contact:** (828) 964-3419  
**Website:** [boonegreenbuilders.com](http://boonegreenbuilders.com)

## Tennessee

### Energy Detectives

**Based in:** Knoxville  
**Service area:** eastern TN, western NC  
**Contact:** (865) 382-4215  
**Website:** [energydetectivetn.com](http://energydetectivetn.com)

### Energy Home Basics

**Based in:** Chattanooga  
**Service area:** eastern time zone TN  
**Contact:** (865) 310-1601  
**Website:** [energyhomebasics.com](http://energyhomebasics.com)

### Green River, LLC

**Based in:** Knoxville  
**Service area:** eastern TN, western NC, eastern KY, SC  
**Contact:** (865) 919-7464  
**Website:** [greenriver-llc.com](http://greenriver-llc.com)

### Home Energy Concept

**Based in:** McMinnville  
**Service area:** 49 states plus Virgin Islands. HQ McMinnville TN  
**Contact:** (931) 668-7462  
**Website:** [homeenergyconcept.com](http://homeenergyconcept.com)

### Prudent Energy Systems, LLC

**Based in:** Knoxville  
**Service area:** Knoxville and surrounding counties  
**Contact:** (865) 200-3647  
**Website:** [prudentenergysystems.com](http://prudentenergysystems.com)

### Southern Valley Services LLC

**Based in:** Chattanooga  
**Service area:** Madison, Limestone, Morgan, Lauderdale, Lawrence, Coleman, Marshall and Jackson  
**Contact:** (256) 497-5595  
**Website:** [southernvalleyservices.com](http://southernvalleyservices.com)

## Virginia

### Airflow Diagnostics Institute

**Based in:** Charlottesville  
**Service area:** central Virginia  
**Contact:** (434) 817-1133  
**Website:** [airflowdiagnostics.com](http://airflowdiagnostics.com)

### Building Knowledge

**Based in:** Linville  
**Service area:** Harrisonburg, Woodstock, Waynesboro, Luray, and surrounding counties.  
**Contact:** (540) 246-4889  
**Website:** [buildknow.com](http://buildknow.com)

### Energy Solutions of Virginia

**Based in:** Spotsylvania  
**Service area:** Harrisonburg, Woodstock, Waynesboro, Luray, and surrounding counties  
**Contact:** (540) 895-5250  
**Website:** [energysolutionsofvirginia.com](http://energysolutionsofvirginia.com)

### Green Detective Energy Solutions

**Based in:** Floyd  
**Service area:** Floyd and adjoining counties  
**Contact:** (540) 285-0015  
**Website:** [green-detective.org](http://green-detective.org)

## West Virginia

### Dodrill Heating & Cooling

**Based in:** Charleston  
**Service area:** Charleston area and surrounding counties  
**Contact:** 1-877-815-6946  
**Website:** [dodrillheating.com](http://dodrillheating.com)

### Home Efficiency Solutions

**Based in:** Martinsburg  
**Service area:** Berkley, Jefferson, Morgan counties, Frederick,

Clark, Loudon counties in VA  
**Contact:** (304) 676-8892  
**Website:** [homeefficiencyolutionsllc.com](http://homeefficiencyolutionsllc.com)

### InspectRite Services

**Based in:** Beckley  
**Service area:** Mercer, Summers, Raleigh, Fayette  
**Contact:** (304) 222-7573  
**Website:** [inspectrite.net](http://inspectrite.net)

### Safe & Sound Inspection Services

**Based in:** Huntington  
**Service area:** Huntington area  
**Contact:** (304) 412-5637  
**Website:** [ssinspections.com](http://ssinspections.com)

### Sky Insulation

**Based in:** Charleston  
**Service area:** Charleston area  
**Contact:** (304) 661-6980  
**Website:** [skyinsulation.com](http://skyinsulation.com)

## NON-PROFIT RESOURCES

### Bluegrass PRIDE

**Lexington, Ky.**  
**bgpride.org • 859-266-1572**

This program works with Central Kentuckians to improve the efficiency of apartment complexes, businesses and schools, educating residents and connecting them to resources such as energy audits.

### MACED

**Berea, Ky.**  
**maced.org • 859-986-2373**

The Mountain Association for Community Economic Development partners with local people and businesses to create economic alternatives in Central Appalachia. They provide efficiency resources, as well as building retrofit loans for businesses and cooperative members.

### New Vision Renewable Energy

**Philippi, W.Va.**  
**nvre.org • 304-293-9434**

NVRE gives free energy audits to homes in central West Virginia. They also offer trainings on how to build small solar panels and other sustainable projects.

### NC Energy Efficiency Alliance

**Boone, N.C.**  
**ncenergystar.org • 828-262-8331**

NCEEA seeks to increase the number of efficient homes built in the state by educating home-buyers, training home-builders, and developing policies and networks for professionals and residents.

### Southeast Energy Efficiency Alliance

**Atlanta, Ga.**  
**seealliance.org • 404-602-9654**

The Southeast Energy Efficiency Alliance is becoming a driving force for energy efficiency policies, programs and implementation in the 11 southeastern states that it serves. Its website features a slew of efficiency resources.

### Southface Energy Institute

**Atlanta, Ga.**  
**southface.org • 404-872-3549**

Southface rents equipment, gives LEED and Home Energy Rating System certifications, and provides many trainings, services and programs to optimize a buildings' energy performance.

### Southern Alliance for Clean Energy

**Knoxville, Tenn.**  
**cleaneenergy.org • 865-637-6055**

SACE is a nonpartisan energy watchdog group. Since its inception in 1985, the regional organization has advocated for energy reform and protecting the natural resources in the Southeast.

### Virginia Energy Sense

**virginiaenergysense.org**  
**877-937-2004**

This statewide educational program provides resources for Virginians to reduce their energy consumption, including efficiency tips, energy audits for businesses, and links to other partners in the commonwealth.

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## Sequestration's Side Effects

By Davis Wax

As the indiscriminate budget cuts known as the sequester cause fissures throughout the federal government, programs that protect public health and the environment are feeling the crunch.

The U.S. Environmental Protection Agency's budget is being cut from \$8.4 billion to \$7.7 billion with particularly harmful effects to its clean water program, which will lose \$2 million or around eight percent of its budget. The agency will conduct an estimated 1,000 fewer inspections during the remaining months of fiscal year 2013. Various EPA air-monitoring sites will likely be forced to shut down, making it near impossible for the agency to judge if the Clean Air Act is being violated in certain areas of the country.

The Office of Surface Mining Reclamation and Enforcement, which oversees surface mining projects including mountaintop removal coal mining, will lose ten percent of its budget, allowing 50 abandoned mine lands projects to go unreclaimed. Around 22,500 citizens will remain exposed to the health risks that may result from open mine shafts and portals, mine fires, dangerous high-walls, landslides, and mine subsidence. Cuts to OSM will also result in a loss of \$13 million in the health funds of the United Mine Workers of America, which help support retired coal miners and their families.

Conversely, due to the blanket budget cuts, the oil, natural gas and coal industries will be forced to slow down development on federal lands and waters. Lack of funding will lead to furloughs and personnel reductions resulting in delays on federal leases, development plans and permitting, coupled with fewer safety inspections that will lead to less revenue collected by the federal government.

### Cuts to clean air and water protections that help regulate pollution, hazardous waste, and the use of pesticides:

- Kentucky: \$2.1 million
- North Carolina: \$3.6 million
- Tennessee: \$2.2 million
- Virginia: \$2.9 million
- West Virginia: \$2 million

### Cuts to public health protections that address disease, natural disasters and other hazards:

- Kentucky: \$414,000
- North Carolina: \$911,000
- Tennessee: \$606,000
- Virginia: \$764,000
- West Virginia: \$177,000

Source: whitehouse.gov / Office of Management and Budget report to the Congress on the sequestration for fiscal year 2013

## A Return to the States

By Appalachian Voices staff

State legislatures in Appalachia are using their authority on health care reform, taxes, education, and energy and environmental policy to accomplish their own agendas, and sometimes, to rebuke federal policies. Here is the latest from our region's representation.

### Virginia

As he prepares to leave office this fall, Gov. Bob McDonnell will have to justify a number of recent decisions, including a \$64 annual tax on owners of hybrid vehicles that was added to a transportation funding plan. The governor's long-time promise to establish Virginia as a "Green Jobs Zone" by incentivizing companies to create green jobs has not been met. He, along with Republican gubernatorial candidate Ken Cuccinelli and the state legislature, did little to improve Virginia's voluntary renewable portfolio standard, which so far has benefited electric utilities more than Virginians, or to stimulate the clean energy sector.

In February, at the behest of Alpha Natural Resources, the Commonwealth Transportation Board approved a four-lane divided highway that will use mountaintop removal coal mining to flatten steep ridges in southwest Virginia along a route proposed by the coal company. The proposed route is under review by the Federal Highway Administration.

### West Virginia

With the decline of domestic demand and coal production in central Appalachia, the West Virginia General Assembly has stepped up its attempts to prop up the industry. Controversial legislation to weaken water quality standards for selenium pollution unanimously passed the state House of Delegates shortly after Judiciary Chairman Tim Miley described the bill as "an important one for the coal industry." If the bill becomes law, West Virginia regulatory agencies will attempt to disregard federal recommendations and set their

own standards for how much selenium can be discharged from surface mines.

Gov. Earl Ray Tomblin's administration has dodged promises to strengthen mine safety and enforcement, delaying action on critical measures including expanding training at coal-mining operations that violate state regulations, improving methane monitoring systems, setting coal dust standards and increasing fines for violations.

### Kentucky

As the 2013 session comes to an end, the Kentucky General Assembly and Gov. Steve Beshear remain divided on a number of high-profile issues. In early March, however, Beshear signed a bill to promote biomass-generated electricity that was passed unanimously by the General Assembly. The governor is now considering whether to sign or veto a bill legalizing industrial hemp farming in Kentucky that passed in the final minutes of the session. Legislation introduced in January to enact a Renewable and Efficiency Portfolio Standard again failed to gain traction in the House of Delegates.

Speculation has begun over the class of likely candidates, including former U.S. Rep. Ben Chandler and Kentucky's House Speaker Greg Stumbo, to replace the term-limited Beshear in 2015. Prospective candidates, including former Democratic state auditor Crit Luallen, are beginning to court coal miners. Luallen spoke to the United Mine Workers of America in late March, telling the crowd that "the first thing that we have to do is work with all our heart to protect the jobs that we have. Coal matters in Kentucky, and coal will matter in Kentucky as long as there is coal to be mined."

### North Carolina

Since 2013 began, pro-industry voices have dominated the North Carolina state legislature. With majorities in the House and Senate, the General Assembly and Gov. Pat McCrory have taken hard stances on unemployment,

education, healthcare and energy issues. In January, the introduction of the Government Reorganization and Efficiency Act, a bill that would eliminate the members of several environmental and public commissions, created a groundswell of polarization and was called an "unprecedented power grab" by Democrats. The bill passed the Senate in less than 42 hours, but has been delayed after changes were made in the House.

The latest threats to North Carolina's commitment to clean energy include bills in the House and Senate to repeal a 2007 law mandating utilities meet a modest percentage of demand with renewable sources — a backstep that lacks support primarily due to North Carolina's rapidly expanding solar industry.

### Tennessee

As recently as 2008, Democrats held the governorship and a majority of both the House and Senate, but in recent years the legislature has shifted dramatically to the right. Now in control of the governorship and a legislative supermajority, Republicans hold 97 of 132 seats across both chambers. Gov. Bill Haslam's close ties to the oil industry have kept his administration's regulations against fracking to a minimum and he has remained neutral on bipartisan legislation to ban mountaintop removal coal mining in the state.

Other legislative actions include a bill to transfer administration of the state's Water Environmental Health Act from the Department of Environment and Conservation to the Department of Commerce and Insurance. This bill passed both House and Senate committees. Recently, Rep. Sheila Butt and Sen. Mike Bell introduced legislation that would make it illegal for Tennessee to implement or associate with anyone who is practicing "sustainable development."

The 113th session of the U.S. Senate began on Jan. 3, with the Democratic party gaining two seats as a result of the November election — only slightly increasing its majority control to 53. We take a look at the 10 central and southern Appalachian senators: Who represents us?

## VIRGINIA

### Tim Kaine

While serving as Virginia's governor from 2006 through 2010, Kaine reached an ambitious goal to preserve more than 400,000 acres of open space and fund more than \$1 billion in wastewater treatment projects to improve the health of the Chesapeake Bay. Although Kaine was supportive of a new coal-fired power plant in Virginia, he also led a charge to implement voluntary greenhouse gas reporting. The effort did not pass the legislature but is indicative of his long-standing support for cap and trade policies to address climate change. Following Sen. Jim Webb's retirement prior to the last election cycle, Kaine secured a seat in the U.S. Senate in 2012.



### Mark Warner

The senior senator from Virginia served as governor from 2002 through 2006 and was elected to the Senate in 2009. Typically possessing a strong environmental record including support of land conservation bills, the Democrat falters on issues of clean energy production and limiting pollution from fossil fuel power plants. Last year he voted for a measure to void the Mercury and Air Toxics Standards for power plants and against a bill that extended incentives for the development of wind energy. He also recently signed on to a letter urging the Obama administration to approve the Keystone XL pipeline.



## WEST VIRGINIA

### Joe Manchin

As governor of West Virginia, Joe Manchin sued the EPA for allegedly overstepping its authority regarding mountaintop removal permitting guidelines, an issue the courts are still debating. In 2010, the conservative Democrat won a special election to fill the seat of the late Sen. Robert Byrd, and

## KENTUCKY

### Mitch McConnell

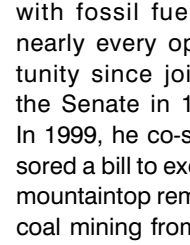
The Senate Minority Leader has voted with fossil fuels at nearly every opportunity since joining the Senate in 1985. In 1999, he co-sponsored a bill to exempt mountaintop removal coal mining from the Clean Water Act. He and fellow Kentucky Sen. Rand Paul introduced the Mining Jobs Protection Act, a 2011 bill that would chip away at the EPA's ability to veto coal mining permits. In 2013, he became the Chair of the Energy Subcommittee on Public Lands, Forests, and Mining. His first bill in the Senate was yet another attempt to repeal the EPA's veto power over mining permits. During the 112th Congress, Manchin received more contributions from the coal industry than anyone in the Senate, raking in \$418,900, nearly three times the amount of the next highest recipient.



## TENNESSEE

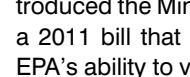
### Lamar Alexander

A former governor, U.S. Secretary of Education, and presidential candidate, Sen. Alexander was first elected to the legislature in 2002. The veteran senator has served on the Committee on Environment and Public Works, was the ranking member of the Appropriations Committee's Subcommittee on Energy and Water Development, and this year joined the Energy and Natural Resources Committee. Alexander has been criticized by the coal industry for his support of stricter controls on mercury and his opposition to mountaintop removal. In the 111th Congress, Sen. Alexander introduced the bipartisan Appalachia Restoration Act, a bill to prohibit valley fills from mountaintop removal operations, and held hearings on the issue. He strongly supports nuclear energy and is a fierce opponent of the development of wind energy.



### Bob Corker

Tennessee's junior Republican senator was first elected in 2006 after serving as the mayor of Chattanooga. Sen. Corker often speaks about energy in terms of security and favors a broad approach including wind, solar, nuclear, enhanced oil and gas production, and investment in research and development. In 2007, he supported an amendment increasing fuel efficiency and he supports biofuel alternatives to foreign oil. Sen. Corker opposes a federal Renewable Electricity Standard that doesn't include nuclear or hydroelectric power, but supports tax incentives for renewable energy and energy efficiency.



## NORTH CAROLINA

### Richard Burr

Originally elected to the Senate in 2005, this staunch Republican drew condemnation from environmental advocates and conservationists in 2011 when he introduced a bill to eliminate the U.S. Environmental Protection Agency by folding it into the Department of Energy. As a member of the Subcommittee on Energy, Natural Resources and Infrastructure, he has routinely voted to reduce regulation on the fossil fuel industry. Although Burr voted against the expansion of wilderness areas during the 111th Congress, he is a co-sponsor of the Land and Water Conservation Authorization and Funding Act of 2013, which would make permanent appropriations for conservation initiatives on existing federal lands.



### Kay Hagan

A junior Democratic senator who joined the U.S. Senate in 2008, Hagan is an advocate for small businesses and military families, and serves on the senate committees that represent both interests. She has consistently voted in favor of



McConnell has received more total campaign money from the coal industry than any other member of Congress — more than \$700,000 as of the 112th session. At the end of 2012, polls ranked McConnell as the least popular senator in Congress.

### Rand Paul

The son of former presidential candidate Ron Paul, the junior Republican senator is a libertarian Tea Party member and a self-proclaimed "great friend to coal." Paul advocates for an energy policy governed by the free market, and frequently claims there is a "war on coal" that enforces onerous environmental standards and stifles industry. A supporter of mountaintop removal coal mining, Paul once said, "I don't think anybody's going to be missing a hill or two here and there." Last year, he introduced the misnamed Defense of Environment and Property Act, which would severely reduce protections under the Clean Water Act by narrowing the definition of "navigable waters."

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funding for renewable technologies and energy efficiency. Hagan introduced the Community Parks Revitalization Act of 2012 and is a co-sponsor of a bill to restore funding to the Land and Water Conservation Fund. Shortly after the 2012 elections, Hagan joined other senators urging President Obama to approve the Keystone XL tar sands pipeline.

## TENNESSEE

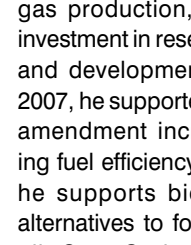
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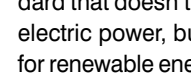
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## Selenium Spillover: Pollutant Poses Growing Risks to Ecosystems and the Coal Industry

By Brian Sewell

Last year, when the bankrupt Patriot Coal Corp. agreed to phase out mountaintop removal coal mining as part of a settlement with environmental groups, it was partially because the company was on the hook for more than \$400 million in fines to clean up selenium pollution from several of its surface mines.

Increasingly, selenium is becoming a liability for coal companies in Appalachia. The element occurs naturally in different concentrations around the world and is found in everyday products ranging from anti-dandruff shampoo to vitamin supplements. But when it is exposed through coal mining, combustion and other industrial and agricultural activities, selenium puts aquatic ecosystems, along with birds, mammals and humans, at risk.

Selenium bioaccumulates as it moves up the food chain. People are exposed to toxic levels by eating contaminated fish or drinking from impaired waterways such as West Virginia's Mud River. A 2003 report described the polluted river as being on "the brink of a major toxic event" due to selenium pollution from Patriot's Hobet Mining complex, which it has been since.

In the wake of a series of lawsuits against Patriot alleging violations of permitted selenium limits at several surface mines, opponents of mountaintop removal hope the financial liability of selenium pollution will spill over, potentially making mountaintop removal altogether too risky. Supporters of surface mining, however, are keenly aware of the situation, and states

where mountaintop removal occurs are taking steps to weaken selenium standards to lessen the risk of lawsuits that could result in devastating fines.

"The bankruptcy of Patriot Coal illustrates the danger of managing selenium compliance in the courtroom rather than in the boardroom," says Ben Collins, a research and policy campaigner at the environmental advocacy group Rainforest Action Network. A report authored by Collins in February focused on the potential cost to Appalachian coal-mining giant Alpha Natural Resources from lawsuits alleging selenium contamination downstream from the company's surface mines.

The report states that monitoring at Alpha's surface mines between 2005 and 2010 identified 989 instances of selenium levels above federal guidelines. While Alpha reports selenium monitoring data to West Virginia environmental regulators, it is not disclosed to investors in the company's sustainability reporting.

"Alpha can leave its exposure to selenium non-compliance risk to be handled by its lawyers," Collins says, "but it does so at considerable risk to its investors."

Selenium pollution is far from an isolated problem. In late March, the largest coal company operating in British Columbia's Elk Valley announced it will spend \$600 million over the next five years to develop a plan to prevent selenium pollution, which it predicts will add \$6 per ton of coal mined. Until then, no new mine permits will be approved in the valley.

In Central Appalachia, lawmakers have shown

they would rather weaken water quality standards to help put discharges at mountaintop removal mines in compliance.

In February, after a 30-day comment period for its three-year review of water quality standards ended, the Kentucky Division of Water attempted to raise the criteria for selenium toxicity to greater than ten times current standards.

Before a bill to require the West Virginia Department of Environmental Protection to back away from federal standards and develop state specific rules for selenium passed the House of Delegates 99-0, House Judiciary Chairman Tim Miley called the bill "an important one for the coal industry."

"There is no scientific foundation for this change," Dan Radmacher of Appalachian Mountain Advocates wrote in the *Lexington-Herald*. "Only the corrupting influence of a declining industry could lead officials who are supposed to protect the environment and people of Kentucky and West Virginia to protect profits instead."

Just as opponents of mountaintop removal strive to capitalize on the financial liabilities associated with selenium, the coal industry and its supporters are looking for an escape route. If they succeed, Radmacher warns, sooner or later the public will be forced to pay to clean up the problem.

"Always remember this: If public officials and regulators help the coal industry successfully evade these costs, the liability will almost certainly end up on citizens."



**OSM Approves Expansion of Appalachia's Largest Slurry Impoundment:** The Federal Office of Surface Mining recently approved an expansion of the Brushy Fork impoundment in West Virginia — one of the largest slurry disposal sites in the country — to hold two billion more gallons of the waste produced from washing coal. Unless the West Virginia Dept. of Environmental Protection denies the expansion, the earthen dam holding back billions of gallons of coal waste will expand to nearly 750-foot tall, larger than the Hoover Dam.

Photo by Vivian Stockman

### Virginia Transportation Board OKs Coalfields Expressway

In February, Virginia's Commonwealth Transportation Board approved two sections of the Coalfields Expressway despite environmental impacts and public concerns that the route will bypass communities that could possibly benefit from the highway project. Proposed by Alpha Natural Resources, the four-lane highway project would begin as a 26-mile mountaintop removal coal mine. By proposing a public-private partnership with the Virginia Department of Transportation, Alpha Natural Resources substantially reduced VDOT's estimated costs. The project is under review by the Federal Highway Administration, which will either give VDOT approval to move forward with construction, or require a supplemental environmental study.

### More Research Links Mountaintop Removal and Poor Health

A recent study focused in eastern Kentucky is the latest in a line of research by West Virginia University's Dr. Michael Hendryx linking mountaintop removal to poor health in nearby communities. Published in the online "Journal of Rural Health," the article compares survey responses gathered in counties where mountaintop removal occurs to counties where it does not. After ruling out factors including tobacco use, income,

education and obesity, the study found that residents of Floyd County, Ky., suffer a 54 percent higher rate of death from cancer than residents of nearby Elliott and Rowan counties. Previous studies have found that cancers and other health problems increase with the amount of mining that occurs nearby. Researchers recommend that a more comprehensive study measure air and water quality to reveal exposure to pollutants.

### Greenhouse Gas Rules May Have to Wait

The announcement of the EPA's long-awaited plan to regulate carbon emissions from existing power plants last spring brought cheers from environmental groups and added to fervorous accusations of an Obama-led "war on coal." Now that the deadline for the rule has arrived, the agency is likely to revisit its provisions and limits. As proposed, the rule would impact new power plants and permitted plants that have not begun construction by limiting carbon emissions to 1,000 pounds per megawatt-hour of electrical output — a level unlikely to be met by coal-fired power plants. Regardless of when the rule is finalized, it is almost certain to be challenged by the coal industry and receive substantial congressional attention. The delay comes as abundant natural gas is causing coal plant retirements and making the construction of new coal-fired units uneconomical. The EPA will likely reintroduce the rule for another round of public comments.

## Viewpoint Opinions from our Readers

### Forest Service Funding Impacts Linville Gorge

Dear Editor,

The Feb./March 2013 issue of *The Appalachian Voice* briefly introduced the prescribed burn being proposed for the Linville Gorge Wilderness. The burning of this rugged landscape would be attempted multiple times over the next decade, ostensibly to restore the natural fire regime and reduce future wildfire potential. These commendable claims face serious logistical challenges

in the daunting terrain of the gorge, and the controllability of a prescribed burn has been questioned by forestry professionals, National Forest Service employees, and even the burn proposal document itself. Nevertheless, NFS was moving forward with the project until word leaked out and public opposition quickly grew.

The merits and risks of the burn proposal continue to undergo examina-

tion by NFS and the public alike. Meanwhile, one thing is clear: this process would have unfolded very differently if the public had not become involved. Without the demand for due diligence, and without the contribution of viable alternatives, this project would be controlled by that single greatest factor facing NFS at this time: funding. It's a fact, freely admitted by the agency, that

serious budget shortfalls are currently shaping policy. It so happens that funding has been allocated for those ranger districts willing to burn their forests, and the Grandfather District encompassing the Linville Gorge Wilderness hopes to gain access to those funds.

Without public action on the various issues faced in national forests across the nation, a radically different National Forest Service may emerge from this time of fiscal crisis. Just as NFS is under pressure to reexamine its purpose in the context of new economic conditions, we too are under pressure to decide what we expect in the management of public lands.

Kevin Massey  
Jonas Ridge, N.C.

## The COAL REPORT *continued*

### EPA Gets Its Day in Court: Hearings Begin on Spruce Mine No. 1 Appeal

By Brian Sewell

Dozens of coal industry groups and environmental organizations crowded into a Washington, D.C., courtroom on March 14 for the latest chapter of a long legal battle. A three-judge panel heard arguments on the legality of the U.S. Environmental Protection Agency's decision to veto permits for one of the largest mountaintop removal coal mines ever proposed in Appalachia.

The original permits for Mingo County Coal's Spruce Mine No. 1 were approved by the U.S. Army Corps of Engineers in 2007 after the company addressed EPA concerns by reducing the size of the permit by 835 acres. In 2011, however, the EPA revoked the permits, citing unacceptable damage to water quality. The agency said permitted valley fills at the mine would

bury more than six miles of streams with millions of tons of mining waste, eliminating all fish, small invertebrates, salamanders and other wildlife.

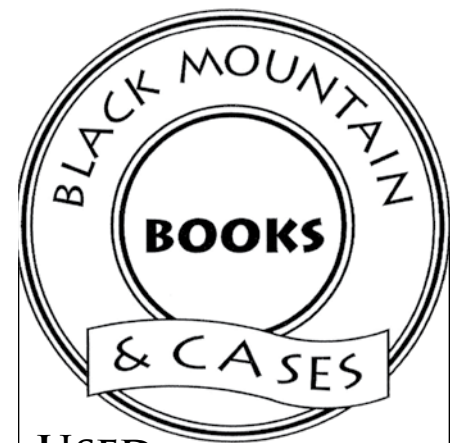
The action received swift condemnation from Appalachian politicians and was challenged immediately by the National Mining Association. On March 23, 2012, the veto was overturned in a D.C. District Court. In her decision, Judge Amy Berman Jackson wrote that the EPA's attempt to veto permits after they had been issued is "unprecedented in the history of the Clean Water Act." The EPA is back in court appealing the decision to overturn its veto.

Lawyers representing Mingo County Coal, a subsidiary of St. Louis-based Arch Coal, argue that if the EPA's veto stands, it will "create uncertainty, hinder investments and

stifle economic growth in the region." The EPA maintains that such concerns are unfounded because it has only retroactively rescinded two other permits in the 40 years since the Clean Water Act created the permitting process.

Arguments made on the EPA's behalf by the Justice Department maintain that the agency's role is not to duplicate the Corps' responsibilities, but "to exercise independent judgment, based on the record, when deciding under Section 404 of the Clean Water Act whether adverse effects to waters of the United States will occur and whether or not these effects are acceptable."

The court's decision could have implications for the approval of valley fill permits at surface mines by deciding just how much environmental damage is "unacceptable" when it comes to mountaintop removal.

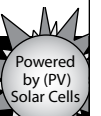


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MEMBER SPOTLIGHT  
Brenda Sigmon

### Long-Time Volunteer Takes Action to Get Kids Outside

By Davis Wax

Growing up on a farm in Lincoln County, N.C., Brenda Sigmon intimately knew the outdoors and understood her natural surroundings as a part of everyday life. "I think I didn't like it at the time because of the chores I had to do," says Brenda fondly, "but looking back, it was an idyllic experience."

A "childhood outside," as she puts it, is something Brenda feels she is lucky to have had, and it's something she hopes today's children can experience as well.

An avid hiker, Brenda spends much of her efforts getting children outside and on trails to combat "nature deficit disorder," an issue she became more aware of through Richard Louv's 2005 book, "The Last Child in the Woods." Brenda emphasizes that getting kids outside not only lets them appreciate their natural surroundings, it helps prevent childhood obesity and diabetes.

Brenda aids in the building of the Blue Ridge Parkway Foundation's "TRACK Trails," often extensions to existing trails which emphasize family and adolescent-use. She is helping now to extend such a trail on Elk Knob.

While on a hiking trip years ago, Brenda picked up an issue of *The Appalachian Voice*. She became a member of Appalachian Voices 1999, began actively volunteering in 2002, and served on the organization's board from 2006 to 2012. "When I first came there were five staff members and only the Boone office," she says. "The fact that three of those five are still with the organization today after more than a decade speaks volumes."

Brenda attributes the organization with making local health and environmental concerns into national issues. Ten years ago "mountaintop removal" was just words, she says, but now much of the country knows about the devastation in the region's coal-bearing states "thanks to Appalachian Voices and its allies."

She is inspired by the team's level of commitment and offers that she's "never met more dedicated or talented people." Appalachian Voices is always grateful for volunteers like Brenda who keep us motivated.

Brenda lives in Conover, N.C., where she is a volunteer distributor for *The Voice* in Burke and Catawba counties. She avidly hikes and continues to champion ways for children to pursue and draw joy from nature. "Children who learn to love the outdoors," she says, "will be the people who grow up to protect it."

## Tom Cormons: A Leader With a Purpose

When Tom Cormons left the East Coast to attend college in Charlottesville, Va., it didn't take him long to fall in love with the mountains.

Every opportunity he had during his time at the University of Virginia, he hiked, paddled and climbed in the rugged mountains of Appalachia. He eventually met his wife, Heather, while working as a whitewater guide on West Virginia's Gauley River. Even through his years of pursuing an environmental law degree at UCLA and working in Washington, D.C., for the U.S. Justice Department, Tom's passion for the mountains — and a desire to protect them — never wavered.

That desire, combined with an extensive background in wildlife research and energy policy as well as six years of leadership experience at Appalachian Voices, is what led Tom to become the organization's new executive director.

Tom joined Appalachian Voices as a member 12 years ago, inspired by the mission to protect the mountains he had grown to love. In 2007, he joined the staff to establish the organization's Virginia office and



Tom Cormons, new executive director for Appalachian Voices, (right) leads a discussion during an organizational staff retreat. "We are very fortunate to have a man of his vision and talent at the helm as we embark on the next chapter of Appalachian Voices' journey," says Board of Directors Chair Christina Howe.

program. In the past few years, he has expanded the Virginia office to a staff of five, and positioned Appalachian Voices in a leading role in the efforts to bring cleaner energy to the commonwealth.

"I am honored to now lead this organization, whose staff, board, members and partners continue to inspire me every day," Tom says. "I'm very motivated to help our region transition to cleaner energy and to ways of supporting people's livelihoods that respect our natural heritage."

"What we do to the mountains, forests, and creeks has tremendous implications for people living here now, as well as for what we'll be pass-

ing on to our children and their children," Tom continues. "With three young kids myself, this is always on my mind."

Established 15 years ago, Appalachian Voices has evolved from a small organization focused mostly on forest and air quality into a regional force tackling major issues like ending mountaintop removal coal mining, reducing air and water pollution associated with the coal cycle, and transitioning Appalachian states to clean energy. The organization now has 20

full-time staff members and four offices, and works mainly in Kentucky, North Carolina, Tennessee, Virginia and West Virginia.

"As I've worked with Tom over the years, I have witnessed his thoughtful, contemplative, and intelligent work mature and shine," says Kathy Selvage, a coal miner's daughter from Wise County, Va., who has worked to end mountaintop removal, and currently serves on Appalachian Voices' board. "His love of the Appalachians, its flowers and fauna, and its people and culture, will be the lynchpin of his leadership. Appalachian Voices is in good hands."

### Tennessee Legislators Dodge Vote on Mountaintop Removal

Although a bill to protect Tennessee's mountains received broad citizen and political support — and media attention from around the world — state legislators chose to deny public testimony on the measure and instead let the Scenic Vistas Protection Act die without a vote. Appalachian Voices Tennessee Director J.W. Randolph worked long hours in the halls of the state legislature to introduce and promote the bill, and was scheduled to testify along with Ann League, a good friend of our organization and a resident in Tennessee's coal-bearing region. Just

as they were called up to speak, however, the chairman stopped them short and declared the bill dead. Bill sponsors Rep. Gloria Johnson (D-Knoxville) and Senator Lowe Finney (D-Jackson) vowed to continue to build on this year's efforts and bring the bill back in 2014 with even more grassroots support. To stay up-to-date on our work in Tennessee, visit [appvoices.org/tn](http://appvoices.org/tn).

### Building A Bridge Over Troubled Waters

The Red, White and Water team is working to find out what residents living around coal-fired power plants have to say about water pollution in their communities.

Belmont, N.C., was the first stop. There, as with other coal-burning facilities, the G.G. Allen Steam Station contaminates the groundwater, usually from coal ash pond seepage. The plant also discharges toxic heavy metals into nearby Lake Wylie.

This March, our crew canvassed those living in the shadow of the G.G. Allen Plant. One resident, Archie Dixon, has a driveway that is stained with coal ash and keeps a stack of bottled water in his garage, saying he refuses to drink the well water.

Looking ahead, the RWW team will encourage more residents living near coal plants to tell their stories. Follow the latest at [appvoices.org/red-white-and-water](http://appvoices.org/red-white-and-water).



## Policy Expert to Steer New Energy Savings Program

The Southeast possesses some of the greatest resources for making energy use more efficient, and Appalachian Voices has a plan to help unleash that potential.

This spring, we are launching a new program focused on promoting energy savings and reducing the use of coal-fired power in rural Appalachia and the Southeast. Rory McIlmoil, a long-time advocate for Appalachia with a background in environmental science and policy, is joining the Appalachian Voices team to lead our Energy Savings for Appalachia program.

"I'm excited to join Appalachian Voices to help kickstart the energy efficiency industry in Appalachia as a way to develop new economic opportunities for the Southeast, something that state and federal leaders have not focused on," says Rory. "At the same time, this work will help residents protect their communities, health, and the environment by reducing demand for coal-fired electricity."

Rory interned with Appalachian Voices in 2007, and has spent the past five years heading the energy program at the West Virginia-based environmental consulting firm Downstream Strategies. He will be working closely with our North Carolina, Tennessee and Virginia programs to educate electric cooperatives (member-owned utilities) and their customers on the multiple economic and environmental benefits that saving energy can have.

"Appalachian Voices has crafted a common-sense, strategic plan to reduce residential electricity demand, and therefore electric bills, and to accelerate the growth of an energy efficiency services industry in Appalachia," says Director of Programs Dr. Matt Wasson. "Rory's knowledge of the science of energy issues in Appalachia and his in-depth analysis of



Rory McIlmoil, Appalachian Voices' new energy policy director, is descended from West Virginia pioneers and feels a strong connection to the Appalachian mountains.

economics data give him an edge in understanding how we can advance these solutions."

"Very few financing programs exist for electric co-op members in our region," says Matt. "In addition to grassroots outreach, one of our goals will be to help develop and build public support for state and federal energy savings and clean energy policies."

One of the program's first goals will be to launch an online Energy Savings Action Center to provide residents with information about making their home more efficient and their electric bills cheaper. The site will point consumers to programs offered by their electric provider, and connect them with small businesses that offer energy audits, weatherization and other services that result in savings on electric bills while supporting a clean, local economy.

The action center will also track how Appalachia's congressional representatives vote on clean energy bills and will help citizens send messages to their elected officials and hold them accountable.

"Building these relationships is critical for helping communities develop forward-thinking solutions at a time when politicians seem to be looking backwards," Rory says. "Joining the terrific staff at Appalachian Voices to lead the new energy savings program is a great opportunity and I'm excited to be a part of such a progressive organization."

Rory received his B.S. in Earth and Environmental Science from Furman University and a master's in Global Environmental Policy from American University. It was in graduate school that he learned about the devastation of mountaintop removal coal mining and coal's impact on citizens throughout the Southeast. "As I became more aware of those problems, I began thinking of ways I could help make a difference."

In addition to his policy and research work with Downstream Strategies, Rory has served as the Campaign Director for the Coal River Wind Project and conducted climate change science through a U.S. Department of Energy and National Science Foundation research project.

A descendant of West Virginia pioneers, Rory lived throughout the Southeast before settling back in the Appalachian Mountains. He enjoys backpacking, beekeeping, growing his own food and woodworking.

"These are some of the oldest, most biologically diverse mountains in the world," Rory says. "When you have lived in Appalachia and have learned how these communities are connected to the mountains, you become part of it and you can't do anything else but try to protect it."

To contact Rory and our new Energy Savings in Appalachia program, email [rory@appvoices.org](mailto:rory@appvoices.org) or visit [appvoices.org/energysavings](http://appvoices.org/energysavings).



Appalachian Voices is committed to protecting the land, air and water of the central and southern Appalachian region. 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.

### Organizational Staff

EXECUTIVE DIRECTOR ..... TOM CORMONS

#### OPERATIONS & DEVELOPMENT

CONTROLLER ..... SUSAN CONGELOSI  
OPERATIONS MANAGER ..... SHAY BOYD  
DIRECTOR OF LEADERSHIP GIFTS ..... KAYTI WINGFIELD  
OPERATIONS AND OUTREACH ASSOCIATE ..... MAEVE GOULD

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CAMPAIGN DIRECTOR ..... KATE ROTH  
SENIOR CAMPAIGN ADVISOR ..... LENNY KOHM  
ENERGY POLICY DIRECTOR ..... RORY MCILMOIL  
WASHINGTON, D.C. LEGISLATIVE ASSOCIATE ..... THOM KAY  
TENNESSEE DIRECTOR ..... J.W. RANDOLPH  
NORTH CAROLINA CAMPAIGN COORDINATOR ..... SANDRA DIAZ  
VIRGINIA CAMPAIGN COORDINATOR ..... NATHAN JENKINS  
WATER QUALITY SPECIALIST ..... ERIC CHANCE  
WATER QUALITY SPECIALIST ..... ERIN SAVAGE

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AMERICORPS COMMUNICATIONS ASSOCIATE ..... MOLLY MOORE  
AMERICORPS EDUCATION ASSOCIATE ..... MATT GRIMLEY  
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LEGISLATIVE POLICY & RESEARCH ASSISTANT ..... MELANIE FOLEY  
RED, WHITE & WATER CAMPAIGN ASSISTANT ..... ERIN HOSTETLER  
MULTIMEDIA ASSISTANT ..... MATT ABELE  
EDITORIAL COMMUNICATIONS ASSISTANT ..... DAVIS WAX  
ONLINE COMMUNICATIONS ASSISTANT ..... JIL LEE

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## The Appalachian Voice

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It's hard to say which is prettier, the elusive Indian pink (*Spigelia marilandica*), or the tiny hummingbirds that serve as the flower's primary pollinator. Rising in popularity as a cultivar in regional gardens, the red and yellow native grows in rich, moist woods and along wooded streambanks. According to photographer Brian Shults, who snapped this beauty, the trailhead of Ace Gap Trail in the Great Smoky Mountains National Park is covered with the blossoms in late spring. See more of Shults' wildflower photography at facebook.com/brianshultsphotography.

# GET INVOLVED environmental & cultural events in the region

### 16th Annual Mid-Atlantic Garden Faire

April 12-14: This multi-faceted garden event features workshops, a garden cafe, a rain garden tour and a native-plant marketplace. Abingdon, Va. Visit: gardenfaire.net

### Volunteer at Nashville Earth Day

April 13, 11 a.m.-7 p.m.: Join Nashville Earth Day and build support for the Tennessee Wilderness Act. No experience required. Nashville, Tenn. Visit: meetup.com and search for Tennessee Wild.

### 2nd Annual Garlic Mustard Pull n' Eat and Wildflower Hike

April 14, 10 a.m.: Learn about native wildflowers, help oust garlic mustard invaders, and sample a wild edible salad and garlic mustard hummus. Bring your own lunch. SandyMush in Buncombe County, N.C. Visit: appalachian.org.

### Appalachia's Bright Future Conference

April 19-20: Join Kentuckians for the Commonwealth for a conversation about shaping the region's future. Share stories about economic transition from eastern Kentucky and other Appalachian communities. Registration required. Harlan, Ky. Visit: kftc.org.

### 32nd Annual Wildflower Weekend

April 19-21: Learn about hundreds of native plant species at the Natural Bridge State Resort Park. Co-sponsored by the Kentucky Native Plant Society. Slade, Ky. Visit: parks.ky.gov.

### 8th Annual Geocache Event

April 19-21: Hosted by Lake Cumberland, features food, games, caches and this year's "twist." \$30/couple, \$20/person, and \$10/12 and under. Jamestown, Ky. Call 270-343-3111 or email roberta.myers@ky.gov.

### Hot Springs Trail Fest

April 19-21: Honor the Appalachian Trail and celebrate the community of Hot Springs. Starts with a spaghetti dinner and is followed by plenty of community involvement throughout the week-end. Fees may apply. Hot Springs, N.C. Visit: appalachiantrail.org.

### Climate Convergence on Raleigh

April 20-21: Gather to express concern over climate change and collaborate on solutions. Join for panel discussions and workshops, participate in a demonstration, and consider joining a bike or hike tour on your way to the state capital. Raleigh, N.C. Visit: climateconvergence.org.

### The Nature Foundation Earth Day Celebration at Trillium House

April 20, 1-4 p.m.: Watch a demonstration of The Nature Foundation's new 2,400 gallon rainwater catchment system and talk with members of the Thomas Jefferson Soil and Water Management District. Light refreshments will be served. Wintergreen, Va. Visit: twnf.org

### Wild and Woolly Forest Festival

April 20, 4-8 p.m.: Join Georgia Forest Watch for the 10th annual festival at the Chattahoochee Nature Center. Storyteller Jim Pfitzer will present his one-man play, "Aldo Leopold - A Standard of Change." Purchase your ticket before April 17. Roswell, Ga. Visit: gafw.org.

### Beech Mountain: Earth Day Celebration

April 21, 11 a.m.: Trash pickup, planting flowers, educational games and activities, and a chance to meet some furry and feathered friends. Please bring a picnic. In the event of rain, games, activities and picnic will be relocated to Town Hall. Beech Mountain, N.C. Visit: bannerelk.org.

### Fee Free Week for National Parks

April 22-26: Enjoy a fee-free visit to our National Parks. Plan your visit at nps.gov.

### 2013 Wild & Scenic Film Festival

April 25, 5:30-9 p.m.: Hosted by WNCA, the festival features screenings of 14 short social and environmental films, live music, food and drinks and raffle items. Students, \$10; General Public, \$25 (includes free raffle entry and a one-year membership to WNCA). Cullowhee, N.C. Visit: wildandscenicfilmfestival.org.

### Citico Creek/Joyce Kilmer Slickrock Wilderness Backpack Trip

April 26-28, 7 a.m.: Tennessee Wild volunteer, Kurt Emmanuele, will lead a 23-mile, three-day backpack trip in the Citico Creek/Joyce Kilmer Slickrock Wilderness complex. Prior backpacking experience is required. Tellico Plains, Tenn. Visit: meetup.com, and search for Tennessee Wild.

### 2nd Annual ECO Earth Stewardship Day

April 27: Help to complete environmental service projects across Henderson County, then join for a celebration with music and refreshments. VOLUNTEERS NEEDED. Henderson County, N.C. Call 828-692-0385 or send an email to wqa@eco-wnc.org.

### Festival

April 27, 12-3 p.m.: Help raise money for the Boone Wellness Center's BLAST nutrition-focused after school program to combat childhood obesity. Hosted by Slow Food-ASU at the Watauga Farmer's Market at Horn in the West in Boone, N.C. Visit their facebook page for more info.

### Volunteer at Oak Ridge Earth Day

April 27, 11 a.m.-5 p.m.: Build support for the Tennessee Wilderness Act and enjoy good food, live music and fun. No prior experience required. Bissell Park, Oak Ridge, Tenn. Visit: meetup.com and search for Tennessee Wild.

### Black Mountain Wildflower Weekend

May 3-5 : Visit Black Mountain, the highest point in Kentucky, for its habitat, rare species of wildflowers, and birds. Registration needed. Visit: pinemountainsettlementschool.com.

### New River Marathon

May 4, 6 a.m.-2 p.m.: Features a challenging course following the scenic New River. Walkers welcome in the Half Marathon and 5K. Live music and other festivities for guests. Todd, N.C. Visit: newrivermarathon.com.

### Birding in Chickamauga Chattanooga National Military Park

May 4, 8 a.m.-12 p.m.: Join bird expert Kevin Calhoon on Lookout Mountain at the Cracens House to the National Park Service trails. Registration starts on April 4. Lookout Mountain, Tenn. Visit: meetup.com and search for Tennessee Wild.

### Celebrate Our Earth @ FENCE

May 4, 1-5 p.m.: Join Foothills Equestrian Nature Center to celebrate the Earth and learn how to protect it for future generations. Music, storytellers, speakers, local businesses, nonprofits and farmers will provide entertainment and education. Tryon, N.C. Visit: fence.org.

### Mt. Rogers Naturalists Rally

May 10-11: Join other amateur and professional naturalists on Mount Rogers. 39th annual rally begins on Friday with dinner and

guest speaker presentation, followed by a range of hikes and programs on Saturday. Konnarock Community Center, Damascus, Va. Visit: mountrogersnaturalistsrally.org.

### Spring Hoot 5K

May 11, 7 a.m.: Have a HOOT at Barren River Lake State Resort Park. Division awards and door prizes will also be given. Registration at 7am, race at 8:30 a.m. (CST). Lucas, Ky. Call 1-800-325-0057 or email Jamie Avery at jamie.avery@ky.gov.

### The Surface Mine Control and Reclamation Act and You

May 20, 6-9 p.m.: Last of a series of environmental protections trainings to address the impact of coal mining on human health, water quality and community. Free and open to the public. SALS Community Center at Beards Fork, W.Va. Call 304-924-1506 or email Project Coordinator Andrew Munn, at anromu@gmail.com.

### Land Trust Day

June 1: Join Blue Ridge Conservancy and another 16 businesses in the High Country to recognize the importance of protecting the mountains. Boone, N.C. Visit: blueridgeconservancy.org

### In the Footsteps of Lucy Braun — Forest Study Workshop

June 5-9: In honor of 20th century conservationist Lucy Braun. The four-day workshop combines field trips, lectures and presentations in the study of forests found in Eastern Kentucky. Daily field trips include four- to eight-mile hikes. \$350 includes meals, four nights lodging, and all programs. Pine Mountain, Ky. Visit: pinemountainsettlementschool.com.