

FREE

# The Appalachian VOICE

October/November  
2017

History &  
Treasures  
of the  
**Blue Ridge  
Parkway**



## Harnessing Solar Power in Appalachia

Residents Seek Opportunities  
in Clean Energy

ALSO INSIDE: Snail Tales | Rapids of the Russell Fork | Energy News

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### About the Cover



The Linn Cove Viaduct on the North Carolina section of the Blue Ridge Parkway winds through Grandfather Mountain's fall foliage. Carrie Lynn Hayes, a graphic designer with The Appalachian Voice, climbed up to a rocky perch near the Tanawha Trail in between classes and made this image of a warm, sunny day at the height of leaf season. Hayes is a senior at Appalachian State University studying graphic arts and imaging technology. View more of her work at [carriehayesphotography.com](http://carriehayesphotography.com).

### A note from our team

Appalachian Voices has been working to stop mountaintop removal coal mining for almost two decades. Regulatory agencies are essential for enforcing environmental laws meant to protect our communities. Throughout our work, we have counted on them to listen to our concerns, consider all scientific evidence and carry out their work to the best of their abilities.

At press time, the Trump administration had not yet nominated a director for the Office of Surface Mining Reclamation and Enforcement. Still, we have already seen many rollbacks within OSMRE this year.

In January, the White House rescinded the Stream Protection Rule, which would have better protected public waters from surface coal mining, before the rule could even be implemented.

And in August, the Department of the Interior announced that it was halting a National Academy of Sciences review of the impact of Central Appalachian surface coal mining on human health. The review was funded by OSMRE (read more on page 20).

Last year, outgoing OSMRE Director Joseph Pizarchik announced the agency would undertake a rulemaking to address problems with the bonding system. Coal companies are required to post bonds that would cover the cost of reclamation should the company go bankrupt or otherwise abandon a mine — but in many cases bonds are woefully insufficient. Under the new administration, it is unclear whether this badly needed rulemaking will happen.

### A note from our executive director

When it comes to implementing our most vital clean air and water protections, state and federal agencies can be powerful allies. But, if these agencies are asleep at the wheel — or worse, abetting harmful practices in the industries they oversee — they can rob citizens of their right to a healthy and safe environment.

In our region, federal mining regulators are charged with ensuring that coal companies and states follow the law. Here, our Central Appalachian Program Manager Erin Savage discusses some of the issues facing the U.S. Office of Surface Mining, Reclamation and Enforcement.

For the future,

Tom Commons, Executive Director

OSMRE will continue to play a critical role in shaping Central Appalachia's future — through implementing innovative mine reclamation, ensuring coal companies follow laws meant to protect communities and reauthorizing the Abandoned Mine Land Fund. To do this, it needs a forward-thinking director who will consider the needs of local communities over the profits of the coal industry. You can urge your senators to consider Appalachia's communities and future when confirming OSMRE's new director.

For our communities,



Erin Savage  
Central Appalachian Program Manager

## GET INVOLVED environmental & cultural events

### Dance for the River Exhibit Debut

Oct. 21, 5:30-8 p.m.: Check out photographer Christine Rucker's debut of a year-long project combining dance and photography to educate about clean water. Yadkinville, N.C. Free. Call (336) 679-2941 or visit [tinyurl.com/RiverDanceExhibit](http://tinyurl.com/RiverDanceExhibit)

### OHVEC's Tri-State Water Defense Citizen Summit

Oct. 21, 10 a.m.-4 p.m.: Deepen engagement in solution-oriented strategies in protecting Ohio, Kentucky and West Virginia waterways and land from potential problems from oil and gas fracking and pipelines. Lunch provided. Huntington, W.Va. Free. To register, call (304) 522-0246 or visit [tinyurl.com/CitizenSummit](http://tinyurl.com/CitizenSummit)

### Blue Ridge Folklife Festival

Oct. 28, 10 a.m.-5 p.m.: Celebrate the rich heritage and traditions of Appalachia at the 44th annual Blue Ridge Folklife Festival. Ferrum, Va. \$5-10. Call (540) 365-4412 or visit [blueridgefolklife.com](http://blueridgefolklife.com)

### HemlockFest

Nov. 3-5: Join the Lumpkin Coalition for this music festival featuring 19 bands, nature crafts vendors, presentations, exhibits and more. Proceeds will help in efforts to save the hemlock trees. Murrayville, Ga. \$15-55. Call (706) 867-5157 or visit [hemlockfest.org/blog](http://hemlockfest.org/blog)

### Appalachian Elk Viewing Tour

Nov. 4, 5:30-10 a.m. and 4-8 p.m.: Ride along with a Jenny Wiley State Resort Park Tour to see the growing elk population in Kentucky. Other dates available. Prestonsburg, Ky. \$15-30. For registration information, call (606) 889-1790 or visit [tinyurl.com/ElkTours](http://tinyurl.com/ElkTours)

### WV Good Jobs Conference

Nov. 6-8: Work with entrepreneurs, funders, accelerators, community leaders and government agencies to create sustainable economic development throughout Appalachia. Beckley, W.Va. \$75-100. Call (304) 707-5499 or visit [tinyurl.com/MountainCommunities](http://tinyurl.com/MountainCommunities)

### International Science Museum Day

Nov 10: Visit the Discovery Center as they partner with UNESCO for a day of hands-on programs that focus on climate change and building a better world. Hagerstown, Md. \$6-7. Call (301) 790-0076 or visit [tinyurl.com/DiscoveryCenterMD](http://tinyurl.com/DiscoveryCenterMD)

### Farm Dreams Workshop

Nov. 11 and Dec. 2, 10 a.m.-4 p.m.: Learn entry-level practical information from the Organic Growers School about starting your own sustainable farm. Boone and Asheville, N.C. \$35-55. For registration information, call Cameron Farlow at (828) 338-9465 or visit [tinyurl.com/FarmDreams](http://tinyurl.com/FarmDreams)

See more at [appvoices.org/calendar](http://appvoices.org/calendar)

### 4th Annual Race to the Rock Bridge 5K and 10K

Nov. 18, 7-10:30 a.m.: The 5k and 10k races weave through Natural Bridge State Park and finish under the rock bridge. Natural Bridge, Va. \$25-30. Call (540) 291-1331 or visit [tinyurl.com/BridgeRace](http://tinyurl.com/BridgeRace)

### Hike of the Blue Rock Trail

Nov. 26, 9 a.m.-12 p.m.: This strenuous three-mile loop hike from the Rocky Broad River to the top of Bluerock Mountain is possible thanks to special permission from The Nature Conservancy. Chimney Rock, N.C. Free. Call (828) 625-1823 or visit [tinyurl.com/BluerockHike](http://tinyurl.com/BluerockHike)

### Appalachian Voices Membership Meeting

Nov. 30, 5:30-8 p.m.: Join members, friends and staff of Appalachian Voices, the organization that produces The Appalachian Voice publication, to discuss our work to advance a clean, just future in the region. Free. Gatherings will be held at our four offices: Boone, N.C.; Charlottesville, Va.; Knoxville, Tenn., and Norton, Va. For details or to become a member, call our Boone office at (828) 262-1500 or visit [appvoices.org/membership-meeting](http://appvoices.org/membership-meeting)

## Across Appalachia

Environmental News From Around the Region

### Bringing Rural Areas Up to (Internet) Speed

By Otto Solberg

A Tennessee electric cooperative and a Kentucky municipal utility are working to bring high-speed broadband internet to rural customers who otherwise may not have the options that urban areas have.

The Tri-County Electric Cooperative has been planning to bring broadband internet access to rural Trousdale County, Tenn., since 2014. Tennessee law previously prevented electric cooperatives from providing internet services. But the Tennessee Broadband Accessibility Act, passed earlier this year, along with a \$20 million loan from the U.S. Department of Agriculture and explicit permission from the county government has allowed Tri-County Electric to move forward with their Fiber-to-the-Home project.

The electric cooperative plans to bring affordable, fast and reliable internet access to a majority of the county within three years. Construction could begin in November, and residents that pay for the service could have it by the end of the year. Currently, residents can generally only receive six megabits per second download speeds and one mbps upload speeds, but the co-op's

base package should provide 50 mbps download and upload speeds.

A 2016 survey showed that 34 percent of rural Tennessee residents lacked broadband access, a service that is crucial to economic development and education. The Tennessee Broadband Accessibility Act also started the Broadband Accessibility Grant Program to help rural areas that need financial assistance for broadband projects. The deadline for applications to the program is Nov. 17.

Other rural areas in Appalachia are also struggling to keep up with aging telecommunication infrastructure and are finding ways to bring high speed internet to their residents and businesses. Thanks to their municipally owned utility, Barbourville, Ky., residents have been offered cable television since the '50s and cable internet since the '90s, but that internet technology is now outdated.

This September, the Barbourville Utility Commission started construction to bring 4,000 Kentucky residents and businesses access to a gigabit fiber network that will provide 1,000 mbps download speeds. This is up to 1,000 times faster than existing speeds and shouldn't be outdated anytime soon.

### Historic Eastern Kentucky Sites Added to National Register

Three locations in Eastern Kentucky were added to the National Register of Historic Places in August as official sites worthy of preservation. This distinction may qualify the owner of the sites for tax exemptions to help preserve their significance.

First is the Middlesboro Jewish Cemetery in Middlesboro, Ky., established in 1904 for Jewish residents of Kentucky, Tennessee and West Virginia. The Jewish population in the area had been growing since Middlesboro became a coal boomtown in 1890. Although the town economy crashed in 1893, many of the Jewish residents of Middlesboro waited for a rebound. They started a congregation and synagogue in 1905 when local resident Ben

Horr donated the cemetery lands after his granddaughter passed away.

Second on the list is the Kellogg and Company Wholesale Grocery Warehouse in Richmond, Ky., which was added to the register for symbolizing the advancement of the commercial age. Built in 1906, it was one of the first brick storehouses along the rail line in Richmond and was the center of industrial growth in Richmond and Madison County.

Also added to the historical register was the Craig-Peak House near Georgetown, Ky. Built in three stages between 1820 and 1860, the building reveals how architectural trends from the cities influenced the rural areas of Kentucky's hilly Bluegrass Region. — *Otto Solberg*

### Chimney Tops 2 Fire Review Discussed

By Rachel Pressley

In August, the U.S. Department of the Interior released a report reviewing decisions made during Tennessee's deadly Chimney Tops 2 Fire last fall and issuing future recommendations for the National Park Service and interagency fire community.

The Chimney Tops 2 Fire started in the Great Smoky Mountains National Park on Nov. 23, 2016, and led to an estimated \$2 billion in damage. Due to extreme wind and drought conditions, the fire joined with other fires outside of the park in Sevier County and resulted in 134 injuries and 14 lives lost.

The report discusses poor staff availability due to the Thanksgiving holiday and restrictions that hindered radio communications with other agencies.

The report revealed many preparedness and planning weaknesses within the Great Smoky Mountains National

Park and how climate change has led to a "new normal" of record-breaking drought conditions and increased presence of dry, flammable brush. National Park Service officials also said they did not expect the added danger of hurricane-force winds.

At a press conference, Chief Joe Stutler, a wildfire expert who leads the fire management for the National Park Service, said that there was no way for firefighting crews at the time to predict what the best decision would be, as the park had never seen fire conditions like this before.

The park plans to upgrade the department's radio system communications and to issue portable radios and personal protective equipment to the seven neighboring fire departments.

The report also includes recommendations for park leaders to reconsider fire suppression practices.



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# Mountain Advocates Stand Against Racism

By Kevin Ridder

The night before the Aug. 12 Unite the Right rally in Charlottesville, Va., University of Virginia student Laura Cross linked arms with several other members and friends of the Virginia Student Environmental Coalition around the campus' statue of Thomas Jefferson with a sign reading "VA Students Act Against White Supremacy."

They were soon surrounded by a torch-bearing mob chanting "white lives matter" and "Jews will not replace us." A brawl broke out, according to Cross, when one of the Unite the Right marchers started throwing punches as another walked down the line of counter-protesters spraying mace in their faces.

Cross says she expected the white supremacists to incite violence at the rally the following day. But no one expected a car to intentionally ram through the crowd of counter-protesters, killing 32-year-old Charlottesville resident Heather Heyer and injuring 19 others. Two state troopers were also killed when their helicopter crashed while monitoring the event.

Six members of the Virginia Student Environmental Coalition were hospitalized with skull fractures, concussions or other injuries in the car attack, which U.S. Attorney General Jeff Sessions labeled as domestic terrorism. One student's leg was broken so badly, doctors initially feared she may not be able to walk again. Several students received

death threats and intimidating phone calls in the weeks after.

Don Gathers is deacon of the First Baptist Church in Charlottesville and former chairman of the commission that voted to move the statue of Robert E. Lee in May, which touched off the events. He says the Charlottesville rally was "the worst demonstration of — I believe as Dr. King put it, 'man's inhumanity to man.'"

"It just wasn't anything that I expected to see up close and personal in my lifetime, and I pray that my children never have to see," Gathers says.

In an email following the events, Appalachian Voices, the publisher of this newspaper, said, "we commend the local, state and federal elected officials who have called the nation's attention once again to the destructive legacy and present reality of racism, and pledge to hold our leaders accountable to ensure their actions match their words."

According to Annie Jane Cotten, president of grassroots organization Southern Appalachian Mountain Stewards, which organized an Aug. 19 anti-racism rally in Wise, Va., "environmental justice and social justice are intrinsically tied."

"Racism never went away in this country, though many wanted to pretend it had," Cotten says. "If you don't treat a wound, it festers. ... We need to be having the hard conversations regularly — you can't hold a rally or a vigil without also creating space for communities to come together in the

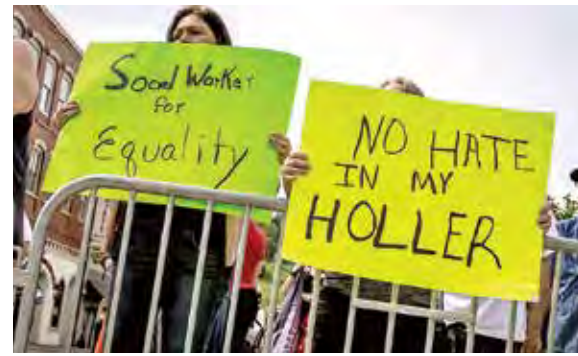
long term to do the work of addressing the root of systemic racism in our communities and lives."

Rev. John Butler, president of the NAACP branch in Knoxville, Tenn., says that seeing rallies like the Aug. 26 Knoxville demonstration, where counter-protesters outnumbered white supremacists 70-to-1, is very encouraging. But, he asks, what happens after the rallies?

"We have to be proactive continuously," Butler says. "It's like cleaning up your house — you've got to just constantly clean it. Because if you don't, one day you may have some things in your house that you don't want in your house. And then you see those things and all of a sudden you want to clean it all up, but it didn't get that way overnight."

The Alliance for Appalachia, a coalition of organizations including Appalachian Voices that oppose mountaintop removal coal mining, released a statement in September condemning white supremacy and committing to push back against it in the region.

"The Alliance for Appalachia stands with the many across our region who are demonstrating against racist hate," the statement reads. "We are engaging in meaningful dialogue with our friends, neighbors, and family members about the threats posed by white supremacy, and we are working



Counter-protesters hold signs during a rally held by white nationalists in Pikeville, Ky., in April 2017. The event was one of the first such demonstrations in the region this year.

to liberate ourselves from our own internalized racism and other manifestations of oppressive thinking and behavior."

According to Laura Cross with the Virginia Student Environmental Coalition, effectively combatting racism means the community organizers who are upper-middle class need to get out of their comfort zone and reach out to "people [who] are experiencing a different kind of economic situation."

Alice Beecher, an independent community organizer in Whitesburg, Ky., notes that media coverage has "a long history of scapegoating Appalachians" for the systemic racism in the country.

"I think there's a lot of misconception in the media of who's here, who isn't here," she says. "I see a lot of people here who are trying to resist the spread of racism in our hills and hollers."

Since the events in Charlottesville, unrest has continued to ripple across the country with rallies and counter-protests continuing well into the fall. ♦

a 2,900-acre forest area that contains multiple types of rare wildlife and plant species, according to The Citizen-Times. Unlike a state park, recreation is not one of the primary functions of the natural areas. While some low-impact recreation will be allowed, it is maintained to educate and preserve the natural resources in the area, such as streams that feed into the Catawba River.

The area is crucial land for the state parks system as it connects the Blue Ridge Mountains to the South Mountains, creating more land for ecological conservation. — Meredith Abercrombie

## Green Bank Observatory Turns 60

Sixty years ago this October, the home of the future Green Bank Observatory in West Virginia was dedicated. The radio astronomy observatory, which views space through radio

waves instead of the visual spectrum, has since grown from a small 85-foot telescope to the massive 100-meter Robert C. Byrd Green Bank Telescope today.

The observatory mapped the heart of the Milky Way in detail for the first time, found the first organic molecules in space made of multiple atoms, and helped discover dark matter.

Today's telescope was built to be so sensitive that, according to Green Bank Observatory Director Karen O'Neil, it looks at radiation "less than the energy of a single snowflake falling on the Earth." In August, the telescope detected a fast radio burst from a distant galaxy. While scientists see a neutron star as the most likely cause, Andrew Siemion of the Berkeley Search for Extraterrestrial Intelligence Research Center told National Geographic they aren't ruling out the possibility of extraterrestrial life. — Kevin Ridder

## Across Appalachia

### Bald Eagle Population Soars in Kentucky

The bald eagle population in Kentucky continues to flourish, with 164 nesting pairs recorded so far in 2017, according to the Kentucky Department of Fish and Wildlife Resources. This is twice as many as seven years ago.

There are multiple factors that have contributed to the rise in the eagle population. The ban of DDT, a pesticide that caused eagle eggs to become fragile, has improved their health significantly. This, along with the nationwide reintroduction program for the birds and an increase in suitable habitats in the state such as water reservoirs and

large wetlands, has helped the once-fleeting population come back to Kentucky, the Kentucky Department of Fish and Wildlife Resources reports.

This trend is also common nationwide, with breeding pairs increasing since the implementation of the Endangered Species Act of 1973, according to the U.S. Fish and Wildlife Service. — Meredith Abercrombie

### New State Natural Areas Added In North Carolina

A new state natural area has been added in McDowell County along with two other natural areas in Eastern North Carolina.

Located in McDowell County, Bob's Pocket, now Bobs Creek State Natural Area, is

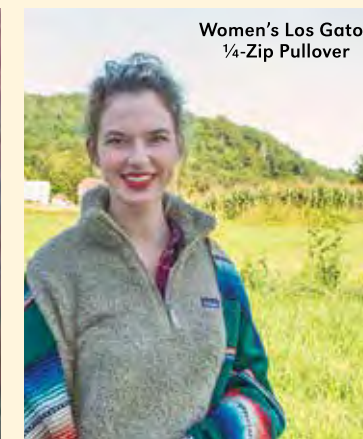


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# Rapids from Flannagan Dam Drive Tourism Efforts

By Ka Leigh Underwood

Nestled along the border of Kentucky and Virginia, the John W. Flannagan Dam and Reservoir officially advertises boating, camping, fishing, hiking, picnicking, playgrounds, water sports and wildlife viewing. But during the month of October, a special event draws international crowds into the Breaks Interstate Park area and onto the Russell Fork River.

Within the Breaks Interstate Park, the Russell Fork Gorge, known as the "Grand Canyon of the South," is a five-mile gorge with plunging depths of 1,650 feet. Each Saturday and Sunday during the first four full weekends in October, the Army Corps of Engineers manages a series of scheduled water releases from the Flannagan Dam, located on the Pound River, which is a tributary to the Russell Fork River. These releases create ideal whitewater conditions for kayakers and rafting enthusiasts of differing skill and experience levels.

Regular season waters stay between 50 to 100 cubic feet per second when the weather is dry. With rain, the river rises to 200 cfs or more and becomes accessible by personal kayak and canoe. But during the fall releases, water levels are maintained at 800 to 1,000 cubic feet per second and therefore allow commercial whitewater outfitters to take tours down certain parts of the river. These levels also attract more experienced kayakers.

Because of the ecotourism potential and interest from local kayakers and whitewater rafters, the communities surrounding the dam and outside white-

water enthusiasts have pushed for extra scheduled releases. These releases would happen intermittently throughout the year, as the Army Corps of Engineers saw fit. The Army Corps already releases water from the dam throughout the year, largely dependent on rainfall, but these flows can be sporadic and difficult for boaters to utilize.

There are three sections that the boating community uses to identify the Russell Fork River: the upper section, the gorge and the lower section. While commercial whitewater trips navigate the upper and lower sections, the gorge section is for private boaters only.

Elkhorn City resident Amy Brashears says that even though she's been kayaking for a few years, she still gets scared seeing the roaring water.

"It's massive and beautiful at the same time," Brashears says. She describes the river as everything from solid class I to the technical challenges of class V. "I'm just amazed by all the talent that flies in here," she says.

These releases also lead to an increase in revenue and foot traffic for nearby Breaks Interstate Park and the towns of Breaks and Haysi, Va., and Elkhorn City, Ky.



Above: Kayakers gather at the finish line of the Lord of the Fork Race, an annual event for experienced boaters held during the last weekend in October. Photo by Gareth Tate.



Left: Rafters explore the river during a guided rafting trip with Kentucky Whitewater, one of several outfitters that operate on the river during dam releases. Photo by Kyle Koeberlein | Photo Landmark

"The releases in October have always drawn a tremendous crowd," says Austin Bradley, superintendent of Breaks Interstate Park. "I mean really, a global crowd. I've run into people from Japan, the Netherlands, Venezuela, really all over."

Brashears says, "these extra releases would be a godsend to the nearby communities," and compared the possibilities to the Nantahala River in Bryson City, N.C., a national destination for family whitewater adventures.

According to Gene Counts, a kay-

aker himself, these efforts have been going on since the '90s. Counts also serves as director of the Friends of the Russell Fork, a nonprofit organization that has worked on various river-related projects over the years, including cleanups and pushing for designation as a Virginia Scenic River.

## A Complicated Process

While there has not been much pushback or contesting from officials, it has been a drawn-out process. Whitewater recreation is not a recognized and listed point on the Army Corps' official project purpose for Flannagan Dam, so extra releases could not be considered a congressionally authorized event.

continued on page 18

# Naturalist's Notebook

## Snail Tales

By Eliza Laubach

Up the mountain from an old-growth tulip poplar grove in southwestern North Carolina, shortly after the sun rose, a feasting snail at a tiny scale caught my eye. Amongst the leaf litter, reflecting a warm glow in the morning sun, the snail devoured a miniature orange mushroom. And then another. And another.

This snail may have been *Fumonelix cherochalaensis*, a new species catalogued by scientist Daniel Dourson in 2012. Dourson, an independent biologist, found several new snail species in the southern Appalachians that are endemic, meaning only found in a specific range, to certain mountains or counties. Dourson spotted this particular shell-spiraling species only at elevations above 4,500 feet along Cherochala Skyway of North Carolina — a ridgetop road beginning just a few miles away from where I found a snail munching its meal that morning.

Appalachia has an ancient heritage of diversity given the mountains' resilience to ice ages. Through the eons, the mountains nurtured pockets of life that hosted plant and animal species during their centuries-long migrations away from glaciers. While small and slow, land snails managed this feat.

This region hosts up to 264 snail species — more than anywhere else in North America — and the most endemic species, according to Taylor Ricketts, a biology professor at the University of Vermont. The forests of the Blue Ridge Mountains alone foster 122 endemic land snail species.

Since snails are mostly nocturnal, they are most likely to be seen grazing in the early morning hours. A snail's crawl is lubricated by a slimy mucus produced just below the mouth in humid air, usually during darkness or fog. Slugs, who also slime crawl, are considered their close cousins — a snail without a shell. Snails have a heightened sense of smell that will lead them to eat just about anything, from plants to animals to mushrooms to soil and rock particles, depending on their species and habitat.

But whatever their diet, snails' food must have a significant amount of calcium to give their shell hardness. Some snails who eat mainly leaf litter favor trees with more calcium



Two small antennae feelers just below their eye antennae lead snails — like this Appalachian tigersnail — to their food. Photo by Bill Frank, courtesy of jaxshells.org

in their leaves, such as flowering dogwood or sugar maple.

Snail populations, and the species that depend on them, are affected by changes in the environment that deplete calcium from the soil, a 2002 study published in the Southeastern Naturalist indicates. Timber harvesting and acid rain cause calcium loss in the soil, hurting snail populations, sending ripples through the ecosystem. For instance, ground-foraging birds that feed on snails lose their source of calcium and then birth weaker eggshells, a 1994 study from the Netherlands found.

These terrestrial snails can provide important clues about land-use impacts in old-growth forests, such as Joyce Kilmer Memorial Forest in North Carolina — close to where I found my small snail munching its mushroom. Since slow-moving snails stick close to home, they are vulnerable to human-caused forest disturbances, according to Daniel Douglas, a scientist at Eastern Kentucky University. In a 2011 study, he found more snail species in old-growth forests than in second-growth forests and hypothesized that snails could be regional indicators of ecological conditions.

Although it is an eternal source of wonder why snails' shells spiral, a group of Japanese scientists found that the spiral emerges during the embryonic stage of growth when the snail consists of only eight cells. To make baby snails, some mollusks don't even need another spiral partner — most have both male and female reproductive organs. Science aside, these miniature creatures are enamored with their petite spiral charm and have even inspired legends with their mystery. ♦

## The Snail and the Salamander

Bessie Bird of the Echota Cherokee tribe in Alabama told this story to her grandson Tali Shaffer as a child. Shaffer, now a tribal storyteller, has published this story and others on the Echota Cherokee website at echotacherokeetribe.homestead.com

Back in the long ago time before men, Salamander was a tiny snake and had no legs. He slithered about in creeks, under stones and in leaves that cover the forest floor.

One day he met snail, who at this time had legs, at the edge of a salt lick. Salamander knew what the lick was and laid on the edge watching other animals come and consume the salt. Snail had never been here before and had no idea what salt was.

Salamander looked at Snail's nice legs and thought to himself how much he would like to have those for himself so he thought up a plan to kill slow-witted Snail and have those legs for himself. "Snail," said Salamander, "look over there at that beautiful leaf across the clearing, bet it sure tastes good?" Tempted, Snail started walking across the salt, which began to immediately burn his soft body and burn holes in him. In moments the Snail laid dying and his legs fell off. As he was dying, he cursed Salamander as Salamander grabbed his legs and slithered away with them. "As long as you wear my legs, your body will be wet and soft just like mine and you will never lay in the sun again." To this day, Salamander cannot sun himself but must hide in the damp darkness.

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### Net Zero Homes

An idea whose time is long past due

In the current moment, every bit of dirty energy that is consumed in the construction and operation of a home is contributing to the destabilization of our climate and thus is pushing our world community into a time of uncertainty and painful readjustment, if not existential peril.

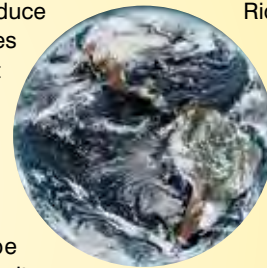
Many of the world's more progressive scientific, military, business and social justice leaders are becoming focused in earnest on the situation as it is rather than what it would, could or "should" be. What can we do to tackle the climate crisis given

the policy gridlock created, in my opinion, by the undue influence of corporate money in our political process?

It seems obvious to those of us familiar with energy efficiency and renewable energy that it no longer makes sense to build homes that are making the problem worse when we have — ready on the shelf — everything we need to build affordable homes that are neutral or beneficial in their environmental effects.

By applying basic building science to the construction of a super-efficient

home and coupling that with sufficient renewable energy, we can produce a home that not only provides enough power to operate, but could even "pay back" the energy used to build it. The renewable energy can be produced on-site and either fed into the grid or stored in a battery bank. Or it can be produced off-site by a community-



scale solar installation similar to Blue Ridge Energy's community solar program. Connecting to an off-site array would allow even a home without solar panels to virtually cancel out its carbon footprint.

There are already plenty of examples of this in the market.

The point is, it's time.

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Country in 2008 and have been advocating for non-toxic, environmentally responsible and energy-efficient building ever since. Call/text (828) 964-3419 or visit sunnydayhomesinc.com

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# A Capsule History of the Blue Ridge Parkway

By Dr. Anne Mitchell Whisnant

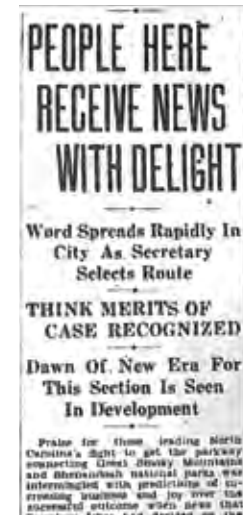
The Blue Ridge Parkway is a 469-mile scenic road winding through 29 counties in the beautiful southern Appalachian mountains of Virginia and North Carolina. It is – as its name suggests – a “way through a park.” In this case, the park is a carefully designed landscape set within a narrow corridor of protected land, now over 90,000 acres in all. Unlike many other national parks whose boundaries surround the landscapes they are designed to protect and present, the parkway is a narrow ribbon that “borrows” many of its signature scenic views from the nearby countryside.

The parkway is owned and managed for the American public by the National Park Service. It is a key part of a larger southern Appalachian park complex. With its northern terminus joining Shenandoah National Park’s Skyline Drive near Waynesboro, Va., the parkway snakes southward to the Great Smoky Mountains National Park, on the North Carolina-Tennessee border.

Both Shenandoah and the Great Smokies were authorized in the 1920s and opened in the 1930s as part of an effort to bring national

parks nearer to population centers of the eastern United States. Work began in 1935 to connect the new Shenandoah and Great Smoky Mountains national parks, and the parkway was finally finished in 1987 with the completion of the final section, the “missing link” around Grandfather Mountain in North Carolina.

Since 1946, the Blue Ridge Parkway has been the most visited site in the entire national park system, with the exception of three recent years — 2013, 2014 and 2016. The throngs of travelers drive to places where they can pull off the road to see a distant view, enjoy spring wildflowers or colorful fall leaves, get out for a short hike, listen to music in several established venues or set up a tent at a campground.



Positive reaction to the parkway project was reported in the Asheville Citizen-Times in late 1934. Courtesy of the N.C. Collection, Wilson Library, UNC-CH

The parkway was a product of President Franklin D. Roosevelt’s New Deal programs to stimulate the economy and put people to work during the Great Depression of the 1930s. Initially funded under the federal Public Works Administration and later drawing monies and labor from other New Deal



This photograph taken by Robert G. Hall on March 28, 1939, near Swannanoa, N.C., shows abandoned farmland buildings scheduled for demolition to clear a path for the Blue Ridge Parkway. Courtesy of the National Park Service, Blue Ridge Parkway

agencies, including the Resettlement Administration, the Works Progress Administration and the Civilian Conservation Corps, the parkway was one of the New Deal’s signature park development projects.

By the time construction halted in 1943 for the duration of World War II, work was under way on about 330 miles of the road. Only about 170 miles, however, were by then paved and fully open to travel. A large portion of the funding for the road’s completion came from another large federal park-enhancement program, Mission 66, which poured \$1 billion into the national parks from 1956 to 1966. When this program ended, all but the 7.5-mile Grandfather Mountain section was complete.

Building the parkway was a cooperative effort of many hands, agencies and individuals at the federal, state and local levels. The states of North Carolina and Virginia acquired most of the land and deeded it to the federal government, while other lands were turned over to

the National Park Service by the U.S. Forest Service.

Parkway engineers and designers, especially North Carolina State Highway Commission location engineer R. Getty Browning, National Park Service landscape architect Stanley W. Abbott and his design team, and engineers from the federal Bureau of Public Roads, laid out a route and crafted a carefully planned landscape that highlighted glorious mountain vistas, invited travelers to discover secluded coves and dramatic waterfalls and opened “great picture windows” into an idealized rural pioneer America. Private road-building contractors did heavy construction, and men in four Civilian Conservation Corps and Civilian Public Service camps shaped and groomed the landscape and built visitor facilities.

Crafting a scenic parkway required that the road be built according to rules different from those that governed regular highways in the 1930s. To preserve

*continued on next page*



## A Capsule History

*continued from previous page*

the scenic experience, the parkway was planned to be a non-commercial, limited-access road, bounded by an exceptionally wide right-of-way that ranged from 800 to 1,000 feet.

Although these rules produced a beautiful parkway for travelers, they sparked conflict with some landowners through whose lands the road was threaded. This conflict arose because — unlike western parks carved from the public lands — the parkway was built through a long-populated area that included small farms, numerous smaller towns and the two major cities of Roanoke, Va., and Asheville, N.C. In many places, industrial scale timbering had previously ravaged the land, while in other locations tourism thrived.

Handling the bulk of land acquisition through the 1960s, Virginia and North Carolina used their power of eminent domain to buy more than 40,000 acres from thousands of owners for the parkway. Some of it was land that farm families had long lived on and loved. Most of them had no choice about whether to sell. Sometimes they weren’t paid much, and sometimes they did not see how a restricted scenic parkway would benefit them. Some resented

how it disrupted their lives and wondered why some other owners got paid more for their lands.

Others eagerly awaited the parkway’s promised benefits. Many of the project’s most vigorous supporters were leaders in the North Carolina tourism-oriented business community, especially in Asheville. A booming tourist center from the late 19th century into the 1920s, Asheville had by the early 1930s fallen on hard times. The tourists were gone and the city nearly bankrupt after an ill-considered 1920s spending spree and the collapse of a major local bank. Asheville’s civic leaders saw the parkway — which would link the city to the new Great Smoky Mountains National Park — as the city’s great hope for reviving tourism.

Creating and maintaining a scenic parkway in this environment has sparked a series of conflicts with landowners and business and civic interests who have craved influence over the project or sought to mitigate — or enhance — its effects on their own properties. From the 1930s to the 1960s, the park service and the state of North Carolina battled the Eastern Band of Cherokee Indians, Little Switzerland’s



Above, Doughton Park (Milepost 240) contains the iconic sweeping curves and split rail fences often found along the parkway. At left, a bridge over Holloway Mountain Road near Blowing Rock, N.C., shows the intricate stonework used in structural aspects along the route — much of it not even seen by passersby on the parkway. Photographer Kelly Culpepper is currently at work on a photo book about these unknown details.

Heriot Clarkson and Grandfather Mountain’s Hugh Morton. As each conflict has been resolved, these stories have been written onto the land.

Like any other large public works project, the Blue Ridge Parkway generated complicated questions concerning how, and whether, a “public good” can be identified and implemented fairly. Its history of conflict and strife presaged the challenges it continues to face: severe funding and staffing shortages, environmental threats, changing park usage, encroaching development and the perennial necessity of negotiating the roadway’s relationships with its region.

At the same time, the parkway is a living record of the power of public vision, public will and public resources to create and sustain magnificent public works for the common good. The history of this scenic road teaches important lessons about the politics of park management, conservation and

tourism, and the stories embedded in all of our built environments. If the history of conflict is written permanently upon the parkway at some points, at other points one sees the results of dreaming nobly, operating beyond the limits of self-interest and bequeathing the best of ourselves and our ideas to generations yet to come. ♦

*Reader’s Note: A version of this article initially appeared at Driving Through Time: The Digital Blue Ridge Parkway at docsouth.unc.edu/blueridgeparkway. This project, directed by Anne Mitchell Whisnant and hosted at the UNC-Chapel Hill Libraries, contains nearly 10,000 historic photographs, drawings, maps, oral histories, newspaper archives and other articles related to the parkway’s history. Dr. Whisnant is the author of Super-Scenic Motorway: A Blue Ridge Parkway History (2006), and co-author with David Whisnant of a book for young readers, When the Parkway Came (2010).*

## Photographing the Parkway

Now in its 15th year, the annual Appalachian Mountain Photography Competition has included a category focused on the Blue Ridge Parkway since its second year. The competition prompts photographers to focus on a particular aspect of the scenic route — its relationship to the sky, for instance, or people on the parkway. This year, the competition’s Blue Ridge Parkway category theme is “The Parkway in Color — Capturing the Changing Seasons.” To view galleries of past finalist images or to submit images for this year’s event before the Nov. 17 deadline, visit [apmntnphotocomp.org](http://apmntnphotocomp.org).



“Ice Castles” by Nicole Robinson, Special Mention honors for the 2012 Blue Ridge Parkway — Weather on the Parkway category



“Emerging...” by Rob Travis, finalist for the 2011 Blue Ridge Parkway — Ribbon of Road category

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# Treasures of the Parkway

By Meredith Abercrombie and Rachel Pressley

Over the course of 469 miles, the Blue Ridge Parkway passes overlooks and waterfalls, craft centers and historic farms, challenging hiking trails and leisurely paths. It invites locals and visitors to experience the region's vistas, forests and streams, and has inspired the creation of other scenic driving routes throughout Appalachia such as The Crooked Road and the Mountain Music Trail (visit [apvoices.org/thevoice](http://apvoices.org/thevoice) to read more).

Service, in 2016 parkway visitors spent nearly a billion dollars in nearby communities, which helped support 15,337 local jobs. While the dollars can be quantified, what's harder to explain is the magic of discovering a new trail, viewpoint or historical treasure, and the way the easily accessible drive introduces visitors from all walks of life to the region's natural majesty.

Below, we describe some of the highlights along the route. But don't take our word for it — get out and explore!

## Visitor Center at Humpback Rocks

Milepost 5.8

Near the beginning of the Blue Ridge Parkway and the town of Afton, Va., is an opportunity to learn about the parkway's history. The visitor center is



mile, wheelchair-accessible Mountain Farm Trail, which leads visitors on a walking history tour past an old cabin and farmland. In the summer, costumed interpreters demonstrate farm life at the turn of the 20th century. For striking vistas, follow the Humpback Rocks

Trail one mile to its namesake viewpoint, or four miles to conclude at a picnic area.

Photo courtesy of Virginia Tourism — M.A. Corporation (Virginia.org)

open year-round and has multiple indoor exhibits on the early mountain settlers in addition to the quarter-



Photo by Brandon Falls, brandonfalls.com

## Yankee Horse Ridge Parking Area

Milepost 34.4

This parking area gives travelers a chance to climb the stone stairs at either side of the parking lot to visit a reconstructed railroad track where a 50-mile stretch of railroad was once used for logging. A short walk from the railroad exhibit leads to Wigwam Falls, a small cascade that is more prominent after a heavy rain or snowmelt. — M.A.



Photo by Joseph Yaga

## Johnson Farm and Harkening Hill

Milepost 85.9

Hikers and historians alike can enjoy the Johnson Farm Trail, a two-mile loop from the Peaks of Otter Visitor Center parking area that leads to Johnson Farm. Once a functioning family farm for multiple generations of Johnsons, the site now serves as an interactive historical destination. Live demonstrations at the farm run through the summer, but visitors can explore the farmland during all seasons. The Harkening Hill Trail, featuring a large boulder that balances on a smaller rock, connects to the Johnson Farm Trail and gives hikers the option of a more extensive 3.9-mile loop. — M.A.



Photo by Robert W. Schoneman

## Cumberland Knob

Milepost 217.5

Cumberland Knob marks the point where the building of the parkway initially began in 1935. There you can find a visitor center, an open picnic area and two hiking trails. For a more leisurely hike, take the half-mile paved Cumberland Knob Loop that passes by the picnic shelter and the Cumberland Knob Overlook. For a longer hike, walk the Gully Creek Trail, a two-mile loop that goes along a mountain stream and passes a waterfall and cascades. Cumberland Knob is located near the North Carolina and Virginia state line. — M.A.



Photo courtesy of NPS

## Brinegar Cabin

Milepost 238.5

Martin and Caroline Brinegar built the Brinegar Cabin in the 1880s and lived off the land by raising crops and animals and selling local herbs. Caroline also practiced weaving and Martin made and sold shoes. The cabin was sold to the Blue Ridge Parkway in the 1930s. It is now a place where visitors can appreciate rural mountain living at the turn of last century. At the parking area, you can also find the entrances of the Cedar Ridge Trail and the Bluff Mountain Trail. — M.A.

MP 5.8

MP 34.4

MP 85.9

MP 217.5

MP 238.5

MP 272

MP 169

## Rock Castle Gorge Trail

Milepost 169

The Rock Castle Gorge Trail near Floyd, Va., offers countless sights along its 10-mile loop, including rock formations, overlooks of the parkway and beautiful fall foliage, rolling fields with the occasional herd of cows and an old Appalachian Trail shelter that was used when the Appalachian Trail's path once passed through. Since this is a longer hike with some strenuous sections, it is recommended to make this a full day trip. While there are multiple places on the parkway to reach this trail, the visitor contact station near milepost 169 is an easily accessible starting point. — M.A.



Photo by Rachel Pressley

the trail describe nearby vegetation and wildlife. The trail ends at two overlooks, one above and one beside the falls. — R.P.

## E.B. Jeffress Park & The Cascades

Milepost 271.9 - 272.5

Created in 1968, the park hosts the log springhouse known as the Jesse Brown Cabin, originally built before 1840 and relocated to its current position in 1905, according to Frank and Victoria Logue's "Guide to the Blue Ridge Parkway." Another structure, the Cool Springs Baptist Church, was relocated to its current location by the National Park Service.

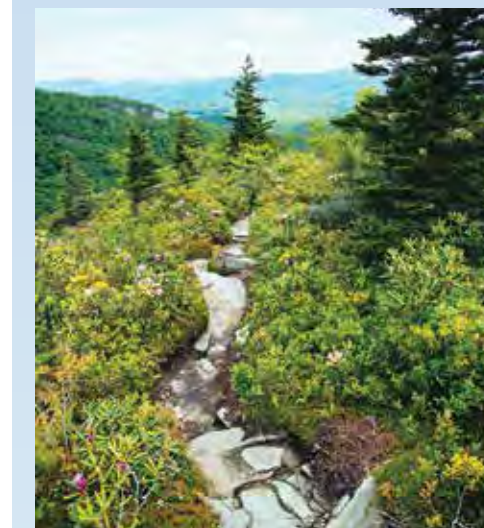
The park was named after E.B. Jeffress, the chairman of the North Carolina Highway Commission in 1934 and a successful advocate against making the parkway a toll road.

Picnic tables are available at the Cascades Overlook parking area at milepost 271.9. The 0.6-mile, one-way Tomkins Knob Trail leads to the historical structures and connects to Tomkins Knob Overlook at milepost 272.5.

A 0.8-mile easy-to-moderate loop called Cascades Falls Trail leads to Cascades Falls. The tall, steep-sloping falls drop over a 250-foot rock face. Signs on the trail describe nearby vegetation and wildlife. The trail ends at two overlooks, one above and one beside the falls. — R.P.



Photo by Jim Dollar, flickr.com/jimdollar



## Daniel Boone Scout Trail to Calloway Peak

Milepost 299.5

This 7.1-mile trail allows hikers to gain 2,299 feet of elevation to reach the top of Calloway Peak. At 5,964 feet high, Calloway is the highest peak on Grandfather Mountain, which is known by the North Carolina State Parks System for being rich in ecological diversity. The route begins on the Tanawha Trail and switches to the Nuwati Trail, then Cragway Trail. When hikers reach Flat Rock, they switch to the white-diamond blazed Daniel Boone Scout Trail, which leads up to Calloway Peak. Ladders and cables are placed near the peak to assist hikers in their ascent. — R.P.

Photo by Rachel Pressley, Instagram @rachelbpressley

## Craggy Gardens Visitor Center and Trails

Milepost 364.4 - 367.6

The Great Craggy Mountains offer two trails that start along the parkway: the Craggy Gardens Trail and the Craggy Pinnacle Trail. The Pinnacle Trail is a moderate 1.4-mile hike, while the Gardens Trail is an easy one-mile hike. Both are seasonally filled with blooming rhododendron, blueberries, blackberries and wildflowers.

The Craggy Gardens Trail runs from the far south side of the visitor's center parking area at milepost 364.4 to the picnic area. The Pinnacle Trail is north of the visitor's center and can be accessed by driving through the tunnel and parking at the lot on the south side of the tunnel.

The Craggy Pinnacle walks people through sweet birch trees, wildflowers and rhododendron tunnels. At the top, it offers a 360-degree view of the Blue Ridge Mountains with Asheville's North Fork Reservoir visible to the east.

The high-elevation path that leads to Craggy Gardens goes through a northern hardwood forest and a heath bald, and leads through twisted rhododendron tunnels ending at a grassy summit. A shelter constructed with chestnut wood at the top welcomes hikers in bad weather. — R.P.

Photo by Rachel Pressley



MP 292.7

MP 299.5

MP 350.4

MP 350.4

MP 451.2

MP 431

## Moses H. Cone Memorial Park

Milepost 292.7-294.0

Located near Blowing Rock, N.C., this park protects the historic 3,500-acre estate built by the textile entrepreneur and conservationist Moses Cone. Flat Top Manor, a white mansion built for the Cone family in 1901, is now the Parkway Craft Center which presents crafts made by regional artists. There are 25 miles of graded carriage trails surrounding the mansion that are accessible by hiking or horseback riding. The trails lead to two lakes, the Cone family graves, an observation tower and rolling hills covered in wildflowers much of the year. Entrances to the manor and surrounding trails are located from mileposts 292.7 through 294. — R.P.



Photo by Danny Buxton

## Green Knob Lookout Tower

Milepost 350.4

The Green Knob Observation tower is visible from the Blue Ridge Parkway near Mt. Mitchell. The tower, built by the U.S. Forest Service in 1931, sits on top of the Eastern Continental Divide and Green Knob Mountain, which is 5,080 feet tall. A cabin on the tower is locked unless a guided hike is underway, but the balcony is still accessible for breathtaking views of the Great Craggy Mountains, Table Rock, Grandfather Mountain and the North Carolina Piedmont.

The trailhead is located 100 yards north of the Green Knob Overlook on the opposite side of the road. A half-mile yellow-blazed trail climbs roughly 340 feet in elevation, and is typically overgrown and hard to locate. — R.P.

Photo by Patrick Mueller



## Graveyard Fields Trail and Overlook

Milepost 418.8

South of Mount Pisgah, a high, flat valley offers two distinctive hikes. One is the 3.2-mile Graveyard Fields Loop Trail and the other the 6.15-mile Graveyard Fields Ridge Trail. The trails pass two of the three waterfalls on the Yellowstone Prong. The Ridge Trail begins along the loop trail and ends at the Black Balsam Knob.

One theory for the location's name is that it came from a windstorm that uprooted many spruce and fir trees, which then looked like a field of gravestones. Another explanation cites a fire that occurred in 1925 after extensive logging in the area, leaving stumps that resembled moss-covered gravestones.

A fire later burned the stumps and heated the soil enough to sterilize it, depleting nutrients and making it difficult for many plants to grow here. New growth is now prominent. — R.P.



Photo by Joe Franklin, JoeFranklinPhotography.com

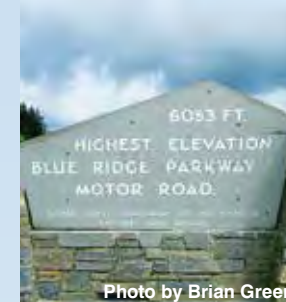


Photo by Brian Greer

## Richland Balsam Overlook and Nature Loop Trail

Milepost 431.0-431.4

The Richland Balsam Overlook at milepost 431.4 is the highest point on the Blue Ridge Parkway at 6,047 feet. Parking is available at the Haywood-Jackson Overlook near Tuckasee, N.C., at milepost 431, which is where the Nature Loop Trail begins. This moderate, 1.4-mile self-guided and dog-friendly loop trail weaves through a spruce-fir forest and climbs atop the 10th highest peak in the eastern United States. — R.P.



Photo by David Wensits

## Waterrock Knob Parking Overlook and Trail

Milepost 451.2

Located 18 miles from the end of the Blue Ridge Parkway, this 1.2-mile moderately trafficked loop trail travels to the summit to witness views from 6,292 feet high. The visitor center at Waterrock Knob is the parkway's highest at 5,712 feet. Waterrock Knob is located in the Plott Balsams mountain chain, and the peak of the trail provides views of many major mountain chains and four states. The 360-degree viewpoint at the top is known for exquisite sunrise and sunset vistas. — R.P.

# Harnessing SOLAR in Appalachia

By Kevin Ridder

The United States is in the midst of a solar boom. The Solar Energy Industries Association reported a 97 percent increase in solar installations in 2016 compared to 2015. But as other states take advantage of solar, much of Appalachia is left in the dark with legislation that limits solar expansion. Even within Appalachian states, solar development can be clustered in flatter counties with less shade and higher concentrations of homes and businesses.

In the Solar Energy Industries Association's latest ranking of existing solar capacity by state, North Carolina came in second and Georgia in ninth. While solar-friendly policies helped put these states in the top 10, there are still significant obstacles.

For instance, many states restrict third-party ownership

of solar panels, meaning it would be difficult or even illegal for a group of people to install a shared solar array. Another option for home or business owners is to install solar panels themselves, but that can be a costly option for those living in areas without supportive policies or group-buying options.

"The biggest barriers to solar in Virginia are monopoly utilities and electric cooperatives that are blocking market access to the technology," says Aaron Sutch, program director of solar cooperative Virginia Solar United Neighborhoods. "The utilities like big solar. They don't want it on people's roofs, they don't want you to own it — but they love to put these big solar fields in there."

The majority of solar power in Appalachia is run by utility companies. And while large solar farms have environmental benefits, Sutch says that they often don't benefit the communities in which they are built, as the power is usually sold

wholesale onto a regional transmission grid.

"You can almost think of it like a big farm that, instead of selling its produce to a local community, says, 'no way, I'm going to sell all of my produce to this big Wal-Mart or Amazon warehouse that's regional,'" Sutch says.

But Gil Hough, renewable energy manager of Restoration Services, Inc., in Tennessee, says that installing solar is good regardless of who does it.

"It's inherently a good thing to do," Hough says. "Reducing carbon, reducing use of water — it's an environmentally more responsible source."

On the following pages, we take a deeper look at how Appalachian residents are working to make solar power a part of their everyday lives.



At left, a rooftop solar installation done by Asheville Solar Co. Rewire Appalachia crew members stand next to a completed installation at the Ben Franklin Career Center in Dunbar, W.Va., (middle), and install panels at Coalfield Development Corporation's main office in Wayne, W.Va., (right). Photos courtesy of Asheville Solar Co. and Rewire Appalachia

Since then, Solarize programs have spread across the country — according to the DOE, by 2015 there had already been over 230 Solarize campaigns in 25 states and the District of Columbia.

"We've heard from people that they were interested in solarizing their home, but they didn't know of any businesses serving the area before we launched Solarize Wise," said Graves in a Sept. 13 press release. "Other people who have looked into solar in the past but couldn't afford it are now revisiting the idea because the price has dropped so dramatically, and it makes financial sense for them." Around 50 people signed up for a free assessment of their property to see if solar would be right for them, and roughly 200 residents asked to receive more information. At press time, which was close to the Solarize deadline of Sept. 29, it was unknown how many residents had signed contracts with Sigora Solar, the installer selected by Solarize Wise.



Ridgeview High students install solar panels on a model home. Photo by Chris Owens

## Seeking opportunities in clean energy

Solar energy is on the rise across the nation. According to The Solar Foundation, a nonprofit organization dedicated to advancing solar energy, "one out of every 50 new jobs added in the United States in 2016 was created by the solar industry." Restrictive policies and lower population density, however, have led to solar power being less prevalent in rural mountain communities. But as the sun rises in Appalachia each morning, several groups are working to make sure it's not just the mountains soaking up the sun's rays.

Founded in 2016 and co-convened by the University of Virginia at Wise Office of Economic Development and Engagement, People, Inc., and Appalachian Voices, the publisher of this newspaper, the Solar Workgroup of Southwest Virginia aims to blaze a trail for renewable energy in seven historically coal-producing counties in Southwest Virginia.

The workgroup collaborated with communities in each county to create a detailed solar roadmap that identifies 15 potential sites for initial installations that would serve as solar "ambassadors." It also proposes working with community colleges to educate future solar technicians and shows how new, solar-friendly state policies could help Virginia employ the region's existing energy workforce to create hundreds of local jobs over the next 10 years.

One of the sites identified is Ridgeview High School in Dickenson County. The school, which already has a

full-size wind turbine, could save \$1.7 million in energy bills over 25 years with a 350-kilowatt solar array.

The Solar Workgroup recently won a \$10,000 Department of Energy Sunshot Initiative grant to plan a path for solar development, and Ridgeview High School will be one of the sites developed as a result. Now, the school is in the running to win a larger Sunshot grant of up to \$500,000 — which could fund the down-payment on a loan for the project.

According to Denechia Edwards, the supervisor of special education, career and technical education for Dickenson County Schools, the primary focus of installing the array would be the cost savings, with the added benefit of having the panels as an instructional tool in the sustainable and renewable technology course taught by Chris Owens.

Owens, who paid his way through college by working in the same coal mine as his father, wants his students to be able to take full advantage of the job opportunities in renewable energy. While he hates to see coal jobs go, he says they're "just not the future."

"As a teacher, I try to give [my students] as much opportunity as I can to find something that they're going to be passionate about, find something that they're going to want to do," Owens says. "I like for kids to think of these type of classes as an opportunity to explore something that maybe they hadn't thought of doing before."

Owens' students have already designed an automated irrigation system for the school's greenhouse and

are able to learn hands-on from the wind turbine. Additionally, after Owens' robotics team at Ridgeview was awarded a \$500 mini-grant at the solar fair hosted by the Solar Workgroup of Southwest Virginia, his students were able to build solar panels for the creations made in his robotics class.

"I think it's important for the kids to know that there's a lot more out there for them to do than just definitions and bookwork all day long," Owens says.

Denechia Edwards says that Appalachia is often overlooked when it comes to clean energy.

"We have so much land that is appropriate for renewable energy," Edwards says. "Mountains, reclaimed coal mining land — there are opportunities here. We no longer can rely on coal in this area, and I think renewable energy is going to be one of those areas that's only going to continue to expand. And if we can give our students a leg up, that would be awesome."

### Energizing Communities

According to Lydia Graves, the Southwest Solar Virginia VISTA for Appalachian Voices and a co-convenor of the Solar Workgroup of Southwest Virginia, the most accessible solar option in the current policy climate is a residential system. While installing solar panels on a home may present a cost barrier, group-buying initiatives like the Solar Workgroup's Solarize Wise program can help lighten the load.

The U.S. Department of Energy helped start the first Solarize program in 2009 in Portland, Ore.

Similar to Solarize programs are solar co-ops like West Virginia Solar United Neighborhoods, only with co-ops, community members select an installer during the competitive bidding process.

WV SUN is part of a network of solar cooperatives called the Community Power Network — soon to be called Solar United Neighbors — that works to educate communities about solar power and guide residents through the process of installing solar panels on their property.

"The co-op is effectively a bulk-purchase program, or a consumer co-op," says Autumn Long, program director of WV SUN. "It's a group of neighbors in a specific town or area who all go solar together."

"Solar is the future of energy, and West Virginia has always been an energy-producing state," she continues. "As the way energy gets produced shifts from fossil fuels to renewables, I want to make sure that my home state of West Virginia doesn't get left out and continues to be able to be a part of that industry."

While the price of solar panels has fallen steadily over the past few years, Long says that many people still tend to be under the impression that solar is unaffordable.

"The cost has come down so much that solar is really a good financial investment for a homeowner or small business owner," Long says. "You will get a really good return on investment and save a lot of money over the course of your solar array."

Utilities like Dominion Energy in Virginia are seeing the cost-saving benefits of solar too. After Dominion stated in a February press release that they plan to invest \$800 million in solar in Virginia, it granted \$150,000 to Virginia community colleges in March to hasten solar workforce development.

Lydia Graves says that as more people have access to solar, it builds familiarity in the community and people see it as a sound economic choice.

"They can see it as something feasible for the area, and not just something that's in California and Arizona and Utah," Graves says. "That would build a more renewable-friendly climate in Southwest Virginia."

By going directly to a solar installer with a group of

educated buyers, solar co-ops and Solarize groups are able to get the panels wholesale, usually with anywhere from a 20 to 30 percent discount.

And even though not everyone who expresses interest in the program ends up signing a contract with the installer to buy solar panels, Virginia Solar United Neighborhoods Program Director Aaron Sutch says that co-ops also create a nonpartisan, educated constituency that will write their state representatives in support of fair solar policy (read more on page 16).

"We're not an environmental organization, per se — although everyone who works here is [an environmentalist]," Sutch says. "It's really interesting because you have these co-op info sessions, and you get folks that are sitting next to each other talking about solar that you know did not vote the same way in the election and probably would have a spat on Facebook."

Sutch sees the potential for an energy renaissance in the region.

"I think [solar power] is such an appropriate fit for Appalachia because there's this ethos of self-sufficiency, of using local resources, people working with their hands," Sutch says. "And renewable energy, specifically solar, is all of those things. ... Think of the success of the local food and the farmers' market movements. Renewable energy has the same potential to do that. It's local energy that benefits local people."

### A Bright Jobs Future

A January 2017 Department of Energy report shows 373,807 people employed by the solar industry nationwide, compared to 187,117 people in coal, oil and natural gas combined. Seeing an energy economy in transition, Tre' Sexton, owner of Bluegrass Solar in Whitesburg, Ky., says he wants to help put as many miners back to work as he can.

"We really have an emphasis on trying to soften the blow in Appalachia over to the renewables — we think it'd be more of a welcome change if it comes from our own initiative," Sexton says. "We don't have many employees, but of those that we do have, we try to hire as

continued on page 16

# The Rules of the SOLAR Game

By Molly Moore

Nothing is more free than the sun and the wind, right?

The answer is not as clear-cut as one might think, and is different from state to state and even within the same state, as utilities often set their own renewable energy policies.

The cost of both residential and utility-scale solar has fallen greatly in recent years and continues to decline. But renewable energy is still relatively young, and utilities large and small are often reluctant to adjust their established business models to accommodate significant investments in the technology.

To incentivize the switch to clean power, the federal government, individual states, investor-owned utilities, electric cooperatives and local governments have adopted a wide variety of policies. Some county or state rules prevent homeowners associations from restricting solar in neighborhoods. Other regulations limit the amount that a home renewable energy system contributes to property tax assessments, while still others provide tax incentives for companies that create jobs in fields like solar. And that's just the beginning.

Combined, these policies have a palpable impact on the ability of an individual or a state to transition from fossil fuels to renewables.

This is evident in Central and Southern Appalachia, a region that is home to both North Carolina, the state with the second-highest amount of installed

solar capacity in the nation, and to 47th-place West Virginia, with plenty of variation in between.

What sets states like North Carolina and ninth-place Georgia apart? It comes down to rules and regulations that help make solar a smart investment.

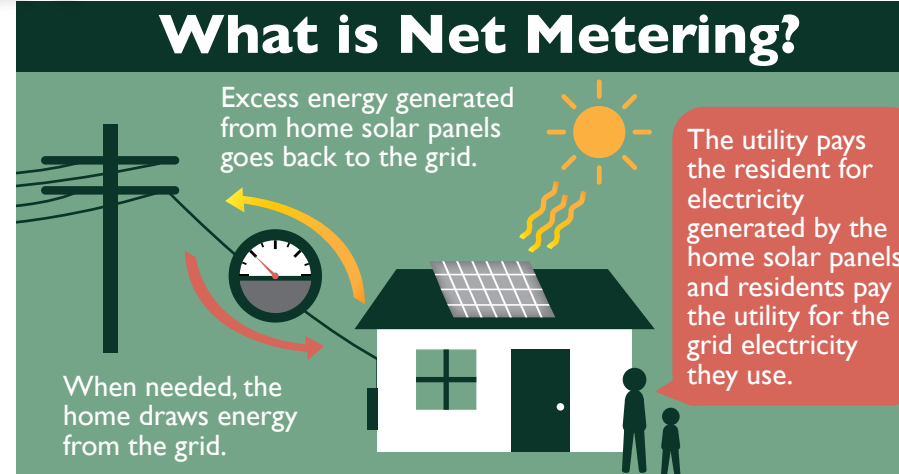
Solar Policy 101

Though there are a wide range of solar policies, only one — federal tax incentives — is available nationwide. All residential and commercial solar installations are eligible for a 30 percent tax credit until 2019, at which point the credit will begin declining until 2022, when the residential tax credit expires and the commercial credit holds steady at 10 percent.

Renewable energy portfolio standards are another crucial driver of solar growth, according to Georgetown University's Solar Institute. These state policies typically require electric utilities to generate a certain percentage of their power from renewable sources or solar in particular.

A 2007 law passed in North Carolina, for instance, requires that investor-owned utilities — namely Duke Energy — generate 12.5 percent of their electricity from renewable sources by 2021, with 0.2 percent of that coming from solar. The law also mandates that electric cooperatives and municipal utilities acquire 10 percent of their power from clean sources by 2018. In recent years, repeated efforts to overturn the renewable standards in the North Carolina legislature were unsuccessful.

Energy policies can either create a fair playing field, or stack the deck



Maryland has a similar rule, but requires 25 percent renewable energy by 2020 with 2.5 percent from solar. In fact, renewable standards are required in 29 states, including Ohio and Pennsylvania. Virginia and South Carolina are among the eight states with voluntary goals, while Alabama, Georgia, Kentucky, Tennessee and West Virginia have no such goal or mandate.

Much of these statewide goals is being achieved by large commercial and utility-scale solar arrays. But rooftop solar is making a dent, too. In 2006, less than one percent of all new electricity generation in the United States came from small-scale solar, according to data compiled by the Institute for Local Self Reliance, an advocacy organization. That figure grew to 12.4 percent by 2013 and was at 16 percent for the first three quarters of 2016.

Solar advocates often attribute the nationwide surge in small, distributed solar power in part to net metering, a policy

that gives homeowners who want to stay connected to the grid an opportunity to generate solar power. Depending on how a state or utility's net metering policy is structured, it can also help make residential solar a sound financial investment.

Mechanics of Net Metering

With net metering, residents can install solar panels on their property and directly use the electricity generated by those panels. When their solar panels produce more power than the home needs, a bi-directional electricity meter allows excess energy to flow back to the grid, and the utility pays the homeowner for that energy at an agreed-upon rate. And if the home needs more energy than the home system is currently providing, that bi-directional meter flows the other way and residents can pay the utility to use energy from the grid.

This arrangement makes it possible for homeowners to generate even just a

*continued on next page*

## Solar in Appalachia

*continued from previous page*

portion of their electricity from solar, and allows residents to rely on the grid for nighttime power.

Net metering is mandatory in 38 states, including most of Appalachia. The region's only exceptions are in Georgia, where utilities are allowed but not required to offer net metering, and areas served by the Tennessee Valley Authority, a federal utility that serves nearly all of Tennessee and portions of six surrounding states.

The growth of net metering, however, has been met with backlash from some utilities and industry associations. In 2012, David Owens, the executive vice president of the Edison Electric Institute, an influential utility interest group, gave a presentation that discussed how small-scale, distributed solar and the policies that support it — including renewable energy portfolio standards and net metering — represented a growing threat to utility profits.

In the years since, legislation to block net metering or make it more expensive for homeowners has been introduced in states across the country. This is particularly true in the Southeast, where utilities and solar advocates continue to spar over how net metering systems should be structured.

The central area of dispute involves the rates that residents pay for the electricity they use versus the rates that utilities pay residents for excess electricity generated by their home systems. Sometimes those rates are the same, and sometimes homeowners are paid less for the energy they produce than what they use from the grid. And some utilities also charge participants in net metering programs an added monthly fee.

In Virginia, utilities are required to offer customers 12 months of "retail rate" net metering, where the utility pays the same price for a home's excess electricity as the homeowner pays per kilowatt-hour from the grid. But after 12 months, the utility can negotiate a different agreement with the homeowner.

"This will likely be for a price that represents the utility's "avoided cost" of about 4.5 cents, rather than the retail rate, which for homeowners is about 12 cents,"

Ivy Main, renewable energy chair for the Virginia Sierra Club, wrote in a June 2017 blog post. "This effectively stops most people from installing larger systems than they can use themselves."

According to Lauren Bowen, a North Carolina attorney at nonprofit legal firm Southern Environmental Law Center, solar power — whether generated at commercial or residential scale — allows utilities and society at large to avoid the costs of air and water pollution and associated cleanup.

"In addition to the environmental benefits of solar power you also have benefits to the grid and customers of independent renewable companies — benefits like generating electricity closer to where it's needed, less electricity lost over the distribution transmission lines as its going from the point of generation to where it is needed," Bowen says. "Rooftop solar is particularly great for this."

Those benefits, solar advocates argue, should also be reflected in the amount utilities pay residents for their home-generated electricity.

Utilities and industry associations like Edison Electric Institute, on the other hand, have argued that customers with their own solar power buy less electricity from the grid and therefore are not paying an adequate amount to cover ongoing grid maintenance. Such groups have pushed for adding new monthly fees or renegotiating net metering arrangements so that power companies can pay homeowners less.

Changing Rates?

"We see these net-metering battles popping up across the country, and it's really important that at this stage of relatively low solar penetration that those net-metering policies are protected," says Alissa Jean Schafer, solar communications and policy manager with the Southern Alliance for Clean Energy, an advocacy organization.

In February 2017, a bill was introduced in Kentucky that would have grandfathered in existing net metering customers but opened the door for utilities to negotiate less favorable rates for new accounts. The bill did not advance during the legislative session, but could be reintroduced next year.

Environmental advocates also expect a proposal to surface during the commonwealth's upcoming General Assembly

session that would alter Virginia's current policy.

"Any changes to Virginia's net metering system that remove barriers to participation or reduce excess extra charges are welcomed, as long as they are not coupled with changes that lengthen the pay-back period for the average residential solar array," says Peter Anderson, Virginia program manager with Appalachian Voices, the publisher of this newspaper. "Without net metering, people would be faced with the challenges of going 'off the grid' in order to incorporate any home solar, and they would be deprived of the key revenue stream that helps pay off the cost of their systems."

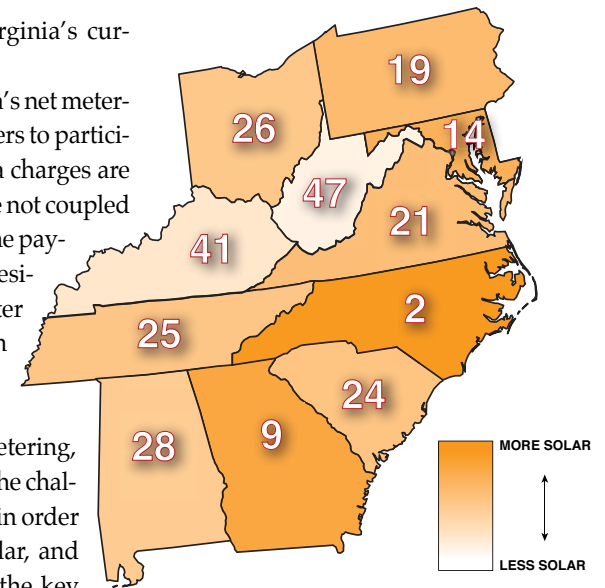
In North Carolina, the statute only requires investor-owned utilities — namely Duke Energy — to offer net metering. But some of the state's member-owned electric cooperatives also offer the program.

Blue Ridge Energy serves roughly 70,000 co-op members in the state's northwestern corner. In 2014 and 2015, when North Carolina offered a 35 percent state tax credit for investment in solar, Blue Ridge was signing up about 20 solar homes each year, according to Jason Lingle, the cooperative's manager of energy solutions.

In 2015, the state credit tax expired and Blue Ridge Energy introduced two new revised rate models. After that, the number of new rooftop solar systems per year dropped to between 10 and 15. The first plan has a fixed charge of \$36 per month, up from \$24, and pays the homeowner roughly 6.8 cents per kilowatt-hour for the excess energy they generate. The second plan offers a lower fixed charge — just \$2.91 per month — but offers just 5 cents per kilowatt-hour instead

Beginning in November 2016, residential and small commercial customers were offered the option to enroll in Blue Ridge's new community solar program, where subscribers purchase energy produced from the cooperative's four 368-panel solar arrays. Customers can buy the output from up to 10 solar panels for a monthly fee, and opt to be reimbursed using one of the two rate models.

Whenever a co-op member expresses interest in rooftop or community solar, Lingle talks with them about the amount of electricity they typically use to deter-



mine which model would benefit them.

"One method is strictly going to be as more of a solar participant, so you're actually not going to have any savings from it if you're a low user of electricity," Lingle says. "But a higher user of electricity [is] going to save money from the program. And actually we have most people kind of in that average kilowatt-hour range and above actually saving money with the program."

Following the North Carolina legislature's passage of energy-related House Bill 589 over the summer, the two-thirds of the state served by Duke Energy may also see changes to their net metering program. The new law requires public utilities to file for revised net metering rates with the state utilities commission.

The bill addresses a wide array of solar policies, including changing how commercial-scale solar developers procure contracts with Duke Energy. Before, solar developers were guaranteed a standard contract with Duke for certain types of solar systems, but now they will undergo a competitive bidding process to contract with Duke. The law also commits Duke to purchasing 2.6 gigawatts of solar power through that bidding process over 45 months and establishes a residential solar leasing program.

The bill was met with mixed reaction from environmental groups. Jim Warren, executive director of climate justice organization NC WARN, expressed concern that Duke "would attack rooftop solar by adding more fees on customers and lowering net metering payments." Rory McIlmoil of Appalachian Voices pointed out that since municipal utilities and electric cooperatives are exempt from the

## Unique Solar Applications

By Otto Solberg

Although solar fields generate large amounts of renewable energy, the ground underneath is commonly planted with turf grasses that do not effectively drain rainwater and require carbon-wasting maintenance. These innovative applications of solar energy are minimizing those negative impacts and creating more benefits for incorporating solar.

**Sun-Raised Sheep:** To maintain the land under solar fields and keep plants from shading the panels, sheep may be the animals for the job. Sun-Raised Farms is a North Carolina collective of farmers who use sheep to graze grass and weeds around solar fields to prevent the need for mowers or pesticides. The technique will also be employed at a solar farm being built by Secure Futures and Sun

Tribe Solar in Virginia's New River Valley.

**Double Cropping:** The Piedmont Bio-farm in Pittsboro, N.C., is proving that solar fields can co-exist with productive farmlands. By raising panels higher and spacing them out, they can create shade for crops without completely blocking the sunlight. The shade can help cool-weather crops like lettuce and arugula as global temperatures increase and can protect sensitive plants like tomatoes from rain.

**Pollinator-Friendly Solar:** Maryland followed Minnesota to become one of the first states to pass pollinator-friendly legislation for solar facilities. Planting native grasses and flowers instead of turf fields can provide healthy habitats for butterflies and struggling bee populations, while requiring less maintenance and allowing better water infiltration



for the soil.

**Runway Electricity:** Chattanooga Airport took advantage of the otherwise unused grass fields around their runways to add nearly 7,500 solar panels across 7.5 acres. This Tennessee solar farm is cutting the airport's power expenses by up to 85 percent and airport officials say they are looking to expand the solar array.

**Solar Canopies:** In Hagerstown, Md., Volvo Group recognized their large parking

lots as an opportunity to install over 5,000 solar panels. The solar canopy above the lot provides 10 to 15 percent of the energy the manufacturer requires, while also shading the parking lot and providing charging stations for electric cars.

**In Plain Sight:** Cities and college campuses are implementing solar trash compactors, park benches and bus stops into public spaces. Trash compactors reduce collection trips by approximately 80 percent while solar benches and bus stops provide free charging stations in convenient public spaces.

**Solar Medical Care:** A nonprofit organization, Clinic-in-a-Can, outfits shipping containers with medical equipment and solar panels to create self-sufficient and easily transportable clinics for areas where traditional hospitals are impractical. Two were deployed to Houston to help with disaster relief after Hurricane Harvey.



# College Solar Vehicle Teams Drive Sustainable Transport Forward in Region

By Carl Blankenship

Solar car racing takes motorsport, a sport associated with mass burning of fossil fuels, and turns it into an engine to advance sustainable transportation.

Every year there are several major collegiate solar races in the United States, and some universities in Appalachia participate.

Schools entered in the races have to develop their own vehicles for endurance races within competition regulations. The vehicles are powered by electric motors fueled by a combination of solar panels and batteries.

Two of the major collegiate American races are the American Solar Challenge and the Formula Sun Grand Prix, which are organized by the Innovators Educational Foundation, a nonprofit group.

The American Solar Challenge is a cross-country race that ranges from 1,500 to 2,000 miles, and the Formula Sun Grand Prix is a three-day track race.

## Appalachian State

Appalachian State University's Team Sunergy and their vehicle Apperion placed second out of 18 teams, behind

the University of California, Berkeley, at the 2017 Formula Sun Grand Prix in July.

Cofounder and Project Director Dan Blakeley says the vehicle typically runs at about 45 mph on the track and can run entirely on solar power in optimal conditions.

The team, based in Boone, N.C., finished third in last year's Formula Sun Grand Prix.

"I think there was, not a lot of direct pressure, but a bit of pressure to show it wasn't a fluke," Blakeley says.

Blakeley said if it were not for some reliability issues with the vehicle, the team likely would have been able to make up the laps they needed to finish first.

Team Sunergy was founded in fall of 2013. Blakeley says a solar car team is a perfect fit for Appalachian State given North Carolina's reputation as the home of American racing and the university's reputation for sustainable technology.

Apperion is being retired and re-



Appalachian State University's Team Sunergy and their vehicle Apperion won silver in the Formula Sun Grand Prix. Photo courtesy of Team Sunergy

placed with a new vehicle that will compete in the newly created cruiser class, which requires the vehicles to carry two occupants instead of one. Three-wheeled vehicles like Apperion also will no longer meet regulation requirements in its class.

## University of Kentucky

The University of Kentucky Solar Car Team from Lexington finished seventh at this year's Formula Sun Grand Prix.

The team's outgoing car, Gato del

Sol V, is a three-wheeled vehicle that, like the one at Appalachian State, will be replaced with a new four-wheeled car. The car runs at about 35 mph on the track.

Monon Rahman, the team's media lead, says that when the team started working on Gato del Sol V in 2014, they had to relearn building a solar vehicle from scratch, due to the loss of key team members.

The team's finish in the Formula Sun Grand Prix this year was its best.

Rahman said the addition of the more consumer-oriented cruiser vehicle class is pushing the competition designs toward being consumer-friendly.

"It's probably going to take a little bit of time for solar cars to be a full consumer product, just because the technology is a little more expensive than what's viable," Rahman says. "That being said, the competition itself is kind of going in that direction." ♦

## Solar in Appalachia

continued from page 13

many out-of-work miners and people in the coal industry and truck drivers as we can."

Sexton's company made headlines nationwide when it installed a solar array on the roof of the Kentucky Coal Museum in Benham, Ky. (see page 17). He isn't alone in his efforts to revitalize Appalachia's energy economy.

Adam Warren is president of solar installation enterprise Rewire Appalachia and construction enterprise Revitalize Appalachia, two of the seven social enterprises run by workforce development organization Coalfield Development Corporation. The organization describes a social enterprise on their website as "a business that combines the compassion of the non-profit sector with the efficiency of the for-profit sector."

Warren says the same skillset that led to Appalachia leading the country in energy production for the last hundred

years can transfer to different forms of energy.

"All of our enterprises start with 'Re.' That's because we're not trying to start something new, we're redoing something that was already here," Warren says. "We're just retraining the people in this area to see that they have skills that translate elsewhere. And so it brings back some of that hope and gets rid of the hopelessness in the area, and they see that there is a future here — you just have to make it for yourself."

All of the crew members employed by Rewire Appalachia and the other social enterprises at Coalfield Development follow what the organization calls a 33-6-3 workforce development model. It entails 33 hours per week of paid labor, six hours of courses at a local community college toward an applied science or technical studies degree paid through financial aid and Coalfield Development, and three hours of life skills training like money management. After Coalfield Development graduates complete the roughly two-year program, they have

both experience in the field and an associate's degree.

"There's so many talented people in the area, but those people have only done one industry for so many years," Warren says. "Appalachians have always been good at building things and making stuff. So why not take those skills and turn them into a potentially good entrepreneurial opportunity and create other small businesses or subcontractors?"

At Mountain Empire Community College in Big Stone Gap, Va., students can take a class on solar power as part of an associate's degree in energy technology. In 2015, students developed the SPARC-E trailer, which stands for Solar Powered Alternative Renewable Clean Energy. Dean of Applied Science and Technology Tommy Clements describes it as a mobile showcase that produces power for events while educating people about solar power and how energy efficiency upgrades to their home can save on electric bills.

In a Sept. 13 Solarize Wise press release, Mountain Empire instructor

Roger Greene said he hopes "as solar power [becomes] a viable option for employment in our area, we will already have an educated workforce capable of filling the need for professional installers. On the front end, I see projects like SPARC-E and Solarize Wise as the needed impetus for providing the public with access and a more clear understanding of solar power."

According to Autumn Long with WV SUN, many of the abandoned strip mines and former industrial sites in West Virginia have the potential to become commercial-scale solar farms. Appalachia, she says, is "just seeing the very beginning of this exciting and significant shift in how energy gets produced and consumed."

"I think my colleagues and other organizations and solar installers here in Appalachia are really forward-thinking and working really hard to develop the renewable energy industry in Appalachia," Long says. "And there's so much room for growth and so much potential for that, we really have nowhere to go but up." ♦

# Former Coal Company Town Integrates Energy Efficiency and Solar

By Dan Radmacher

Powering a coal museum with solar panels is the kind of news story that attracts attention, as the city of Benham, Ky., discovered.

"It's put us on the map internationally," says former Benham Power Board chairman Roy Silver of the decision to install solar panels on top of the Kentucky Coal Museum, which used to be the town's company store.

Benham was a classic Appalachian coal company town, owned by International Harvester until the early 1960s when the company sold its interests in the city, selling houses to residents and other buildings to the newly incorporated government.

The Benham Power Board was established in 1961 as a municipally owned electric utility that functions as a semi-autonomous entity of the city. Its members are appointed by city council. In recent years, the board's efforts to reduce costs, enhance efficiency and increase the city's renewable energy mix have made news.

In 2015, the power board launched Benham\$aves, a program to improve the energy efficiency of local homes. The program will help residents add insulation to the coal camp homes that were built without regard to heating costs, upgrade heating and air-conditioning units, add water heater blankets and take other efficiency steps. The average cost to upgrade each home is around \$10,000. The pilot homeowner in the program saw her winter heating bills drop from nearly \$600 a month to less than \$300.

About two dozen houses in Benham have qualified for the program, says board member Carl Shoupe, but secur-

ing funding to upgrade the homes has proven difficult. Still, the owners of the handful of homes that have been worked on are very pleased, Shoupe says.

"They're just tickled to death, happy as they can be," he says. "Everybody's just wishing we could get more money."

But it is the recent solar power project that really put Benham on the map, Silver says, spurring national and international news coverage with the oddity of a solar-powered coal museum.

And it isn't just the coal museum benefiting from the solar array. The 80 solar panels on the roof of the museum will also help reduce electric bills for city offices, utilities and the nearby Schoolhouse Inn, a former high school converted to a hotel.

This is just phase one of the project, according to Stanley Conn, an energy consultant who has been working with the power board for several years. The board is looking for other locations for solar panels, and when the project is complete, it should provide 20 percent of the summer peak energy load. All told, the project will generate 300,000 kilowatts of power a year. The project is being fully funded by philanthropic donations through the Kentucky Community Development Corporation. "The biggest customers are the Schoolhouse Inn, which is owned by the county; the coal museum, which is owned by the Southeast Kentucky Community and Technical College; and the



The Kentucky Coal Museum's solar array was installed in April 2017. Photo by Bluegrass Solar

city sewer and water plants," Conn says. "The project is designed to help out with those loads. Keeping those entities financially viable helps the overall population in the system."

The power board has run into a snag finding a location for the next phase. The best land identified — Coal Miners Memorial Park on Benham's Main Street — is owned by Acin, an Arch Coal subsidiary. The board asked Acin for an easement, but the company refused unless a group of Benham residents (including Shoupe and Silver) drop a petition filed several

years back to declare some of the mountains surrounding Benham and nearby Lynch as unsuitable for mining.

Silver says dropping the petition isn't an option. "Benham and Lynch are both on the National Historic Register," he says. "We want to protect the viewshed, and protect our water sources. Acin is just exercising the power that coal companies have had over our region for generations. The feeling is they are being petty and inhibiting progress."

Still, Conn expects the project to be fully installed by the end of the year. When combined with a contract to purchase power from Cumberland River hydropower facilities, Conn says 40 percent of Benham's summer peak energy load will be from renewables.

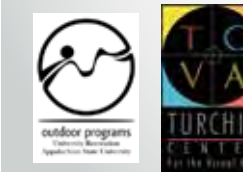
"Benham is full of natural resources," Conn says. "The goal is to leverage what we can for the benefit of the people who live there." ♦

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# Pipelines Face Continued Challenges

By Elizabeth E. Payne

As energy companies push for rushed decisions on their proposed natural gas pipeline projects, challenges raised by citizen and environmental groups are gaining momentum.

On Sept. 7, ranking executives from Dominion Energy, Duke Energy and Southern Company Gas — the companies behind the proposed Atlantic Coast Pipeline — urged the Federal Energy Regulatory Commission to approve this pipeline that would stretch from West Virginia across Virginia and into North Carolina “at the earliest possible time.”

This request was made less than two weeks after a federal appeals court ruled that FERC had not adequately considered the impact of burning natural gas on the climate when it approved a southeastern pipeline project that includes the Sabal Trail Pipeline. The federal agency must redo its environmental impact statement, though the pipeline has been carrying gas since June 14, according to InsideClimate News.

It is unclear what, if any, impact this ruling will have on FERC’s approval process in the future.

Appalachian Mountain Advocates, a legal advocacy group, has challenged the Special Use Permit for the Atlantic Coast Pipeline’s proposed compressor

station in Buckingham County, Va. The action was based on the county’s zoning laws and filed on behalf of a farmer whose land would be affected.

Meanwhile, North Carolina Gov. Roy Cooper delayed a decision about whether or not to issue water permits for the pipeline until mid-December.

Challenges to the Mountain Valley Pipeline are also moving forward. If approved the project would span 300 miles across West Virginia and Virginia.

On Sept. 7, the West Virginia Department of Environmental Protection withdrew the water permits it had issued to the Mountain Valley Pipeline project in March 2017 in order to “reevaluate” the project’s application.

Pipeline projects need state water permits under the federal Clean Water Act before they can begin construction, but they are not required to have them before FERC decides whether or not to approve a project.

On Sept. 15, commissioners in Fayette County, W.Va., decided to delay a decision about rezoning land for a compressor station for the MVP until the state reissued water quality permits.

FERC could make its decision about the Mountain Valley Pipeline at any time and could issue a permit for the Atlantic Coast Pipeline as early as Oct. 19.

## Court Prevents County From Banning Fracking Wastewater

On Aug. 30, a federal appeals court upheld a lower court’s decision to block Fayette County, W.Va., from banning the disposal of fracking waste in the county.

Ruling that the disposal of wastes from drilling for natural gas was governed by the state’s Oil and Gas Act, two of the court’s three judges decided that the county did not have the authority to ban such disposal

within its boundaries. The county sought to ban the material because of health risks associated with the carcinogens and heavy metals contained in the fracking wastewater.

According to the Charleston Gazette-Mail, the judges agree that the county could bring additional lawsuits for specific sites where negative effects “actually materialize.” — Elizabeth E. Payne

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# Rapids Drive Tourism

Continued from page 6

According to Bradley, project purposes are a list of priorities that describe why that particular site exists — these motives are weighed against each other. Flannagan Dam was originally built for flood control. However, as time passed, other project purposes were added. It now serves as a municipal water source, provides fish and wildlife habitat and a place for flat water recreation such as boating and fishing.

So the next step in the process is to get downstream whitewater recreation added as a project purpose.

Bradley says until they can get that done, the Army Corps is not authorized to consider whitewater recreation in the dam’s day-to-day operations. The Corps suggested a preliminary study be done to see if a larger feasibility study for more releases from the Flannagan Dam was warranted.

The initial study investigated whether extra releases would impact the ecology of the river and the surrounding environment. The goal was to determine if there were any factors that would immediately rule out the proposed change before undertaking the expense of a larger study.

That preliminary study concluded in March 2017 without finding any obvious factors that would indicate a negative impact associated with adding downstream whitewater recreation as a project purpose for Flannagan Dam. According to Bradley, this outcome means that a full-scale feasibility study can go forward.

Currently, that broader feasibility study is on hold because of funding. Half of the funding for the study will come from federal sources, but the stakeholders must supply the other half through support from foundations, state legislatures or other sources. A definite figure for how much it will cost has not been determined yet.

Once that larger study is conducted — and if it produces a positive result — the Corps could officially consider downstream whitewater recreation a project purpose for Flannagan Dam.

## An Economic Engine

Jason Foley owns Kentucky White-water based in Lexington, Ky., one of



Photo by Sarah Ruhlen, Catalyst Photography

the commercial outfits that leads trips down the river during the dam releases. He says he has seen a lot of support for adding more dam releases.

While Foley is a business owner with a stake in this project, Bradley described the others involved as a loose collective of whitewater enthusiasts and individuals involved with regional tourism efforts.

“There are those who are passionate about seeing this happen due to the fact that they want more releases for personal use and those who would like to see the impact on the local economy,” Bradley says. He explains that especially rafters who book commercial trips typically also book hotel stays, eat at local restaurants, see plays, go on other tours and take part in other local cultural experiences.

According to Bradley, Breaks Interstate Park is working alongside portions of Eastern Kentucky and Southwest Virginia to build a reputation as an adventure tourism destination, and the extra releases will assist in that effort.

Foley describes these releases as “just a small piece of the puzzle.” He says these releases will definitely help, but they aren’t the silver bullet to save a city or county or solve any one problem.

So will these processes ever come to fruition? Foley says yes.

“I’ll say this, I’ve been apathetic at many times over the years, really apathetic at times, ready to quit,” Foley says. “I’ve never been more optimistic right now that I think they’ll happen. It’s not going to happen on anybody’s time table, it’s going to happen the way the government works — in slow motion, with each gear grinding at its own pace. I do see, in the not super distant future, additional releases happening here. That’s one of the things that’s continued to drive me on this.” ♦

# West Virginia Governor Shows Allegiance to Coal

Justice proposes coal subsidies while his companies amass fines and violations

By Erin Savage

West Virginia Gov. Jim Justice, who recently switched his affiliation from the Democratic to the Republican party, is pushing President Trump to subsidize coal-fired power plants to purchase Appalachian coal at a rate of \$15 per ton. He argues that the United States has become too reliant on natural gas, which has been out-competing coal on a regular basis for the last few years.

“Can you imagine what would happen if we lost the power in the East for a month, or two months, or three months?” Justice asked in a Bloomberg News interview. “It would be like a nuclear blast went off. You would lose hundreds of thousands of people. It would be just absolute chaos beyond belief.”

Many conservatives aren’t buying Justice’s plan. “Like corporate welfare queens everywhere, Justice pitches his plea for taxpayer bailouts in terms of jobs,” the conservative think tank Cato Institute said of the plan. “Yet Governor Justice’s proposal ... would simply prolong the dying of an industry that has been declining for years, because West

Virginia coal is increasingly expensive and difficult to mine, in the face of national and international competition.”

In 2014, NPR published an in-depth report on fines owed by Justice’s mining companies. At the time, the companies owed nearly \$2 million in fines and had more than four times the number of overdue fines than the next most-delinquent mine operator. Justice himself is the state’s sole billionaire.

The fines were largely due to the thousands of safety violations that Justice’s companies accumulated over the period covered in the NPR investigation, including 1,300 classified as likely to cause injury or illness, and more than 500 that are common in mine disasters.

A follow-up investigation in 2016 showed that Justice owed \$15 million in taxes and fines across six states, including \$1.38 million in new and unpaid mine safety penalties.

Justice’s companies’ violations cover environmental and administrative issues. One of the companies, A&G Coal Corp., has outstanding violations at a minimum of 10 mines in Virginia. The violations involve a wide range of

issues, including failure to pay fees and mine maintenance and planning. Justice-owned mines in Tennessee have accumulated 15 violations across eight mines in the past three years.

Lately, Justice’s companies seem to be going on the offensive to balance their books. Three companies associated with Justice are claiming to have paid excessive taxes in Wise County, Va. A&G Coal, Virginia Fuel Corp. and Nine Mile Mining filed a civil lawsuit alleging overbilling and incorrect tax assessment over the past three years and demanding more than \$500,000 from the county, which has lost significant tax revenue in recent years due to the decline in active mining and in total population.

The companies allege that the overbilling arose from fees incorrectly assessed for mining machinery that has been idled, which occurs when the price for coal declines and companies choose to idle a mine until market conditions become more favorable.

Justice’s companies in Kentucky



Wikimedia Commons photo

are taking an even more aggressive approach. Kentucky Fuel Corp. is suing two officials from the Kentucky Department of Natural Resources after the agency attempted to collect millions of dollars in unpaid fines.

“These lawsuits appear to be an attempt to intimidate public officials from performing their statutory duties to enforce coal mine reclamation laws,” John Mura, spokesperson for the Kentucky Energy and Environment Cabinet, said in a statement emailed to ThinkProgress. “The legal actions are entirely without merit and will be vigorously defended to protect our state government officials who devote their careers to safeguarding the land and the health of Kentucky citizens.”

# Regional Coal Ash News: Toxic Cleanup, Legal Woes and EPA Changes

By Elizabeth E. Payne

After years of denying that coal ash, a toxic byproduct of burning coal for electricity, carried any associated health risks, the Tennessee Valley Authority began posting warning signs at its Kingston Fossil Fuel Plant in Roane County, Tenn., according to the USA Today Network - Tennessee.

More than two dozen workers who helped clean up the December 2008 TVA coal ash disaster have died, and surviving workers and family members are suing the company that managed the cleanup because the workers were not provided any

safety gear while handling this substance known to contain carcinogens and heavy metals such as arsenic, mercury and lead.

A TVA spokesperson told the news agency that the new health warning applies only to work done indoors and would not be necessary for clean up work done outside.

Duke Energy is also facing legal trouble related to coal ash. The utility withheld dam safety information from communities in Indiana, Kentucky and North Carolina, according to lawyers representing environmental and community groups including Appalachian Voices, the publisher of this paper. After the groups threatened legal

action, Duke changed course and agreed to publish the information.

The utility is required by federal law to provide emergency action plans for any of its coal ash storage ponds where a failure in a dam could result in result in loss of human life or serious environmental impact.

According to documents made public by legal advocacy groups Earthjustice and the Southern Environmental Law Center, Duke Energy had originally blackened out maps of the areas that would be impacted and information about how to contact emergency responders.

And the U.S. Environmental Protec-

tion Agency retracted a 30-day extension for public comment on its guidelines for handling coal ash. After issuing the draft document on Aug. 15, the EPA’s original public comment period was scheduled to last until Sept. 14. On behalf of 50 public interest groups including Appalachian Voices, Earthjustice lawyer Lisa Evans requested and was granted an additional 30 days for submitting public comments.

According to Evans, the EPA contacted her just four hours before the initial deadline on Sept. 14 and retracted the extension without explanation or warning.

The retraction is being challenged in order to allow for public participation in the process.

115 <sup>TH</sup> CONGRESS: Below are recent congressional bills and amendments on environmental issues and how central and southern Appalachian representatives voted. To see other recent votes, or for congressional representatives outside of the five-state area, visit congress.gov. <span style="color: green;">●</span> = pro-environment vote <span style="color: red;">✗</span> = anti-environment vote <span style="color: grey;">NV</span> = no vote	Kentucky		Tennessee			North Carolina		Virginia		West Virginia					
	T. Massie (R) KY-04	H. Rogers (R) KY-05	A. Barr (R) KY-06	P. Roe (R) TN-01	J. Duncan (R) TN-02	F. Fleischman (R) TN-03	S. Desjardais (R) TN-04	V. Foxx (R) NC-05	P. McHenry (R) NC-10	M. Meadows (R) NC-11	T. Garrett (R) VA-05	B. Goodlatte (R) VA-06	M. Griffith (R) VA-09	D. McKinley (R) WV-01	A. Mooney (R) WV-02
<b>H.Amdt. 347 to H.R. 3354</b> , the Department of the Interior, Environment, and Related Agencies Appropriations Act, would strike a provision that delays implementation of the ozone/smog standards finalized in 2015. <b>AYES 194 NOES 218 NV 21 ... FAILED</b>	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	NV	✗	✗	✗	✗
<b>H.Amdt. 371 to H.R. 3354</b> would prohibit the use of funds to pursue any extra-legal ways to transfer federal lands to private owners in violation of existing law. <b>AYES 198 NOES 212 NV 23 ... FAILED</b>	✗	✗	✗	NV	✗	✗	✗	✗	✗	✗	NV	✗	✗	✗	✗
<b>H.Amdt. 368 to H.R. 3354</b> would prohibit funds for enforcing the Obama Administration’s EPA methane rule. <b>AYES 218 NOES 195 NV 20 ... PASSED</b>	✗	✗	✗	NV	✗	✗	✗	✗	✗	✗	NV	✗	✗	✗	✗

## White House Halts Review of Mountaintop Removal Health Impacts

By Erin Savage

On Aug. 18, the U.S. Department of the Interior sent a letter to the National Academy of Sciences ordering it to halt its review of the links between mountaintop removal coal mining and human health impacts.

In 2016, the department's Office of Surface Mining Reclamation and Enforcement had commissioned the academy to complete the two-year review, providing a budget of \$1 million. The review came at the request of the West Virginia Department of Environmental Protection, which was under pressure from West Virginia citizens concerned with the growing body of research pointing to negative health

impacts strongly linked to living near surface coal mines.

According to a statement by the academy, the letter from the Interior Department indicated that "the Department has begun an agency-wide review of its grants and cooperative agreements in excess of \$100,000, largely as a result of the Department's changing budget situation." The letter ordered the National Academy of Sciences to cease all work on the study, with the exception of the August 21-23 meetings in Kentucky, which were already underway.

The order for the review came in an April 2017 memorandum from Interior Secretary Ryan Zinke. In May,

the ranking Democrats on the House Natural Resources Committee, Raul Grijalva and Donald McEachin, sent a letter to Interior Secretary Ryan Zinke questioning the rationale and legality of the funding review.

The former head of OSMRE, Joseph Pizarchik, expressed his displeasure after the NAS review was abruptly put on hold. "The American people need to know whether living close to a coal mine is killing them," Pizarchik told S&P Global. "The economic viability of the coal industry is dependent upon whether or not the industry is incurring liability for the health and lives of the American people."

The Charleston Gazette-Mail re-

ported that of the eight National Academies studies being funded by the Dept. of the Interior, the mountaintop removal health review is the only one that has been put on hold. The review is nearly halfway into its 24-month timeframe and its \$1 million budget represents less than 1 percent of the department's current spending on grants.

It is not possible to say what the outcome of the review would be should it be allowed to continue, though a large amount of research points to strong connections between mountaintop removal and a multitude of health issues.

According to the Charleston Gazette-Mail, various coal companies have funded efforts to discredit this research.

## Opposition to Proposed Tennessee Mountaintop Removal Mine

By Willie Dodson

Kopper Glo Mining — a company that was issued at least 17 notices of violation over the past three years — is moving forward with a nearly 1,500-acre mountaintop removal coal mine on Cooper Ridge in Claiborne County, Tenn.

The proposed mine site lies in the Clear Fork Valley near the Tackett Creek Wildlife Management Area. The permit boundary sits a half-mile behind Clairfield Elementary School, presenting health and safety concerns for students and teachers. The mine also surrounds the historic and still-in-use Hatfield Cemetery.

Kopper Glo cleared initial regulatory hurdles this past spring. Now the company is seeking a Phase II permit required under the Clean Water Act for discharging pollutants into public waterways. The second phase allows the company to release higher levels of pollutants than allowable under the Phase I permit.

Opponents of the mine — including Appalachian Voices, the publisher of this paper — have stated that by issuing two separate phases of pollution permits, the Tennessee Department of Environment and Conservation is unable to account for the mine's full impact. On Sept. 20, TDEC held a public hearing in

Caryville, Tenn., regarding the Phase II permit. More than 20 people attended, with 14 speaking against the granting the permit and none in favor.

Tonia Brookman was among the attendees who spoke to TDEC officials. She noted that over 21 years of working in the Clairfield area, she has seen the negative impacts of logging and strip mining.

"People talk about how they once were able to collect water from the rivers and the springs but can no longer; they talk about what it was like to fish and swim in the rivers but no longer," Brookman stated. "I have heard so many times that the land and water will be put back the way they found it or even better, but what I have seen are mountains that are no longer and the hardwood forest become scrubby pine."

## Trump Administration Delays Water Safety Rule

On Sept. 13, the U.S. Environmental Protection Agency announced that it would side with electric utilities by postponing the implementation of portions of a water safety rule by two years while it reconsiders the regulations.

The 2015 Obama-era rule, which established limits on wastewater pollution from coal-fired power plants, was set to take effect in 2018. The water pollution standards would have prevented power plants from annually releasing

Other speakers asked regulators to consider the cumulative water quality impacts of this mine when compounded with existing and proposed mines in the Clear Fork watershed, and expressed concern about the characterisation of this operation as a "re-mining" project that would reclaim and improve previously mined areas, when only one-third of the permitted area has been impacted by older strip mines.

"All the advocates for our mountains were quite well-grounded, both morally and factually," says Jim Steitz, who traveled from Gatlinburg, Tenn., to attend the hearing. He noted that while the economy in his area is built around mountain tourism, residents of Claiborne County were being asked to sacrifice their mountains and their health.

1.4 billion pounds of heavy metals such as arsenic, mercury and lead, which are linked to increased rates of heart disease, cancer and stroke.

Environmental groups sued the EPA after it tried to delay implementation of the rule in April and will sue over this action too, according to the Washington Post. While the rule is being litigated, less protective standards from 1982 will remain in effect. — Elizabeth E. Payne

## Duke Energy Seeks Another Rate Hike for North Carolina Customers

By Elizabeth E. Payne

Less than three months after asking for a rate hike for one of its subsidiaries, Duke Energy is now asking that customers of another subsidiary pay more, as well. In a statement issued on Aug. 25, the utility justified the need for the rate hike because of its "work to modernize power plants and generate cleaner electricity, responsibly manage coal ash and improve reliability."

But the request would also shift onto customers the cost of cleaning up millions of tons of toxic coal ash while continuing to ensure profits for shareholders.

Cleaning up coal ash from the unlined water-filled pits in which it is

stored is mandated by both state and federal law, and the cost is projected to exceed \$5 billion. According to the Charlotte Observer, the company indicated that cleanup costs accounted for "more than half" of the proposed rate hike.

In June, Duke Energy Progress requested permission from the North Carolina Utilities Commission to increase the rates for its residential customers in its service area in the central and eastern part of the state and in Asheville by 16.7 percent. Non-residential customers would also see an increase. If approved, the increase would go into effect at the start of the new year.

In the request made in late August,

Duke Energy Carolinas, a subsidiary serving central and western North Carolina, also asked the commission to approve a 16.7 percent rate hike for its residential customers, with slightly lower increases applying to its non-residential consumers, to go into effect in the spring.

The rate hike also includes the utility's request for \$636 million dollars, to be collected from ratepayers over 12 years, to recover the costs sunk into a nuclear site in South Carolina that it canceled in August before construction began.

Much of the requested increase would be gained by nearly doubling the "fixed cost" the utilities charge for

merely connecting to the grid from \$11.13 to \$19.50, a change that would disproportionately impact low-income residents and discourage investments in energy efficiency.

According to the utility's filing, the increase is needed because current rates cannot meet operating costs "and also provide its investors with reasonable returns on their investments of needed capital."

Residents wishing to voice concern about the rate hike can attend one of the public hearings being held across the state through mid-October or send comments directly to the state utility commission. For more information, visit [appvoices.org/tell\\_duke\\_no\\_rate\\_hike](http://appvoices.org/tell_duke_no_rate_hike).

## TVA Looks for More Exemptions From National Environmental Policy Act

By Elizabeth E. Payne

Since 1970, the National Environmental Policy Act has required that federal agencies consider the environmental impact of their actions in their decision making. The federally owned Tennessee Valley Authority adopted its procedures for adhering to NEPA in 1978, but is now looking to change the degree of public environmental review for some of its actions

Under the environmental law, TVA must prepare an environmental assessment for most projects to determine what the potential environmental effects could be. If those effects could be significant, the utility must issue an environmental impact statement and provide opportunities for public involvement.

Categorical exclusions are issued for actions that are not considered to have a significant environmental impact. Neither environmental studies nor public involvement is required for these projects.

In June, TVA announced its intention to change its NEPA policy to "more accurately reflect [its] mission, the evolving energy industry and modern communication methods." If enacted, the number of actions eligible for cat-

egorical exclusions would increase from 19 to 50, according to the Chattanooga Pulse.

"While some [of the proposed exclusions] make sense, a number are concerning to us," Jonathan Levenshus of the Sierra Club told the Knoxville News Sentinel.

In particular, Levenshus pointed to an exclusion TVA has requested for its rate design.

The Southern Alliance for Clean Energy, an environmental advocacy group, also challenged this proposed exclusion, noting in a statement that "the regional utility is working behind the scenes to change its electric rates to discourage customer investment in energy saving technologies in general, and solar power in particular."

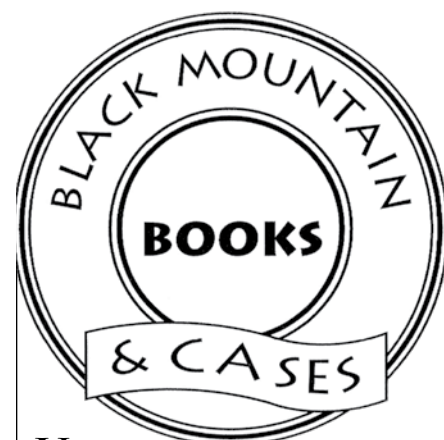
Other proposed exclusions include actions to manage invasive species or change the mix of species in areas less than 125 acres. Such activities could include chemical applications, mechanical species removal or prescribed burns.

The public comment period for the proposed changes ended on Sept. 6. TVA will now review the public comments and potentially make changes, confer with the White House Council on Environmental Quality and issue its final version of its NEPA policy.

## Pattern of Violations at Alpha's Middle Ridge Mine

The West Virginia Department of Environmental Protection ordered Republic Energy, a subsidiary of Alpha Natural Resources, to "show cause" for why it should be allowed to continue operating Middle Ridge Mine after a third violation of the same type was issued

at this coal mine within a year. The mine has been issued four additional violations since July 2016. According to local citizens' group Coal River Mountain Watch, Alpha has requested a hearing and CRMW has requested to intervene. — Elizabeth E. Payne



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# Making Plans for 2018

In August, all 31 members of the Appalachian Voices team gathered at Natural Tunnel State Park in Southwest Virginia for our annual retreat to discuss plans and goals for 2018 and beyond. In our 20th year and stronger than ever, the gathering allows team members from different states to collaborate and refresh our sense of purpose.



A major goal for our North Carolina team is to end unlined storage of coal ash by 2050 by securing policies that prevent cap-in-place — which simply covers coal ash ponds where they are — and increase the recycling of coal ash by 2019. We also plan to pressure state and federal officials to prevent construction of the Atlantic Coast Pipeline and promote clean energy and sustainable economies in the state.

In Tennessee and North Carolina, our Energy Savings team is continuing to work with rural electric co-ops to develop new, innovative member programs. One of these is on-bill financing, which allows co-op members to make energy efficiency improvements to their homes, repay the utility over time and still save money on their electric bills.

Our Virginia team outlined their strategy to defeat the Mountain Valley and Atlantic Coast Pipelines through legislator pressure, litigation, regulations and by helping to grow the grassroots movement against these dangerous projects. We are also working to bring major investments in solar, wind and energy efficiency

## Fighting Duke Rate Hike

As Duke Energy tries to hike residential customer rates by 16.7 percent, we're pushing to prevent the burden of cleaning up millions of tons of toxic coal ash from being foisted onto the residents of North Carolina while the company continues to ensure profits for its shareholders.

Working with our community partners and allies, we're organizing to drive attendance at the public hearings being held through mid-October. And we're also urging people to voice their concerns to the North Carolina Utilities Commission, which has the authority to grant or deny Duke's requested rate hike.

As currently written, much of the increase to ratepayers will come by nearly doubling the flat service fee, a move that will place a heavy burden on fixed- and low-income families and discourage investment in energy efficiency.

For more information, visit [appvoices.org/tell\\_duke\\_no\\_rate\\_hike](http://appvoices.org/tell_duke_no_rate_hike)

to the commonwealth.

Our New Economy Team discussed their collaboration with local communities in Southwest Virginia on a plan to kickstart solar energy in the area (read more on page 12). We're also assisting with a regional land study to pave the way for just and equitable land ownership in Central Appalachia, and are aiming to clean up mine sites and spur economic revitalization through passage of the RECLAIM Act.

Our Central Appalachian team is continuing the push to end mountaintop removal coal mining by

challenging new permits such as the Cooper Ridge Mine in Tennessee (see page 20) while also addressing pollution from reclaimed, abandoned and active mines through water testing and legal strategies. We are actively engaging in communities across the region to support local organizing efforts, and intend to work with Congress to reauthorize the Abandoned Mine Lands program before it expires in 2021.

It's been an honor to protect the mountains for and with you, the people of Appalachia, for 20 years now — we greatly look forward to the next 20.

## Hellos and Goodbyes

After two years of inspired, dedicated and thoughtful service to The Appalachian Voice publication, former Associate Editor Elizabeth (Lee) Payne left that role in August to pursue gardening and homesteading projects in Ashe County, N.C., and bring her many talents to the local library. While we miss her daily good cheer and sharp research skills, we are grateful that she remains a valued part of the Voice team as a contributing editor and volunteer distributor of the publication.

Kevin Ridder has stepped into the role of associate editor for the publication and communications associate for the organization. A Voice freelance contributor for the past two years, Kevin graduated from the University of Tennessee - Knoxville in 2016 with a degree in geology and environmental studies with a concentration in journalism. He also served as a CAC AmeriCorps member with the City of Knoxville Solid Waste Office. We're thrilled to welcome him to our team, and look



Lee Payne



Kevin Ridder



Becca Bauer

forward to hearing him play the slide trombone at our next office potluck.

Becca Bauer also joins us as our newest AmeriCorps Project Conserve member. Becca grew up outside New York City and moved to Boone, N.C., to attend Appalachian State University, where she earned a bachelor's in sustainable development and a minor in sustainable technology. After volunteering with us for two years, she now brings her passion for the mountains and conservation to our Energy Savings team. And Katie Kienbaum is returning for a second AmeriCorps Project Conserve year with our Energy Savings team.

## Appalachian Voices Annual Membership Meeting



Nov. 30, 5:30-8 p.m.

We're excited to welcome members and friends to our four offices for our annual membership meeting. Gatherings will be held in Boone, N.C.; Charlottesville, Va.; Knoxville, Tenn., and Norton, Va. Learn more about the work we're doing and discuss ways to advance a clean, just future in the region. For details or to become a member, call our Boone office at (828) 262-1500 or visit [appvoices.org/membership-meeting](http://appvoices.org/membership-meeting)



# Diana Withen: Teacher, Leader and Environmental Advocate

By KaLeigh Underwood

## Member Spotlight

Diana Withen knew from an early age it was her responsibility to make the world a better place. Her mother, who also served as her Girl Scout troop leader, instilled in her a motto she would carry with her throughout the rest of her life: "leave a place better than you found it."

As a biology teacher at Eastside High School in Coeburn, Va., a volunteer distributor for The Appalachian Voice and a member of multiple community organizations such as the Southern Appalachian Mountain Stewards, The Clinch Coalition and the Upper Tennessee River Roundtable, Diana puts that motto into practice every day.

She even encourages Eastside High students outside the classroom as a leader for the Ecology, Young Democrats, and Diversity clubs.

She considers her position a privilege because she gets to discuss the issues she cares about with her students, sharing both regional, national and worldwide environmental concerns, and discussing how the democratic process can bring about change.

Through grants that Diana and her students have written and received, they are working to implement environmentally friendly projects in their school, such as installing a solar-powered cell phone charging station and facilitating educational initiatives with younger students.

She said that among her students, some are resistant to the



A longtime reader of The Appalachian Voice, Diana says she was originally drawn to the publication because she appreciated the amount of information presented on environmental topics and how members personally stood behind issues, fighting and trying to save beautiful places. She has distributed between 200 and 500 papers every two months in and around Wise County for over five years, and has even saved issues to use as educational tools in her classroom.

Diana is an asset to her community. Not only by making sure people are getting The Voice, but by educating our future leaders, cleaning up trails and monitoring logging operations with The Clinch Coalition and fighting strip mining permits with the Southern Appalachian Mountain Stewards.

She is a teacher, leader, mentor, artist, environmentalist and activist, and there is no doubt that she will leave her place better than she found it.

transition from coal mining to other energy sources, but others are eager to understand the new technology and apply their knowledge.

"I feel lucky to have the chance to work with the students who care enough," she says.

The environmental issues closest to Diana's heart are climate change, strip mining and harmful logging practices. While all these issues are interrelated, strip mining and logging directly affect her home of Wise County, Va.

"I think the people where we live are intelligent, hardworking and innovative people," Diana says. "But poverty wears you down. If I could wave a magic wand, I would make humans be able to live and work in a long-term sustainable way that wouldn't hurt the environment."



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.

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*Kayakers run the El Horrendo rapids on the Russell Fork in Kentucky before the 21st annual Lord of the Fork Race in October 2016. Read about the efforts underway to increase whitewater recreation on the river on page 6. North Carolina resident Sarah Ruhlen made this image after hiking in to photograph the race. View her work on Facebook at Catalyst Photography by Sarah Ruhlen.*

**Appalachian Voices is a nonprofit, grassroots organization that for the last 20 years has been working to protect the Central and Southern Appalachian Mountains from serious environmental threats and to advance a vision for a cleaner energy future.**

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