A NEW HORIZON

Innovative Reclamation for a Just Transition

A report by Appalachian Citizens' Law Center, Appalachian Voices, Coalfield Development Corporation, Rural Action, and Downstream Strategies

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Introduction

The certainty of an Appalachian transition has become self-evident. The questions that remain are "What shape will that transition take?" and "Will our region seize the opportunity to establish just and sustainable economic models that invest in our strengths and set the region up for meaningful and healthy participation in the new economy?" Foundational to our coalition's work is the understanding that specific, targeted intervention is necessary to ensure that an equitable vision becomes reality.

Appalachia is at the threshold of a paradigm shift into the new economy, ushered in by communities that are taking their futures into their own hands like never before and implementing innovative ways to address long-standing economic issues with degraded lands. The table on page 6 shows funded projects illustrating this shift that have been supported by our coalition, ranging from ecotourism, renewable energy, arts and culture, and creative waste recycling.

This report highlights the successes achieved in 2019 from previously submitted projects and showcases a brand new round of innovative projects. We're very excited about both the successes that have already been funded and implemented, as well as the new opportunities that are currently being considered for Abandoned Mine Lands (AML) Pilot funding.

A New Horizon: Innovative Reclamation for a Just Transition features the successes achieved in 2019 and builds upon our 2018 report, *Many Voices, Many Solutions: Innovative Mine Reclamation in Central Appalachia,* which introduced our unique approach and initial successes through 20 case studies in Virginia, West Virginia, Kentucky, and Ohio.

We return with updates to some of these projects and a portfolio of fresh ideas and plans underway. We seek to spur innovative economic development throughout Appalachian coalfield communities by showcasing prospective and completed ventures that advance

community development amidst abandoned mine lands, while also reclaiming legacy mining features. This year, millions of dollars in grants were applied for through the AML Pilot program through our coalition's efforts.

Since the passage of federal regulations over four decades ago, mine land repair and reuse has evolved to better suit both the communities and the landscapes in which it occurs. Many previous projects concluded with simply rendering the dangerous safe, with no end use planned, or converting surface mines into uninspired strip malls, grazing lands, or prisons, with little benefit to the community.

Many of these former AMLs may be reclaimed, but they still sit abandoned because they were not developed with inclusiveness, collaboration, and place-appropriateness as guiding principles. Innovative Mine Reclamation looks beyond the approaches of these past practices in favor of end uses that are site-specific, community-minded, and sustainable–yielding economic and environmental benefits for years to come. This new mode of mine land repair and reuse adheres to a progressive set of guiding principles that meet criteria set by the Reclaiming Appalachian Coalition.

These principles include:

- Go above and beyond the legal reclamation requirements for AML features and bond forfeiture properties to create sites that are primed for sustainable development, native ecosystem restoration, or both;
- Make projects appropriate to the specific place they are occurring;
- Be inclusive of multiple community stakeholders, especially in addition to traditional decision makers, in project development;
- Promote environmental sustainability, and do not cause additional harm;
- Make projects financially viable beyond the initial grant period;
- Introduce new, viable concepts to the Appalachian coalfields that could be successfully replicated on similar sites throughout the region.

ABOUT THE COALITION

The Reclaiming Appalachia Coalition is made up of leading organizations in the Just Transition movement: Appalachian Citizens' Law Center, Appalachian Voices, Coalfield Development Corporation, and Rural Action, with technical assistance from Downstream Strategies. We partner with coal-impacted communities and engage state and regional development agencies to identify mine reclamation projects with the potential to drive positive economic and social impacts.

We envision a robust movement around innovative mine reclamation that supports the growth of a mature restoration economy in Central Appalachia. We work with community partners to secure and leverage funding to implement innovative projects while growing the movement around land restoration. Our goals are to: (1) fund innovative reclamation projects, (2) increase capacity to support innovative mine reclamation, and (3) support a regional community of practice that exemplifies Just Transition principles in land restoration.

The Reclaiming Appalachia Coalition is a regional collaboration that seeks to spur mine reclamation projects throughout Central Appalachia that are responsive to community needs and interests and that accelerate the growth of new, sustainable sectors. The Coalition consists of leading organizations in four states–Appalachian Voices in Virginia, Appalachian Citizens' Law Center in Kentucky, Coalfield Development Corporation in West Virginia, and Rural Action in Ohio–and a regional technical expert, Downstream Strategies, based in West Virginia.

Rural Action

COALFIELD DEVELOPMENT
Appalachian COURAGE, CREATIVITY, COMMUNITY

AppalachianVoices

APPALACHIAN CITIZENS' Law Center

Downstream Strategies
Ideas that sustain.

WHAT'S A JUST TRANSITION?

The term Just Transition is quickly becoming one that can elicit great hope and inspiration as well as harsh criticism and cynicism–both are valid in their own context. Thousands, if not millions, of jobs are at stake as our national and global economy shifts to a low-carbon platform. The urgent response needed to address climate change creates tension between the massive concern of our planet's ability to support life as we know it and the immediate and equally valid concern of working people's need to put food on the table and send their children to school.

Just Transition holds that the workers and communities who gave the most in the carbon-intensive economies of the past, and those who have the most at stake as we shift to a low-carbon future, should be among the first to benefit from the new clean energy economy of the 21st century. It is an elemental precept to understand that this will not occur without targeted, system-level intervention.

When we succeed at fulfilling this immense mandate, one project at a time, it validates the hope that so many have placed in the Just Transition movement. When we fall short and mistake the cheerful message of hope for the actual outcome that is so desperately needed, we feed the voices of skepticism that cast doubt on our motives and methods. We can't throw the baby out with the bathwater. The projects highlighted in this report present our collective work and tangible examples of what that transition could look like–ways we can make good on the promise of a Just Transition.

APPALACHIAN VOICES - VIRGINIA

Appalachian Voices was founded in 1997 to protect the land, air, water, and communities of Central and Southern Appalachia. They are committed to fostering healthy communities and promoting more diverse and sustainable local economies. In the pursuit of a positive vision for Appalachia's future, the organization builds successful grassroots campaigns that are informed and complemented by technical and policy expertise to empower residents of mostly rural communities in five states–Virginia, North Carolina, Kentucky, Tennessee, and West Virginia–to ensure that local voices are heard by influential stakeholders and decision-makers at every level of government.

In 2016, Appalachian Voices financed and spearheaded the publication of *Healing Our Land, Growing Our Future: Innovative Mine Reclamation in Southwest Virginia* in partnership with Downstream Strategies and Coal Mining Engineering Services. This analysis of the Virginia Abandoned Mined Land inventory proposed 14 mine reclamation projects that have sustainable economic development goals and represented an estimated total of over $16 million in cleanup costs and $52.7 million in construction investments.

APPALACHIAN CITIZENS' LAW CENTER (ACLC) - KENTUCKY

The Appalachian Citizens' Law Center is a nonprofit law firm that fights for justice in the coalfields by representing coal miners and their families on issues of black lung and mine safety and by working with grassroots groups and individuals to protect the land and people from misuse and degradation caused by extractive industries. ACLC handles individual cases and engages in strategic litigation and policy work in the areas of mine safety and health; environmental protection; legacy costs of extractive industries on the people, land, and economy of the Central Appalachian region; and sustainable energy. ACLC is based in Whitesburg, Kentucky.

ACLC has been engaged in policy and advocacy efforts related to abandoned mine reclamation and economic transition in Appalachia since 2014, including leading a regional participatory research project that resulted in the release of the 2015 report, "Abandoned Mine Land Program: A Policy Analysis for Central Appalachia and the Nation." Through this work, ACLC has developed a strong understanding of the federal Abandoned Mine Land program. ACLC is currently helping lead the effort to pass the RECLAIM Act (H.R. 1731).

COALFIELD DEVELOPMENT CORPORATION (COALFIELD) - WEST VIRGINIA

Coalfield Development Corporation envisions a revitalized people thriving in a renewed, more prosperous economy that is grounded in Appalachian values. The organization supports a family of social enterprises that inspire the courage to grow, the creativity to transform perceived liabilities into assets, and the community needed to cultivate real opportunity in Appalachia through mentorship, education, and employment.

Based in Wayne, West Virginia, Coalfield Development Corporation has grown into a family of social enterprises working throughout the region as a leader in the building of a new economy during the wake of the coal industry's rapid decline. Coalfield has pioneered a relationship-based, holistic approach to on-the-job training, where trainees work the 33-6-3 model each week: 33 hours of paid labor, 6 hours of higher education class time, and 3 hours of life-skills mentorship. This model has created more than 40 on-the-job training positions, more than 200 professional certification opportunities, redeveloped more than 150,000 square feet of dilapidated property, and successfully launched five new businesses in industries based on local assets and having real viability in the Appalachian region.

RURAL ACTION (RA) - OHIO

Rural Action is a member-based non-profit organization with a long history of community development and environmental restoration work. With a mission to foster social, economic, and environmental justice in Appalachian Ohio, RA works at the grassroots level to grow sectors built from the region's assets–sectors that have the potential to expand sustainable economic development. These include projects, programs, and social enterprises in watershed restoration, zero waste/recycling, forestry, agriculture, environmental education, energy and climate, and ecotourism.

Rural Action has been working to restore acid mine drainage (AMD)-affected Appalachian streams for over 20 years in coordination with community members, watershed partners, and state and federal agencies. Over 25 passive and active restoration projects have been coordinated through RA's efforts. Through years of dedicated work, funding, and community support, aquatic life is returning to those streams. Restoration projects in one watershed, Huff Run, have resulted in an amazing fish-species rebound, increasing total watershed fish diversity from 11 in 1997 to 38 in 2014. In 2005, there were no fish found in the West Branch of Sunday Creek, due to AMD pollution. In 2016, after RA coordinated the construction of a treatment system, the fish population included 17 native Ohio species. Currently leading the Appalachian Ohio Watershed Council and promoting state and federal policy to fund the costly issues of water quality, Rural Action is managing long-term investment and support for reclamation and water quality as basic preconditions to sustainable development.

DOWNSTREAM STRATEGIES - REGIONAL TECHNICAL ASSISTANCE

Downstream Strategies offers environmental and economic development consulting services that combine sound interdisciplinary skills with a core belief in the importance of protecting the environment and linking economic development with natural resource stewardship. Downstream has a long track record of successful consulting and project development work in Central Appalachia and has significant experience in innovative mine reclamation. As the cross-state technical expert for the Reclaiming Appalachia Coalition, Downstream Strategies provides expert services to help with project identification, development, and management.

FUNDED PROJECTS

To date, the Reclaiming Appalachia Coalition has provided game-changing technical assistance to several government entities and community organizations, resulting in the submission of more than $54 million in grant applications. These partnerships have effectively secured over $15.8 million in Abandoned Mine Lands (AML) Pilot funds and U.S. Environmental Protection Agency (EPA) Brownfields funding, leveraging approximately $11.4 million in additional funds. This success has cemented our coalition as a thought leader and indispensable resource for communities in the field. As demonstrated in the succeeding pages, the development opportunities our partners are pursuing are diverse and bring valuable impact to our region.

TABLE 1: FUNDED PROJECTS 2018-2019

State	Year	Applicant	Project	Award	Leveraged Resources
Kentucky	2018	KRADD	South Fork Elk View Campground	$1,345,000	$0
Ohio	2019	ODNR	Moonville Rail Trail	$1,150,600	$920,500
Ohio	2019	Rural Action / Ohio University	Truetown Paint Pigments	$3,489,408	$3,982,211
Ohio	2018	ODNR	D.O. Hall Business Park Expansion	$954,593	$0
Virginia	2018	U.S. Forest Service	Devils Fork	$88,000	$172,000
Virginia	2018	Russell County	Dante Revitalization	$269,000	$265,000
Virginia	2018	Wise County IDA	SWVA Solar Springboard	$500,000	$4,100,000
West Virginia	2018	Friends of Cheat	RE-CREATE	$3,014,000	$536,000
West Virginia	2018	Refresh Appalachia	A Food-Safe Processing Facility	$4,000,000	$1,358,000
West Virginia	2019	Coalfield Development Corp.	Appalachian ReUse Corridor	$500,000	$100,000

OUR FOCUS IN 2019

In 2019, the Reclaiming Appalachia Coalition made a concerted effort to broaden its focus beyond the AML Pilot program and explore opportunities to leverage additional state, federal, and private funding streams and special interest efforts. This effort was largely carried out through direct outreach to leaders and innovative thinkers in the growing restoration economy. Notably, members of the Reclaiming Appalachia Coalition spoke about innovative land reuse at 12 events in 11 different cities–both inside and outside the region.

ON THE ROAD IN 2019

Reclaiming Appalachia Coalition members presented at the following conferences in 2019:

- Brightfields Virginia (Richmond, VA)
- West Virginia Brownfields Conference (Morgantown, WV)
- Indiana County, PA, Sustainable Development Task Force Summit (Indiana, PA)
- Creating Strategies for Transitioning Away from Coal Economies (Hopi and Diné) (Tuba City, AZ)
- National Association of Abandoned Mine Land Practitioners 2019 Convening (Pittsburgh, PA)
- The Earth Conservancy Convening (Ashley, PA)
- The World Bank: Clean Energy Ministerial (CEM10) (Vancouver, CA)
- The World Bank: Roundtable on Workers and Communities (Washington, DC)
- RECLAIM Act Convening (Washington, DC)
- Community Solar Power Summit (Philadelphia, PA)
- Virginia Environmental Assembly (Richmond, VA)
- Virginia Brownfields Conference (Norfolk, VA)

PROJECTS IN 2019

Reclaiming Appalachia Coalition projects represent unique on-the-ground partnerships, often between multiple entities such as businesses, economic development agencies, localities, community groups, state mining agencies, nonprofits, and funders. Our work to identify new innovative reclamation projects is often just as much an effort to identify viable partnerships as it is to identify AML features and economic opportunities. In 2019, the Coalition assisted with 10 different grant applications and provided critical planning capacity for nine projects that will eventually turn into funding applications. These projects fit primarily into three different sectors: recreation and ecotourism; solid waste, recycling, and sustainable materials management; and technology.

RECREATION AND ECOTOURISM

Outdoor recreation is one of the fastest-growing industries in America. This sector amplifies the bountiful natural and cultural heritage assets that Appalachia is known for, including our winding rivers, scenic mountains, varied forests, and innumerable historic assets. Concerted regional trail development is transforming many former coal towns into vibrant "trail towns," which enjoy a spectrum of businesses catered to trail users, such as lodging, restaurants and taverns,

TABLE 2: IMPACT OF SELECT PROJECTS ON REGIONAL ECONOMY

Project	Total Cost	Output	Earnings	Regional Jobs	Value added	Onsite employment
Kentucky						
Pikeville YMCA Wellness Center	$865,000	$1,696,270	$422,520	8.82	$999,152	Yes
Ohio						
Moonville Rail Trail	$1,200,000	$2,822,002	$976,716	21.83	$1,546,682	Yes
Truetown Paint Pigments	$3,455,000	$8,535,566	$2,795,345	60.45	$4,714,540	Yes
Virginia						
Clinch River Campground	$2,460,000	$5,317,691	$1,373,209	31.3	$2,773,934	Yes
Flannagan Marina	$1,030,000	$2,176,494	$622,029	13.11	$1,204,467	Yes
Trammel	$1,140,000	$2,696,320	$782,248	17	$1,374,616	Yes
West Virginia						
Appalachian ReUse Corridor	$600,000	$1,119,193	$323,166	7.11	$590,409	Yes
The River Cities Trail	$3,275,000	$7,320,331	$1,998,870	41.7	$3,797,106	Yes
West Virginia ReUse Center	$3,335,000	$7,747,909	$2,372,789	54.17	$3,968,642	Yes
Total proposed in 2019	**$17,360,000**	**$39,431,776**	**$11,666,891**	**256**	**$20,969,548**	

convenience and specialty retail, and outdoor or other trail-related businesses.

SOLID WASTE, RECYCLING, AND SUSTAINABLE MATERIALS MANAGEMENT

Landfills are major contributors to methane emissions, and without proper construction, maintenance and monitoring they can leach contaminants into surrounding groundwater systems. As a result, many states are establishing recycling goals and banning future landfills, thereby turning sustainable waste management into a profitable sector that supports one million jobs and contributes $250 billion to the U.S. economy per year. Recycling and composting enterprises offer the promise of reducing waste management costs incurred by communities, mitigating negative environmental impacts, and maintaining a stable source of employment across Appalachia.

TECHNOLOGY

Appalachia can continue to be the powerhouse of America, though in a more innovative and sustainable manner. For the first time in our nation's history, renewables outperformed coal in total U.S. energy production in April 2019, marking a tangible transition to a clean-energy era. As states aggressively increase their clean-energy mandates, the demand for renewable energy is quickly rising, which is fueling strong job growth within the sector. There are currently three renewable energy employees for every one in fossil fuels, and the Bureau of Labor Statistics projects that solar installers and wind energy technicians will be the two fastest-growing occupations nationwide through 2028.

KENTUCKY

Kentucky: Introduction

Appalachian Citizens' Law Center's (ACLC) interest in AML Pilot program projects is part of the diverse policy and advocacy efforts the non-profit law firm engages with, serving community health, safety, and economy in the coalfields of Central Appalachia. ACLC has supported mine land reclamation through various programs of work such as AML policy analysis, advocacy and coalition building for the RECLAIM Act, and environmental litigation. Our stake in reclamation is rooted in our values around health and safety as shown by our advocacy, organizing, and litigation programs advancing mine safety and on behalf of miners suffering from black lung disease.

As summarized in last year's report, ACLC made three recommendations for the AML Pilot program: 1) increase public outreach and community engagement, 2) increase reclamation components of projects, and 3) increase support for bottom-up development enterprises. As a necessary element of the AML Pilot program, ACLC expanded public outreach by spreading awareness about the grant opportunity through three public meetings in Whitesburg, Harlan, and Hazard, KY, during the summer of 2018, before the AML Pilot application period.

Since the AML Pilot program's inception, the application period in Kentucky has opened in late August or early September and closed in November. However, without any warning, the 2019 application period was shifted to much earlier in the year, opening in May and closing on June 21, 2019. This change not only impacted ACLC's ability to engage with the public on the grant opportunity and work with community members to develop innovative applications, but it also discouraged many from applying to the program, as they simply lacked the capacity to turn around applications so quickly without prior notice.

As a result, in this report, there are fewer Kentucky projects highlighted than we had hoped to showcase. However, we are still excited to present two project ideas. One of these projects will qualify for submission to next year's AML Pilot program, and the other qualifies as a brownfields project and provides some important perspective on the challenges of cleaning up brownfield sites in rural, downtown communities. Both projects, if implemented, are steps toward what we hope to build in the region–communities and economies that support health and well-being in Central Appalachia.

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A BROWNFIELDS PRIMER

INTRODUCTION

Across Central Appalachia and other areas dealing with post-industrial economic decline, a glut of vacant, dilapidated, or condemned properties offers challenges and opportunities to communities seeking new economic opportunity and growth. Many of these properties can be considered brownfields, where environmental contaminants like asbestos, molds, or toxins from past use hamper the redevelopment of the property.

One common type of brownfield property found in many historic downtowns in Central Appalachia is former dry cleaner sites. Before the 1990s, many dry cleaners used toxic chemicals without proper disposal options. These chemicals were sometimes disposed of on-site. They can persist and spread in the immediate environment, can be costly to clean up, and possibly pose long-term health risks to neighboring properties and communities. Limited and competitive federal and state grants are available to nonprofits and municipalities to aid in the clean-up and redevelopment of brownfield properties. In 2017, Appalshop and partners at Appalachian Citizens' Law Center (ACLC) and the Environmental Law Institute began investigating the potential of using these and other funds to redevelop a former dry cleaner's building in a downtown in Eastern Kentucky. While the project has not yet come to fruition, it provides insight into some of the possibilities and challenges faced by communities with former dry cleaners or other brownfield sites in downtown revitalization efforts.

PROJECT DESCRIPTION

In 2017, it was brought to Appalshop's attention that a former dry cleaner's building had been put up for sale. The property was in a prominent location for foot and vehicle traffic in a once-bustling downtown area now struggling with the decline of the coal industry. With the potential to catalyze further revitalization downtown, the building's location makes it a good candidate for community development projects envisioned by Appalshop and community allies, which include a business incubator, affordable artist residency space, art studio, performance space, and co-working facilities in an area with limited move-in-ready locations for new businesses.

In consultation with environmental law experts, Appalshop approached the owner about assessing the property for its brownfield status. An assessment grant was awarded through the Kentucky Department of Environmental Protection's Brownfields Unit to carry out a Phase 1 Environmental Site Assessment (ESA) and a Phase 2 assessment as necessary.

The Phase 1 ESA suggested that environmental contaminants likely did exist and that a Phase 2 assessment should be completed. Phase 2 ESAs can include soil, water, and materials sampling to gauge the extent of contamination from brownfield properties.

(continued next page)

A BROWNFIELDS PRIMER (CONTINUED)

Appalshop approached the owner to discuss possible paths forward. While they were amenable to gifting the property to Appalshop or another non-profit to support economic development, they were concerned about the potential liabilities extending from federal brownfields laws. Under the CERCLA legislation, any past owners of brownfields properties can be held liable for the cost of clean-up from brownfields properties, regardless of their contribution to or knowledge of past contamination.

OBSTACLES AND CHALLENGES

While the future of this project is uncertain, it has demonstrated some of the obstacles and challenges to downtown revitalization, reclamation of contaminated brownfield sites, and community development in the coalfields of Central Appalachia.

These obstacles include:

- There is a lack of private investment capital and return on investment potential. Developing these projects in rural, economically suffering areas is less likely to attract private development investment as it would in more urban or economically growing areas. Less-certain returns on investment hamper development in these areas, and that is compounded by the difficulty of managing brownfield redevelopment projects.
- The unknown extent of contamination and cleanup costs are potentially prohibitive without major assistance from public or philanthropic funding sources. Federal grants for brownfields projects max out at $500,000, but dry cleaner cleanup costs can reach over $1 million, depending on the circumstances.
- Purchase agreements offer some protection to previous landowners seeking to minimize their liability for costly cleanup processes, but without major buy-in from municipalities or other stakeholders, full liability falls on the organization pursuing cleanup. Previous owners who are bankrupt, deceased, or unknown are unavailable for assisting with cleanup costs.
- Many low-income communities, like coalfield municipalities, suffer from a lack of municipal and civil society capacity to lead expensive multi-year, multi-stakeholder redevelopment processes.
- Challenging small-community dynamics require balancing accommodating past owners with pushing for accountability for past contamination while maintaining relationships to benefit future projects.
- The lack of legal and development expertise hinders planning and momentum at the local level and requires obtaining outside support.

While these obstacles are not unique to Appalachian coalfield redevelopment efforts, they are different from those faced by communities with higher growth and economic health. Overcoming these obstacles is required to

see the successful cleanup and revitalization of brownfield sites, which can catalyze further downtown economic revitalization in these communities. We hope that supporters of these efforts across the country can find ways to support coalfield communities seeking to overcome challenges and revitalize their downtowns.

ECONOMIC IMPACT

Indeed, brownfield redevelopment in Central Appalachia can be a difficult and confusing process. However, for communities that undertake the endeavor, the potential economic impacts are immense. As noted, depending on the circumstances, remediating a property that was formerly used as a dry cleaner's can exceed $1 million. So, after reconstructing the site for the desired use, a community organization or developer could easily be $1.5 million into the project. Assuming this budget, economic modeling of project development spending suggests the project would result in total immediate economic activity of nearly $3.4 million, contribute nearly $1 million in earnings to employees, support nearly 22 jobs across different sectors of the economy, and provide close to $1.8 million in value-added benefits.

PIKEVILLE YMCA WELLNESS CENTER

ABOUT THIS PROJECT

Kentucky's Pikeville area community is rejecting the trend of ill health in rural areas by focusing on quality of life and new economic opportunities. The Pikeville Area Family YMCA's programming and facilities emphasize the health and wellness of community members. Since it opened its doors in 1985, the YMCA has strived to continually improve its facilities to best serve its users, which include 3,300 current members (and growing) and 2,500 visitors.

Today, a transformational project to develop a 7,000-square-foot Wellness Center aims to improve the Y's ability to serve the Pikeville community, which will provide tangible benefits to public health and make the community more attractive to potential businesses considering locating there. The project, which leverages significant investment from the traditional AML fund and other sources, will result in the construction of a warm water aerobics and family pool and new amenities like an outdoor splash pad, a sun deck patio, and an improved parking lot.

PARTNERSHIPS

There is broad community support for the Wellness Center in Pikeville. The YMCA already has several entities onboard and ready to commence the project, including Rusty Justice, Elliott Construction, Community Ventures, State Electric, and Baird and Baird Attorneys.

AML NEXUS

The Pikeville Area Family YMCA is located adjacent to the Pikeville Cut Through Project and actually sits atop fill from that historic project. Additionally, the YMCA facility sits below a remediated P1 dangerous slide (KY003630). This slide was remediated for nearly $112,000 from the traditional AML Fund. Without this vital stabilization, the YMCA could not exist where it does today.

Additionally, the YMCA has an extensive history of serving miners in Pikeville and beyond. Staff estimate that around 165 members are active miners and many more are retired miners. The YMCA has provided child care and financial scholarship to assist families transitioning out of the mining industry upon its decline. Additionally, its facilities are used for annual mine safety training and drills for miners from Kentucky and surrounding states.

FUNDING SOURCES

Through an effort to raise donations and fundraise for the Wellness Center, the YMCA has successfully raised enough money to pay for the warm water aerobics/family pool ($440,000). However, money is still needed for the outdoor splash pad, sun deck patio, and the parking area. This, totaling about $425,000 in expected costs, is the subject of a future AML Pilot Application.

PROJECT IMPACT

Thanks to the influx of industries and employment opportunities in Pikeville and the rapidly growing student body of the University of Pikeville, the demand for expanded and updated wellness and recreational services is only increasing. The YMCA expects to boost its membership base by 300 in the first year, followed by a 1.5 percent increase in subsequent years. The outdoor splash pad and nearby picnic seating will allow youth and adults alike to enjoy outside activities together. The outdoor patio will provide a refreshing site from which families can supervise their children as they participate in physical activity. These new features will attract additional users, so the new parking lot will ensure all members and guests are accommodated.

Pikeville prides itself on the high quality of life it cultivates for the community, which studies point to as being particularly vital for small, rural towns. The expansion will not only provide 20 to 30 new jobs to residents but improve access to the enhanced facilities and community programming. This will yield innumerable benefits to the overall well-being of individuals in the community: prevention of chronic diseases, the development and maintenance of a healthy body, mental health improvement, stress relief, and an extended lifespan.

The implementation of this project will produce tangible economic impacts during construction and beyond. Economic modeling of project development costs (estimated at approximately $1 million) suggests the project would result in total immediate economic activity of over $1.6 million, contribute nearly $422,000 in earnings to employees, support nearly nine jobs across different sectors of the economy, and provide close to $1 million in value-added benefits.

OHIO

Ohio: Introduction

In a unique relationship, Rural Action assists the Ohio Department of Natural Resources in the engagement of stakeholders about the Pilot Program. This engagement includes program education, site eligibility and potential economic development vetting, and application development assistance. This working alliance evolved from an ongoing, long-term affiliation between the agency and the non-profit to address acid mine drainage in Ohio's Appalachian coal region. That past association and the new working partnership allows Rural Action to continue existing stakeholder relationships and to develop new connections throughout the region in the development of Pilot Program opportunities.

The expanding role played by Rural Action over the past year has allowed Rural Action to further recognize the diversity of Ohio's Appalachian region and to focus on the advantages and opportunities that geographic distinctiveness provides in the application of the Pilot Program. As a result, in the past year the organization has focused on developing unique recreational tourism opportunities in areas where significant outdoor recreation amenities exist that can be enhanced. Similarly, in another geographic area of the region where more traditional industrial and technological development are in place, along with some related infrastructure, an improved supply chain, and a better trained workforce, Rural Action focused on pairing stakeholders with project sites that could be similarly developed. Lastly, the organization continued to partner with Ohio University on the application of acid mine drainage abatement research that not only will restore a stream but create a job-producing marketable by-product.

Marissa Lautzenheiser
Middle Tuscarawas Watershed Coordinator
Rural Action

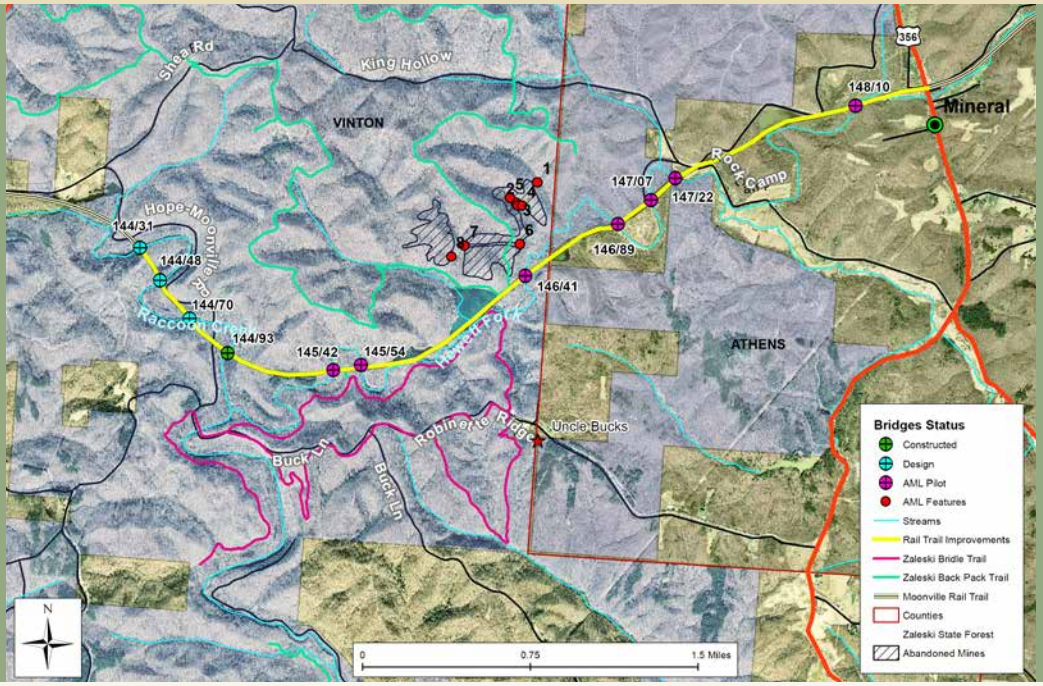
MOONVILLE RAIL TRAIL

ABOUT THE PROJECT

The Moonville Rail Trail takes users through 16 miles of Appalachian scenery in southeast Ohio, past such attractions as the Zaleski State Forest, Lake Hope State Park wetland areas, the Zaleski and Mineral communities, and two particularly unique and historic tunnels. The King's Hollow Tunnel is a 120-foot structure carved through the sandstone and lined by a series of wooden beams. The infamous brick-lined Moonville Tunnel, in the ghost town of the same name, is featured in many ghost stories, thanks to its long history of train accidents. However, these tunnels–and the remainder of the trail–have limited accessibility, because the bridges across the Hewett Fork were removed, and high water poses a hazard to those who cross the creek to continue their journey. This project will make the sought-after Moonville Rail Trail interconnected and open to horseback riders, joggers, and bicyclists alike by installing seven bridges, restoring the trail, and eventually adding additional trail connections.

PARTNERSHIPS

Partners include the Moonville Rail Trail Association, Vinton and Athens County Commissioners, Raccoon Creek Partnership, Zaleski State Forest, Lake Hope State Park, Uncle Buck's Riding Stable, Athens County Planning Office, and Vinton County Convention and Visitors Bureau.



AML NEXUS

The project site encompasses eight P2 portals that pose public health and safety hazards due to their location on public property. The features are near the Moonville Rail Trail and are also scattered on either side of the Zaleski Backpack Trail. The removal of these hazardous features will directly complement the increased trail access. Total abatement will cost approximately $35,000.

FUNDING SOURCES

Funding for the project comes from ODOT, the Clean Ohio Fund, Land and Water Conservation Fund, and donated bridge trusses from Athens County Engineer.

PROJECT IMPACT

Once the bridges are erected, rail trail users will have complete, connected rail trail access along a 12.2-mile stretch and the potential for a future connection to the 21-mile Hockhocking Adena Bikeway just 4 miles away, expanding the project's contribution to the greater regional rail trail network. Based on visitation data collected, the conservative estimate for annual usage is about 60,000. This connection will open a crucial hub of economic and community development that will bolster the current suppressed state of the Zaleski and Mineral communities.

By safeguarding the mine openings and upgrading the full length of the rail trail, tourist activity and economic development are expected to rise significantly, with services being enhanced or created, such as bike rental businesses, retail opportunities such as food and drink, entertainment, and services, increasing utilization of nearby Uncle Buck's Riding Stable and the Lake Hope State Park, which hosts about 300,000 people per year. Because rural communities have limited corporate hotel presence, Airbnb locations have expanded in areas popular for outdoor recreation, providing local business opportunities for locals and accommodations for visitors. Improving, connecting, and expanding the trail will facilitate more hiking, jogging, and other foot traffic activities, all of which are rated as the most popular outdoor activities and are associated with improved health and well-being for participants.

TRUETOWN PAINT PIGMENTS

ABOUT THIS PROJECT

Acid mine drainage (AMD), often presenting as rusty colored deposits polluting thousands of Appalachian streams and regarded as an eyesore, is being converted into something inventive, marketable, and environmentally healthy: pigment. With AMD-to-Paint Pigment technology, created by Dr. Guy Riefler at Ohio University (OU), a legacy of pollution can give way to a new era of industry. Commonly used AMD treatments–such as steel slag leach beds and lime dosers–neutralize the acidity, which significantly improves the watershed overall but causes metals to accumulate in the stream, leaving the treatment area with highly concentrated pollution. In contrast, the innovative AMD-to-Paint Pigment technology removes not only the acidity but the iron precipitate. The iron is then repurposed into marketable pigment.

A pilot plant operating at the research scale has successfully been producing effective pigments, demonstrating potential profitability and producing well-received artwork and community projects. This project will establish the plant for True Pigments LLC, the entity Rural Action registered to operate.

PARTNERSHIPS

Contributors include Rural Action, Ohio University faculty, OH DNR, paint companies, including Gamblin Artists Colors, TechGROWTH Ohio, Athens County Planning Office, and landowners.

AML NEXUS

The Truetown discharge site is inventoried as a P3 water feature. The discharge is situated on a pumping station for an abandoned coal mine.

FUNDING SOURCES

This project is supported by the Ohio Environmental Protection Agency Water Resource Restoration Sponsor Program, a Natural Capital Investment Fund loan, an anonymous donor, the Sugar Bush Foundation, Mr. Dick Dickerson, Finance Fund Economic Development, Athens County Foundation, Foundation for Appalachian Ohio, One Foundation, Stream + Wetlands Foundation, and the T.R. Wells Foundation.

PROJECT IMPACT

While upscaling to production is expected to cost around $7.5 million, the facility should serve as a boon, and ripple effects created by a new industry will yield significant economic impacts, including direct long-term employment opportunities. Further, because Rural Action is a local non-profit organization, the revenue will be reinvested into additional watershed treatment infrastructure, staff, monitoring, and education–all stemming from the creation of the healthier watershed spawned by the AMD-to-Paint Pigments treatment facility.

The treatment system will function similarly to a wastewater treatment system. The clarification process also extracts 2,183,065 pounds of iron oxide per year, which is then processed into a paint pigment. Many Appalachian states are shouldering the heavy price tag that comes with collecting metals from the water with plants similar to the proposed facility, but the paint pigment technology can be replicated and implemented at other facilities, turning them into profitable business ventures.

As the facility will have the capacity to treat all the water in the Truetown discharge, seven miles of Sunday Creek will be restored to a healthy, scenic state, prompting a surge in outdoor recreational activities that will build on other similar investments.

Because project partners are invested in community outreach and education, the facility will establish a learning laboratory for K-12 students studying education, mine reclamation technologies, aquatic biology and chemistry, and business. The partners will continue AMD and environmental outreach efforts for the community through guided tours, art installments, and workshops.

The interdisciplinary and innovative nature of the project will also hopefully encourage innovative and unique inquiries and projects throughout the Appalachian region, potentially spurring new projects that will deliver something positive from a legacy of pollution.

Economic modeling of AML Pilot project development spending ($3.45 million) suggests the Truetown project would result in total immediate economic activity of nearly $8.5 million, contribute nearly $2.8 million in earnings to employees, support over 60 jobs across different sectors of the economy, and provide over $4.7 million in value-added benefits.

SNAPSHOT: TUSCARAWAS REGIONAL TECHNOLOGY PARK

ABOUT THIS PROJECT

Ohio produced 11.3 percent less coal this year than in 2017, and that trend will only continue with impending local coal-fired power plant closures and hundreds of associated layoffs. However, the introduction of new industries and employment opportunities will contribute to the economic diversification and development unfolding in the region. Strategically located on 160 acres outside of New Philadelphia, Ohio, the Tuscarawas Regional Technology Park will house businesses committed to long-term investment in eastern Ohio.

Situated on the hills surrounding a natural river valley, the Tech Park overlooks a vocational and career technical school and the main campus for Kent State University's engineering and technology programs, both of which emphasize a "ladder of development" for skilled workers in the area. Just between Kent State and the Tech Park is a business incubator, offering an affordable start-up location for businesses looking to bring ideas to fruition. The entirety of the Tech Park is located within an Ohio Enterprise Zone, meaning tax incentives are available to companies who locate there. Existing infrastructure is already in place, including paved access and roads, utilities, and a fiber broadband network. The Tech Park is planned to protect and conserve wetlands, as well as support walking trails and other natural amenities throughout the sites.

Portions of the property have been impacted by underground coal mining, with some areas being abandoned since the early 1920s. Abandoned mine land (AML) features include a hazardous, partially collapsed vertical opening and acid mine drainage. Further, a consistent challenge to development has been the ability of businesses to see past the uneven terrain characteristic of AMLs. In addition to reclaiming the AML issues, the site can be leveled and basic site preparations completed, resulting in a "shovel ready" location suitable to show prospective investors and businesses. Preliminary estimates for reclamation of these AML features suggest a cost of just under $3 million. However, the Tech Park could provide a solid foundation for innovative business investments and a re-shaping of the economy in eastern Ohio.

WELLSTON RECREATION COMPLEX

ABOUT THIS PROJECT

As coal and other extractive industries continue to decline, more areas are pursuing recreational tourism to bolster the local and regional economy. The Wellston Recreation Complex provides the 5,600 youth and adults of the city of Wellston, Ohio, with baseball, softball, and soccer fields for games in spring through fall, as well as sport camps. Make Wellston Beautiful, a volunteer-based 501(c)(3) organization responsible for the complex, has steered it toward enhanced recreational opportunities, tournament play, a significant increase in participation, and a program revenue jump of 350 percent.

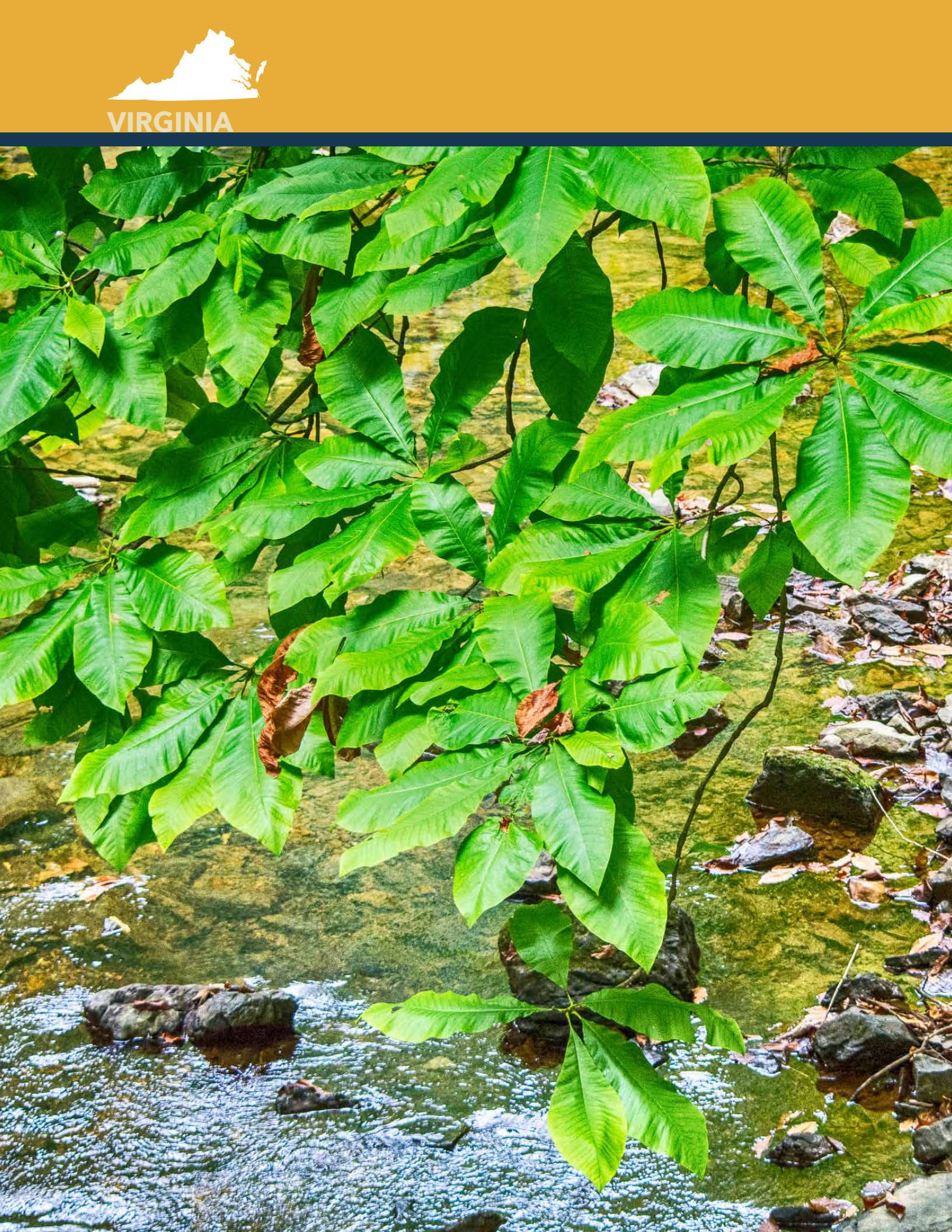
To help the complex continue to thrive and have an even greater social and economic impact, Make Wellston Beautiful aims to expand and improve the regional attraction. The vision for the site includes adding an additional ball field; relocating and constructing regulation soccer fields; installing field lighting; expanding parking; developing a campground/RV park; expanding a bike path to a nearby school property; developing a walking path; constructing a new shelter house, field maintenance building, and concession stand; and widening a city street adjacent to the recreation complex.

However, surface and deep mining occurred on or below a significant portion of the complex site. Numerous dangerous surface mine impoundments border the site, some of which will be eliminated as part of the project.

PROJECT IMPACT

Abandoned Mine Lands Remediation Cost: $71,000
Total Project Cost: $1.0 million

Preliminary cost estimates for the Wellston Recreation Complex total near $1 million. Economic modeling of project development spending ($1 million) suggests the project would result in total immediate economic activity valued at $2.2 million, contribute nearly $700,000 in earnings to employees, support nearly 15 jobs across different sectors of the economy, and provide near $1.2 million in value-added benefits.


VIRGINIA

Virginia: Introduction

Southwest Virginia's Abandoned Mine Land Pilot implementation work is now in full bloom, with the Department of Mines, Minerals, and Energy (DMME) releasing its third round of Pilot request for applications this fall and with community leaders and DMME refining their approaches in response to the increasing popularity of the program. DMME continues to be a leader in implementing the AML Pilot program in the Appalachian region, with its publicly available mapping database, accessible staff, and easily navigable application process. However, there is also increasing recognition of the need for support for communities in the implementation of funded projects, and Appalachian Voices is pursuing new funding and partnership solutions to ensure funded projects result in the highest level of benefit possible for the surrounding communities.

Projects proposed and funded in Virginia continue to have a strong emphasis on clean energy, advanced technologies, and on growing the ecotourism and outdoor recreation economy. Southwest Virginia's communities and local coalitions continue balancing the growth in outdoor recreation with environmental protection, growing these outdoor-focused industries despite decreasing levels of federal funding for public lands. Broadly, the focus areas of the AML Pilot projects are reflective of Southwest Virginia's broader economic development goals of attracting new, young residents to the area by pairing high-tech jobs with a high quality of life.

The sheer number of applications received (15 in 2017, 19 in 2018, and more than 20 expected in 2019) for the AML Pilot program in Virginia alone demonstrates the need for continued funding for community-driven Abandoned Mine Land reclamation. The AML Pilot program has again been included in the draft 2020 budget, and separate federal legislation authorizing the "traditional" Abandoned Mine Land program needs to be reauthorized by 2021 in order to maintain funding. Stakeholders are already rallying around legislation introduced this session to reauthorize the program and bolster reclamation and economic development efforts – both in Appalachia and in coal communities across the nation.

While population and other economic indicators continue to slowly decline in the region, a rising tide of tangible successes and indicators of a new emerging economy are now being felt across the region. Though the road to a truly just transition and a new era of shared economic prosperity for Southwest Virginia is long, residents and observers now have specific examples to point to that illustrate what might be at the end of that road. Virginia's AML Pilot program is playing an integral role in generating some of the most exciting investments, and Appalachian Voices is proud to play a supporting role in making a handful of those innovative projects a reality.

Adam Wells
Regional Director of Community and Economic Development
Appalachian Voices

AML RENEWABLE ENERGY PARK

ABOUT THIS PROJECT

New advanced energy technologies can allow Appalachia to be a 21st century clean energy hub as communities embrace the possibilities of resources including solar, wind, geothermal, and energy storage. With energy demand increasing and renewable energy costs declining worldwide, renewable energy sources could play a significant role in powering Appalachia, the United States, and future economic development across the region. There is strong interest locally and from energy developers to establish new energy resources on previously-mined land. Doing so can breathe new economic life into these scarred areas, take advantage of unique physical characteristics of these lands, preserve forests and farm land, and retain the region's proud history and identity as an energy-producing region.

The concept of a renewable energy park is to demonstrate the viability of different renewable energy generation types on coal-impacted lands. Abandoned and previously mined lands can be ideal locations for a variety of alternative energy resources. Mining sites are typically located near existing infrastructure, including roads and transmission lines (for electrified mines) that were required for mining activities. Though some abandoned mine sites may require refurbishment of such infrastructure if they have not been in use in recent decades, the availability of existing infrastructure can reduce project costs for energy projects. Other abandoned mine land characteristics make these sites uniquely well-suited for advanced energy development, as detailed below.

A renewable energy park will offer a variety of benefits to the region. Notably, it will provide jobs in the pre-development, construction, and operations and maintenance phases of the project. The park will provide low-cost, local, clean electricity to the power grid, improving air quality and lowering power bills for ratepayers. Locally, the project will also serve as an educational tool for colleges and schools. As the U.S. power grid shifts towards renewable energy, regional high schools and colleges can utilize the renewable energy park for educational programs, learning both about the energy technologies and abandoned mine land reclamation. By utilizing renewable energy parks across the Appalachian coalfields, this concept will display the many ways the region can remain an energy hub of the east while also re-utilizing the land affected by extraction-based energy production.

GEOTHERMAL POTENTIAL

Water in abandoned coal mines can be used for both heating and cooling, with either closed- or open-loop configurations. The idea is not untested–a manufacturer in Nova Scotia has used geothermal energy from floodwater in abandoned coal mines to provide heating and cooling at its facility for decades. The idea could be coming to Virginia soon–in September, the Department of Mines, Minerals, and Energy announced a collaboration with Invest Appalachia to research the feasibility of using abandoned underground mines as a source for heating and cooling. Hundreds of closed underground mines are being considered for the research. State funding from GO Virginia is seeking to pair these mine sites with data centers, with the idea that cold water in mine pools could be used to help cool data centers.

WIND POTENTIAL

Abandoned mine sites can be ideal locations for small- to mid-scale wind farms, as the physical characteristics of abandoned mine sites are often similar to the requirements for proper wind farm siting. Wind farms require reliable, sufficient wind, and coal mines are often located in windy, mountainous areas. Wind farms require large, open areas of land, which are often not available in forested mountain areas, but coal-mined areas are often large, cleared areas of land that could accommodate a large number of wind turbines. To date, no large wind projects have been installed in the Commonwealth of Virginia. The terrain in Southwest Virginia is less amenable to utility-scale wind energy facilities compared to the coastal parts of the state, but smaller distributed wind installations are viable on flatter, deforested mined areas or hilltops and ridges in mined areas.

SOLAR POTENTIAL

With advantages similar to those for wind sites, the physical characteristics of abandoned mine lands present opportunities for solar energy development. The large, flatter, deforested areas of land can accommodate ground-mount solar projects, especially as new racking technologies make their way to the market that allow for solar development on land with steeper slopes. Southwest Virginia had its first success with solar sited on abandoned mine sites–an AML Pilot project was funded in 2018 to build a 3.46 MW solar facility on an abandoned mine site in Wise County. The potential for solar development on land purchased by The Nature Conservancy across Appalachia is also profiled on our website.

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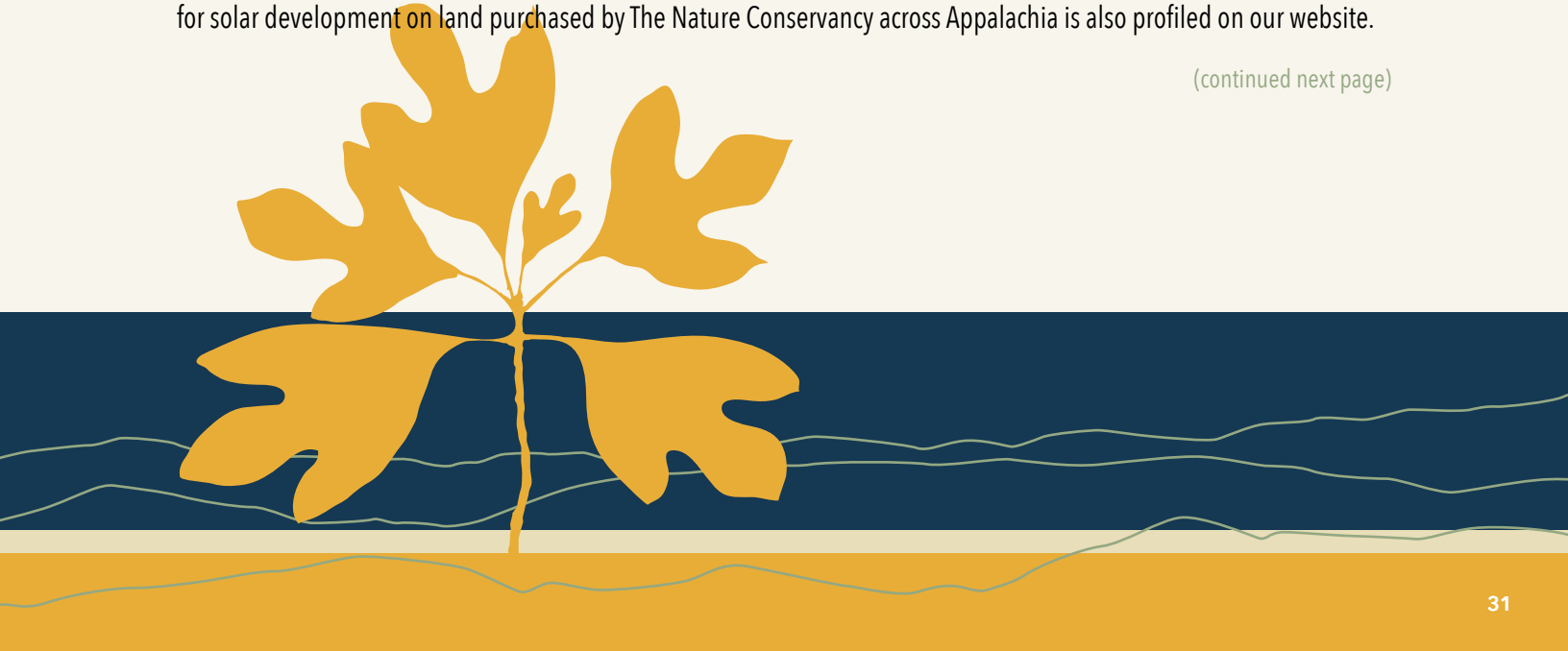


AML RENEWABLE ENERGY PARK (CONTINUED)

PUMPED HYDROELECTRIC ENERGY STORAGE POTENTIAL

Pumped hydroelectric energy storage is being discussed in Southwest Virginia, as Dominion Energy continues its assessment of a new potential facility in Tazewell County. Pumped hydro storage facilities are used across the world, with the largest facility located in Bath County, Virginia. Such facilities use cheap or excess power, or on-site renewable energy, to pump water into an elevated reservoir during off-peak hours. By holding the water until peak demand hours and releasing it to run hydro turbines when energy is needed the most, electricity is effectively captured and stored.

Although using energy to pump water uphill may sound counterintuitive, this project can be a way to make our power usage more efficient, and possibly more clean, depending on what types of resources are used to power the facility when it is pumping water to the elevated reservoir. Perhaps most importantly, utilizing pumped storage facilities in combination with wind and solar farms can reduce or eliminate the challenges posed by the intermittent nature of these renewable sources. Mine sites can serve as a reservoir for a pumped hydro facility–either using subsurface pools of water in abandoned deep mines, or surface reservoirs, including sediment ponds; however, no such sites have been developed in the United States at this time.

ABANDONED MINE LAND NEXUS

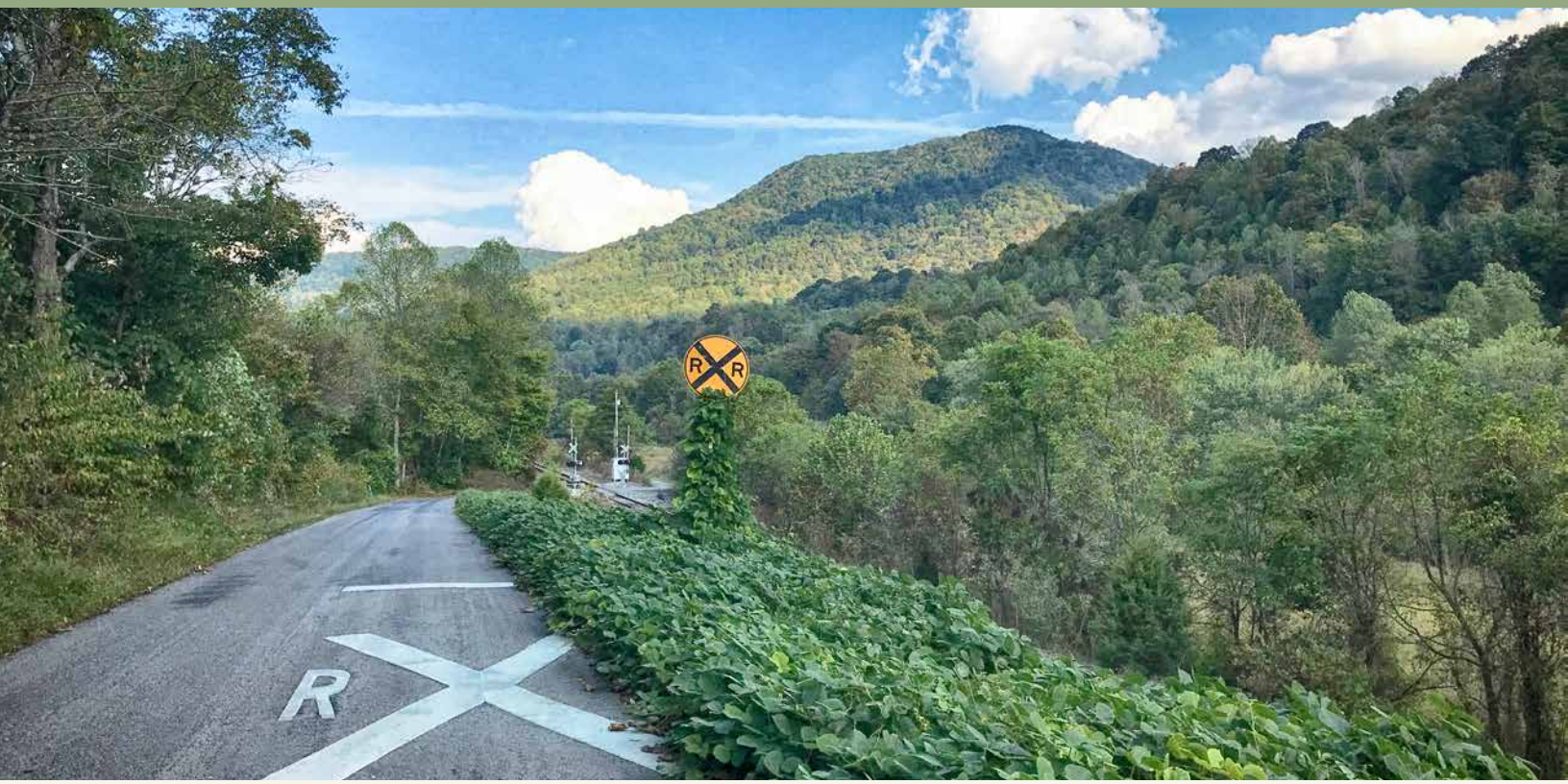
The pervasive nature of pre-SMCRA sites across Virginia means that there are numerous sites that could be considered for a renewable energy park that would also be eligible for AML Pilot funding. The potential for alternative energy development on abandoned mine lands is well documented, but projects on such lands have been slow to develop due to the additional costs associated with reclaiming the land and uncertainties regarding the conditions on the ground. Developers must also consider the impacts of disturbing mine water for geothermal and pumped hydro projects, how such disturbances will impact water quality in the area, and whether there are contaminants in the water that will affect the operation of the energy technology. Studying these unknown factors and potential impacts will be an important component of educational programs connected to the renewable energy park.

COST

The goal of the renewable energy park is to demonstrate as many renewable technologies as possible on a single mine site, but at a large-enough scale to demonstrate the utility and benefits of different technologies. A park built to demonstrate large-scale solar and wind, geothermal, and pumped hydro technologies could easily cost $4–5 million in project development costs.

IMPACTS

This project would lead to several economic and community development benefits. The first would be the increase in skilled labor experienced in the installation of large-scale renewable energy projects, which will make the development of future projects in the region more likely as there will be a workforce available to deliver. The second is the annual infusion of capital into the local community. The annual land lease as well as site operations and maintenance could result in millions of dollars in annual local spending. Lastly, and most importantly, the project would provide a critical proof-of-concept for renewable energy development on previously mined land and elevate Southwest Virginia as a place to develop renewable energy.



SNAPSHOT: APPALACHIAN MOUNTAIN METRO

The coalfields of Southwest Virginia have a long, celebrated history of railroads. The vast web of rails connecting coal towns and cities were critical in the coal-based economy. However, like many industries relying on the declining coal economy, the railways have also seen less cars on their tracks. This project would repurpose the existing, underused freight rail infrastructure for passenger rail, enabling the connection between multiple coalfield communities throughout Southwest Virginia and beyond.

The many paths and connections the rails cover make it a potential vehicle for the interconnection of rural Appalachia to nearby urban centers, which may rejuvenate the rail routes and the communities they traverse. Easy access in and out of rural America has the potential to easily transport Southwest Virginians to jobs and recreational activities outside of their region; allow people to keep jobs in other regions but move to Southwest Virginia to take advantage of inexpensive housing and a rural lifestyle; and allow people living outside of the region to more easily access Southwest Virginia's many recreational and cultural assets.

Passenger rail service provided in eastern parts of the Commonwealth has been key to making Virginia economically competitive and an attractive tourist destination. Virginia utilizes an Intercity Passenger Rail Operating and Capital Fund which provides dedicated funds to support passenger rail service that provides $190 million in annual benefits to Virginia. However, passenger rail services currently ends in Roanoke, not connecting to the far southwestern counties of Virginia.

Though it may also be possible to expand the existing rail lines to be used as both freight and passenger lines, it is unlikely that the railroad companies will want to take on the additional liability associated with using their lines for passenger transportation. The most promising opportunity to bring passenger rail to Southwest Virginia is to

convert the lines to passenger rail when the current companies are ready to sell. It is expected that as the coal industry declines, railroad companies will begin to off-load assets within the next five years in Southwest Virginia and beyond, streamlining their services to key routes across the country. The opportunity to purchase and convert these lines to passenger rail will present itself quickly; interested companies and agencies should start to envision the possibilities and make a plan for action now.

Because these railroads largely stretch across coalfields, they are often surrounded by a variety of AML features. For example, the Clinchfield Railroad has ample opportunities for reclamation, with AML features such as highwalls, hazardous equipment and facilities, and gob piles. Several railways across the region exhibit similar potential for AML Pilot funding.

Utilizing estimations developed through the study of completed freight to passenger rail line conversions in the U.S., the project team expects this project to cost in the ballpark of $1.5 billion. This would include the purchase and conversion of 150 miles of rail line, the purchase of locomotives and passenger cars, and the construction of 8 stations outfitted with ticket-vending machines.

CLINCH RIVER TRAILS AND CAMPGROUNDS

ABOUT THIS PROJECT

The Clinch River is a focal point for environmental and wildlife conservation as well as economic diversification in Southwest Virginia. The river is an ecological hotspot, showcasing a large variety of mussels, fish, and amphibian species that rely on healthy water quality throughout its 300-mile path to the Tennessee River. Its waters attract tourists and outdoor enthusiasts from nearby states, offering scenic views, exceptional fishing, and boating opportunities ranging from family-friendly floats to mid-level whitewater excursions.

In Southwest Virginia, the Clinch River plays an important role in economic diversification efforts within the region, as it is integral to local businesses such as the Clinch Life Outfitters and Pathfinders Outdoors Adventures. The Clinch River Valley Initiative (CRVI) is a collaborative effort in Southwest Virginia working with local partners to develop plans for connecting downtown revitalization, outdoor recreation, water quality, entrepreneurship, and environmental education along the river. A primary goal (and recent success) of this dedicated, grassroots effort is to develop the new Clinch River State Park in Virginia, incorporating numerous sites along the river.

The Clinch River Campgrounds project seeks to preserve and enhance the Clinch River by using AML Pilot funds to reclaim AML features along its route, creating campgrounds accessible by boaters and hikers exploring the waterway and its picturesque waterfalls. These paddle-in campgrounds are a special commodity for adventure watersports enthusiasts and would create new opportunities for multi-day journeys along the river, increasing the economic benefits to riverside communities.

For the 2019 Virginia AML Pilot funding, project partners will seek funds to purchase land along the river for AML feature remediation and for recreational structures such as new non-motorized trails to the river and other points of interest. The property will eventually be sold or donated to the Virginia Department of Conservation and Recreation for the new Clinch River State Park. Additional potential campground sites along the Clinch River have been identified and may be included in future AML Pilot applications.

PARTNERSHIPS

Partners for the project include The Nature Conservancy, Virginia State Parks, and the Clinch River Valley Initiative. Additional partners for the development of future sites include Friends of Southwest Virginia, the Virginia Tourism

Commission, UVa Wise and its Oxbow Center, the Virginia Department of Conservation and Recreation, the Virginia Department of Forestry, Southwest Virginia Community College, and the Heart of Appalachia Tourism Authority.

AML NEXUS

The Nature Conservancy intends to purchase land near the river with historic mining features that likely qualify for AML Pilot funding that is also adjacent to land owned by CF Highlands LLC and managed by The Nature Conservancy; the CF Highlands LLC property has several P3 sites, including a spoil area estimated at $30,000 and an unreclaimed high wall estimated to cost $2 million.

FUNDING SOURCES

Additional funding support for land purchases and campground and trail development for the Clinch River State Park may come from state appropriations, private trail development and conservation funds such as the American Hiking Society's National Trail Fund or the Conservation Alliance, Federal Recreational Trails Program Grants administered through the Virginia Department of Conservation and Recreation's Recreational Trails Program, the Virginia Land Conservation Foundation (also administered by the Department of Conservation and Recreation), and Land and Water Conservation Fund grants.

PROJECT IMPACT

Trail and campsite development costs could total $150,000, depending on the trail's path and the facilities included for the campground. Reclamation of unfunded AML features near the site could cost more than $2.06 million, and there are numerous AML features located along and near the Clinch River that may need to be reclaimed as part of the development of the state park and the trails and campgrounds it will encompass.

Economic modeling of these and other potential project development costs ($2.46 million) suggest that during its development, this project would result in a total economic output of $5.3 million, provide over $1.3 million in earnings to employees, support 31 regional full- and part-time jobs, and provide value-added benefits ($2.77 million).

An economic impact analysis of the Clinch River State Park completed in 2013 estimated that the park would attract 106,400 annual visitors by its fifth year of existence. During the five-year construction and development of the park (Phase 1), it is expected to bring in an annual economic impact of $3.58 million and 31 local jobs. This initial phase will cost $4.07 million. Later phases of the park development are expected to sustain 14 local jobs during construction phases and $1.95 million in economic impact. Beyond the economic impact of construction, the park is estimated to generate an annual economic impact of $2.53 million and sustain 23 jobs. Counties will benefit from an increase in tax revenue of $22,000 annually. This economic impact was based on the development of a 700-acre hub property, but the plan for the Park includes multiple access points serving as satellite properties along the river. The additional access points and trails along the river contemplated here will increase the economic impact of the park.

Qualitatively, preservation and protection of the Clinch River is important for biodiversity, education, and health and quality of life improvements for local communities. Development of additional trails and campsites contributes to these impacts.

CUMBERLAND FOREST AML SOLAR PROJECT

ABOUT THIS PROJECT

The Nature Conservancy and its local partners are working to build upon Appalachia's legacy as a domestic energy provider by capitalizing on the vast amount of land available from former surface coal mines and using it for siting a new form of clean energy development. Preliminary analysis conducted by The Nature Conservancy and Downstream Strategies suggests that across Central Appalachia, there are up to 400,000 acres of former minelands that could meet the minimum site suitability requirements for large-scale, ground mounted solar power installations–meaning the land is relatively flat and lacking forest cover and has preexisting access roads and necessary transmission lines. If all of this land area were harnessed for solar development, it could double the total solar capacity that has been installed in the United States so far.

Prioritizing the development of solar on former mine sites could serve as an economic boon to local economies that once relied on activity at these mine sites. It could also demonstrate how solar projects can be sited effectively on previously disturbed lands–a better alternative than developing solar in places that will degrade intact forests or other important natural habitats.

PARTNERSHIPS

A variety of stakeholders would benefit from advancing this market opportunity and could all play important roles in facilitating solar development in Appalachia. They include local, regional, and state government entities, mineland owners, mining companies, electric utilities, solar installers and developers, large electricity consumers such as data centers and manufacturing companies, nonprofit organizations, and local solar energy advocates. These stakeholders could be involved in advancing specific projects or broad policies. An alliance of diverse stakeholders working together would make it possible for more solar development to occur at a faster pace.

Many local and regional organizations are ready to advance these goals of solar energy development, including the Solar Workgroup of Southwest Virginia, Mountain Association of Community Economic Development, and many others. The Nature Conservancy's recent land purchase of more than 250,000 acres in the Central Appalachian Coalfields of

Kentucky, Tennessee, and Virginia may present new opportunities for these existing efforts to have exciting breakthroughs with an expanding network of partners.

AML NEXUS

The Nature Conservancy recently purchased nearly 400 square miles of land in Central Appalachia. Embedded within these holdings are thousands of acres of former mined lands, including AML features and more recently reclaimed areas that remain in a non-forested condition. Solar development on these lands could provide opportunities for remediation of many of these features and make former minelands ecologically and economically productive once again.

FUNDING SOURCES

Public utilities, businesses, and private investors are already making investments in solar across Appalachia today. While the opportunity exists to focus some federal funding in the form of traditional AML, AML Pilot, and EPA Brownfields funds for the reuse of these sites as solar mines, the projects also have the potential to leverage billions of dollars in private investment and that can utilize tax benefits such as the federal investment tax credit for solar, New Market Tax Credits, and Opportunity Zone tax benefits.

PROJECT IMPACT

Of course, the more solar that can be installed in Central Appalachia, the more jobs–up and down the value-chain–that can be created. A recent economic impact analysis of solar development in the coalfield region of Southwest Virginia found that if 230 MW of large-scale solar were developed over a 10-year period, 212 jobs could be supported. The average large-scale solar installation needs approximately 8 acres of land per megawatt; if just half the suitable acres in Central Appalachia were developed for solar energy, the land could support 25 gigawatts of solar energy development, creating tens of thousands of jobs across the region.

The Appalachian Ohio Solar Supply-Chain Initiative found that just 400 MW of solar was enough to attract upstream manufacturing businesses and other components of the supply chain. Virginia's Executive Order 343 sets Virginia on a path to installing 3 GW of solar to meet its renewable energy goals. If 1 GW of solar development was focused on formerly mined land and other brownfields in Virginia, thousands of jobs could be created. In fact, economic impact modeling of 1 GW of solar suggests that the activity would support over 9,600 permanent and temporary jobs. This activity would result in a total economic output of nearly $2 billion, provide nearly $700 million dollars in earnings for employees, and provide over $1 billion in value-added benefits.

SNAPSHOT UPDATE: DANTE REVITALIZATION SUCCESS

The possibilities for economic development connected to abandoned mine lands in the community of Dante, Virginia, have been highlighted in both the 2016 report *Healing Our Land, Growing our Future: Innovative Mine Reclamation in Southwest Virginia*, and the 2018 report *Many Voices, Many Solutions Innovative Mine Reclamation in Central Appalachia*. Though initially unsuccessful in 2017, we are happy to report that the community received $269,000 in funding as part of the DMME's 2018 AML Pilot program after revising their application to reflect the updated needs and vision of the community. The project features a series of ATV, biking, and walking trails and the reclamation of two abandoned mine portals in the community. Additionally, the Virginia Department of Environmental Quality awarded a $215,000 brownfields assistance grant for redevelopment at the Arty Lee School, an important part of the Dante community's African- American heritage.

As the community that housed the former headquarters of Clinchfield Coal Corporation works to execute these new grant-funded projects, they also continue to implement their comprehensive downtown plan, which was developed in partnership with the Virginia Tech Community Design Assistance Center, and develop additional trail projects. Specifically, the Dante Community Association is planning to apply for additional funds in the future for the removal of a former mining structure near a discharging portal, the removal of invasive autumn olive trees that are becoming established on several former gob piles around the community, the extension of the Hazel Mountain trail to the local fire tower, the extension of the Spearhead Trail from its current entrance to the community ballfield, construction of a parking lot near the ballfield, and construction of a short hiking trail up to Roanoke Hill, among other projects.

SNAPSHOT UPDATE: THE DREAM AT FLANNAGAN MARINA

ABOUT THIS PROJECT

The Oquin family acquired the John Flannagan Marina in 2017, and in 2018 applied for an AML Pilot grant to build upon their success in transforming the marina into an upscale mountain resort, attracting tourists and local water sports enthusiasts from around the region. The marina also serves as an essential community resource by hosting fundraisers for local families in need and providing training facilities for local sports teams. Though the application was unsuccessful in 2018, the Oquins have been meeting with state and local officials to incorporate feedback and bolster their application for 2019.

The project will leverage the family's extensive investment in the region totalling more than $400,000 and provide additional overnight lodging options for the growing outdoor tourism economy. These efforts include the construction of three cabins, full-service camping sites, and a primitive camping area on an AML feature. The investment will provide direct job opportunities for people living in Southwest Virginia. Further, the land is owned by the Army Corps of Engineers and is leased to the Oquin family, so grant investments made in the property are retained by the taxpayers.

Spending related to this $1.03 million project would result in a total economic output valued at more than $2.1 million, provide $622,000 in wages to employees, and support nearly 13 jobs across the regional economy.

SYMPLY DATA CENTERS

ABOUT THIS PROJECT

Symply Data Centers, launched in 2017, offers services to allow anyone the opportunity to mine cryptocurrencies. Cryptocurrency is a tradable, digital form of money built on what is known as blockchain technology, which only exists online. Symply Data Centers purchases, builds, and maintains its customers' mining rigs–the computer systems used for mining bitcoins–in its data centers and also hosts corporate blockchain applications. The company opened its first data center in Piney Flats, Tennessee, in 2018 and is seeking funders for new locations across the country, particularly in Opportunity Zones, which allow investors to take advantage of tax benefits available for investments in economically-distressed communities.

Data centers use a considerable amount of electricity, with energy bills being one of Symply Data Centers' most significant costs of operation. Additionally, data centers generate considerable excess heat. Symply Data Centers plans to reduce its overhead costs and thus the costs to its customers by powering its facilities with solar and, rather than venting the excess heat into the air, using it for on-site greenhouses, which will produce crops for an additional revenue stream.

The company is seeking $5 million in investments for the development of its next data center, which will include a 1-megawatt solar installation, an electrical building to supply the data center and house backup batteries and generators, up to four commercial greenhouses, and a data center building with hot-air ventilation to the nearby greenhouses. Symply Data Centers is specifically targeting areas such as abandoned mine lands (AML) and landfills to revitalize these "undesirable" sites for productive economic use. The construction of the facility will cost $4 million, while the remaining $1 million will fund employee salaries during the initial launch phase of the facility.

AML NEXUS

Symply Data Centers is seeking sites with at least five acres of land in Opportunity Zones with suitable slope and sun exposure. There are a number of promising pre-SMCRA sites that meet these criteria in Virginia, particularly in Wise County. Features located on these sites include clogged streams, open mine portals, highwalls, dangerous impoundments, hazardous water bodies, and hazardous equipment and facilities.

One specific option that meets the data center's basic requirements is Project Intersection in Norton, VA, which has been developed to attract new manufacturing and industrial operations to the coalfields. In 2018, the area received $3.5 million in AML Pilot funding as well as $917,315 in Appalachian Regional Commission funding for highwall removal, road access, water and wastewater infrastructure, access to power, natural gas, and broadband service.

Another option includes land owned by the Wise County Industrial Development Authority near the Lonesome Pine Airport. Many AML features on this site have already been reclaimed, but a number of features remain, including hazardous equipment, highwalls, and hazardous water bodies.

FUNDING SOURCES

The project developers are primarily seeking funding from AML Pilot grants and Opportunity Zone investors. Additional funding from the Virginia Tobacco Region Revitalization Commission, the U.S. Small Business Administration, GO Virginia, and brownfields grant programs may be appropriate.

PROJECT IMPACT

Construction of the site will cost $4 million. The project will also further exemplify the potential of siting data centers in Southwest Virginia and demonstrate the benefits of solar energy in combination with such facilities. This will help to advance local efforts of the Solar Workgroup of Southwest Virginia to bring solar energy development jobs to the region.

The e-AMLIS database lists a number of AML features that could be reclaimed as part of this project if the project were to be installed at the Lonesome Pine Airport, including:

- Hazardous equipment or facilities: $1,000
- Highwalls: $1.04 million
- Hazardous water bodies: $20,000

Economic modeling of these potential project development costs ($5.06 million) suggests that the construction of the data center would result in a total economic output of $11.4 million. Additionally, the project would provide nearly $4 million in earnings to employees across the region, support 84 full- and part-time jobs in different sectors of the economy, and provide nearly $6.5 million in value-added benefits. Long-term, developing a new data center in Virginia will provide approximately 25 jobs on-site–10 engineers and programmers at the data center and up to 15 employees at the greenhouse.

SNAPSHOT: TOWN OF APPALACHIA TRANSFORMATION

ABOUT THIS PROJECT

The Town of Appalachia in Wise County boasts a rich and unique heritage, which continues to thrive through various events and facilities. Appalachia occupies 2.3 square miles and served as a hub for many coal camp communities that formed during the arrival of the mining and railroad industries, including Andover, Arno, Derby, Imboden, Exeter, Dunbar, Pardee, Osaka, Roda, and Stonega.

The community organization known as Appalachia Special Projects hosts many events and activities for the town, including Oktoberfest, Christmas Parade, and Coal and Railroad Days, which is a week-long celebration of the town's heritage with music, amusement rides, vendors, parades, and competitions.

Appalachia is in the process of requesting that Wise County allow a boundary adjustment that would bring 1,000 acres of undeveloped land within town limits. The adjustment would bring in both the full Bullitt Mine Complex, an iconic mine and the site of a former processing facility operated by Westmoreland Coal and now owned by A & G Coal, and the entire Powell River Trail, which is a popular 1.2-mile walking and biking trail between Appalachia and the Town of Big Stone Gap that crosses over the Powell River.

Industrial Development and Essential Services

The town envisions that the Bullitt Mine Complex site could be developed for industrial businesses and a training facility for the town's fire and rescue squad. The town's fire station is currently housed in a building that is more than 100 years old and must be relocated as the existing structure is collapsing due to subsidence issues widespread throughout the town. The town's fire department is staffed by both paid and volunteer personnel and provides emergency medical transportation services. The town is designing a new net-zero-energy fire and police

station powered by solar panels and utilizing a rainwater collection system. The new, larger facility will also help the fire department reach the goal of improving the town's Insurance Services Office fire rating score, which will reduce insurance rates for businesses looking to locate in the area.

Outdoor Recreation and Ecotourism

Local leaders and members of the Appalachia Special Projects committee recognize the growing opportunities for outdoor recreation, such as hiking in the nearby Jefferson National Forest and the recent emergence of rock climbing near the town's reservoir. The uptick in visitors presents a unique opportunity to spur new businesses to open in the community to serve both visitors and residents alike. The town is increasingly looking to outdoor recreation as an avenue for economic growth and diversification, and co-hosts many race events including the Union Half Marathon and Benge's Revenge Bike Race, and building trails, such as its popular Powell Valley Trail.

Properties within the boundary adjustment would allow the town to advance its ecotourism and recreation goals. Specifically, the town hopes to link its Powell River Trail to the adjacent Town of Big Stone Gap's 3-mile paved Greenbelt and the U.S. Forest Service's 3.9-mile Roaring Branch Trail that sits between the two towns, and build a new pedestrian bridge to allow for better trail access. Parking for the trails could be developed at the site of a former dumpster on Alternate Route 58 (currently, trail users park alongside the road).

PARTNERSHIPS

Appalachia Special Projects, Town of Big Stone Gap, the U.S. Forest Service, Virginia Tourism Commission, Virginia Department of Conservation and Recreation, Virginia Department of Transportation, Virginia Department of Forestry, and Heart of Appalachia Tourism Authority are all potential partners on the trail development and associated parking projects.

The Virginia Department of Fire Programs and the Virginia Association of Volunteer Rescue Squads may be partners on the town's fire station improvements. Lastly, Wise County, the LENOWISCO Planning District Commission, the Wise County Industrial Development Authority, Virginia Coalfield Economic Development Authority, Virginia Economic Development Partnership, Virginia Department of Environmental Quality, Virginia Department of Small Business and Supplier Diversity, and the Southwest Virginia Technology Center are all existing or potential partners on the redevelopment of the Bullitt Mine Complex.

(continued next page)

TOWN OF APPALACHIA TRANSFORMATION (CONTINUED)

AML NEXUS

Coal mining has impacted much of the land in the town. The town is surrounded by mines, including the Bullitt Mine Complex, Kelly Branch, Halfway Branch, and Bearpen Hollow surface mines. Each one of these mines is currently permitted under the Surface Mining Control and Reclamation Act; however, their reclamation state is uncertain, as the mine owners are currently involved in compliance agreements with the DMME to avoid bond forfeiture.

Recently, a large gob pile clean up operation occurred just outside of the town limits near the community of Inman. This gob pile cleanup is near the Westmoreland mining operation, which could convey AML eligibility for the site. Further upstream, the Linden Mine portal and drainage discharges water high in sulfates and other dissolved solids into Looney Creek. Several smaller gob piles remain nearby. Numerous other features located in and near the town are listed in the state's inventory, including open mine portals, highwalls, clogged streams, and hazardous equipment.

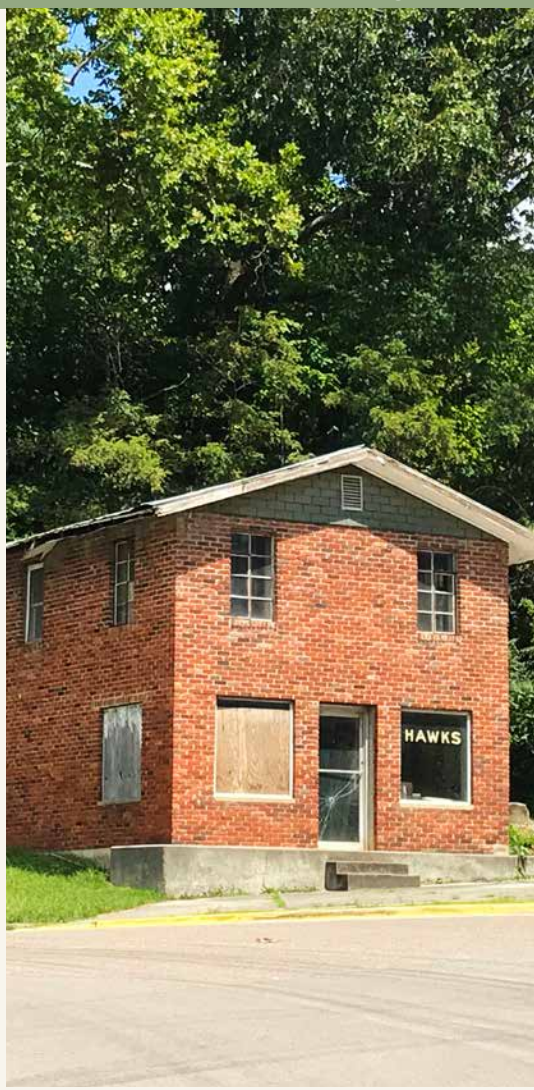
The Bullitt Mine site may also be considered for brownfield eligibility. The site includes a former tipple and processing plant and formerly housed six very large coal storage silos. Though currently permitted under SMCRA, the site is not subject to the same reclamation requirements as other mines, as its post-mining land use is listed as industrial. As such, it will not likely be put back in a revegetated state. A & G Coal is the current landowner of the site, and the Town of Appalachia has expressed interest in buying the site if it can be proven that the area has been property remediated.

FUNDING SOURCES

Much of the land in Appalachia impacted by coal is not eligible for the AML Pilot program because the land has been permitted and mined since 1981. Therefore, reclamation of many sites will require funds from sources such as brownfield grants. Currently, there are two EPA Brownfields Assessment Grants being implemented in the region that could be used for assessments at the Bullitt Mine Complex and other nearby mining features, including a grant for the Guest River Watershed in Wise County and a grant to the LENOWISCO Planning District Commission for assessment and planning for sites along Powell River Trail North abandoned railroad corridor and on abandoned mine land properties.

Funding support for trail development for the town may come from private trail development and conservation funds such as the American Hiking Society's National Trail Fund or the Conservation Alliance, federal Recreational Trails Program grants administered through the Virginia Department of Conservation and Recreation's Recreational Trails Program, the Virginia Land Conservation Foundation also administered by the Department of Conservation and Recreation, and Land and Water Conservation Fund grants.

The town is also considering funding from additional state and federal agencies for the construction of the new fire station and industrial development at the Bullitt Mine Complex, such as U.S. Department of Agriculture Rural Community Development Initiative grants and Rural Energy for America grants, and the state agencies identified as partners above.



PROJECT IMPACT

Outdoor Recreation and Ecotourism

While economic development is a key outcome of this project, the trail extensions will generate other critical community benefits. The presence of the trail system and the associated future ecotourism businesses and amenities will make Appalachia more appealing to businesses and individuals interested in moving to the area. This measurable improvement to the area's quality of life will play a key role in filling the void left by the downsizing of the coal industry.

Essential Services

The new fire and police station will cost approximately $3 million. The improvements to the fire station will have ripple effects throughout the community, as the station will be able to serve more residents and businesses faster and more efficiently, and the improvements made to the fire station's services will decrease insurance costs for residents and businesses alike. The fire station currently has two full-time firefighters and 12 part-time firefighters on staff, and six reserve firefighters. The town police station has four full-time police officers, one part-time officer, and one part-time administrative clerk. Improving these vital facilities and ensuring the town can continue to support its population with emergency services is crucial to maintaining these jobs and potentially growing the fire, rescue, and police forces.

AML Reclamation

Long-term, the reclamation of numerous coal mining features will improve health and safety for town residents and improve prospects for economic development. However, in the interim, these pre- and post-law mining features provide an opportunity for people in and around Appalachia to engage in the restoration economy. The communities of Andover and Inman have an estimated cumulative $1.8 million of unabated P1, P2, and P3 AML features. Economic modeling of the remediation of these features suggests that activity alone would result in a total economic output of $4 million, provide nearly $1.1 million in wages to employees, and support 23 jobs across different sectors of the regional economy.

AML REMEDIATION COSTS:

More than $1.8 million dollars of P1, P2, and P3 sites are listed in the e-AMLIS database in proximity of Appalachia. In Andover, more than $1.2 million in unfunded sites are listed, including spoil areas, gob piles, benches, haul roads, industrial and residential waste, and a highwall. In The community of Inman has more $700,000 in unfunded sites are listed, including clogged streams, open portals, vertical openings, hazardous equipment and facilities, a highwall, a haul road, benches, and spoil areas.

TRAMMEL

ABOUT THIS PROJECT

Many small towns populating Appalachia today were first established as coal camps. One of the oldest of such camps is Trammel, which was founded in 1918 and serves as the gateway community to Dickenson County, VA. This small community once consisted of 100 nearly identical houses built along a narrow valley. Only 55 of the houses remain, and 38 of them are still habitable. The other 17 are severely blighted and are not only unsightly, but pose health, environmental, collapse, and fire hazards due to the structural compromise and small lot sizes. Most of the homes are still relics of the original construction, and as such have limited or no insulation, cracked plaster walls and ceilings, sinking and uneven floors, dangerously outdated wiring, and use the original chimney and wood/coal heating infrastructure for heat during the winter. The project involves a comprehensive, phased approach addressing housing, blight, and infrastructure concerns to improve the whole of the community, which is literally surrounded by AML features.

PARTNERSHIPS

People Incorporated, a community development non-profit is leading this project, partnering with Dickenson County, Dickenson County Industrial Development Authority, and the Virginia Department of Housing and Community Development for general support throughout the project implementation, and The Nature Conservancy, due to their ownership of adjacent land that includes the AML features. Additional partners may include Dickenson County Community Partners Coalition for ongoing support for the Trammel community and the Dickenson County Historical Society during project development to preserve the history and heritage of the community.

AML NEXUS

As a coalfield community, Trammel is surrounded by dangerous and unsightly AML features, rendering many areas unsafe and impeding productive economic development. The project area is near coal waste, open portals, clogged streams, and hazardous equipment and facilities. Remediating these features as a component of the housing rehabilitation project will not only improve the living situation of residents, many of whom are rooted in the coal industry, but elevate the town as an affordable and desirable place to live. Due to previous reclamation that has occurred at this site, DMME will not require additional reclamation at the site in order for the project to be eligible for AML Pilot grant funding. However, due to the proximity of many of the AML features, additional reclamation, likely including the closure of mine portals, will be included in the funding application. Open portals yet to be reclaimed listed in the e-AMLIS database total more than $22,200 in known costs, but additional portals not listed in the database may be present.

Unfunded AML features located in Trammel and listed in the e-AMLIS database total nearly $5 million and include:

- Clogged streams and lands: $57,500
- Mine portals: $22,200
- Gob piles: $20,000
- High walls: $4,480,000
- Hazardous facilities: $115,000
- Dangerous slides: $100,000
- Spoil areas: $17,500
- Haul roads: $3,500
- Benches: $17,500

FUNDING SOURCES

Funding for the preliminary study was made through the Trammel Needs Assessment Planning Grant. For Phase 1, the community was awarded a $1 million Community Development Block Grant from the Virginia Department of Housing and Community Development. AML Pilot funds will be used to compensate for the projected gap in Phase 1 and supplement work for subsequent phases.

PROJECT IMPACTS

Overall, 45 Trammel residents will benefit from the range of improvements to be made, most of whom are low- to moderate-income or elderly and on a fixed income, and some of whom are disabled or receiving payments for black lung disease contracted as a result of employment in the coal industry. The project will be completed in several phases. The first project area comprises two-thirds of the community, at approximately 34 properties. Of the target properties, eight single-family dwellings will be rehabilitated, six will be demolished and substantially reconstructed, and 13 blighted buildings will be demolished. Additionally, 2,500 feet of damaged or subpar sidewalk will be repaired, and underground tanks will be removed to alleviate drainage issues. These structural improvements will not only help individual residents by making the area safer and more fit to live in, but will also increase the attractiveness to businesses and tourists entering the region via Dante Mountain Road (State Route 63), the primary way to enter the county from the south. Subsequent phases of the project will invest in establishing community spaces, such as a solar garden.

Economic modeling of project development spending ($1.1 million) suggests this critical community revitalization project would result in total immediate economic activity of nearly $2.7 million, contribute nearly $800,000 in earnings to employees, support over 17 jobs across different sectors of the economy, and provide close to $1.4 million in value-added benefits.

WEST VIRGINIA

West Virginia: Introduction

Coalfield Development Corporation (Coalfield) has a long history in transforming the social, economic, and environmental landscape of West Virginia, ranging from revitalizing dilapidated properties to reskilling the regional workforce in sustainable new enterprises. Through collaborative partnerships with Downstream Strategies and the community organizations across the state, Coalfield's workforce development model has been symphonically integrated into the ever-present need for Abandoned Mine Lands (AML) transformation in West Virginia.

This work has been made possible by collaborating with state and local entities across the board through the lens of community-based and locally-sourced restoration and remediation. Special care and planning have been put into identifying how these projects not only benefit the environment but also provide training in diverting and transforming landfill-destined materials into value-added products in a way that reinvests in the local economy. Simultaneously, Coalfield is addressing economic dilapidation by way of tourism opportunities in recreation and beautification in mine-impacted communities.

These AML Pilot opportunities are the new generation of forerunners reigniting Appalachian ingenuity in West Virginia. By simultaneously addressing the issue of environmental restoration, new and creative solutions have been pioneered for tourism, pollution, workforce readiness, and economic growth.

Jacob Hannah
Conservation Coordinator
Coalfield Development

APPALACHIAN REUSE CORRIDOR

ABOUT THIS PROJECT

The Westmoreland neighborhood in Huntington, WV, has seen recent revitalization thanks in part to the launch of the Coalfield Development Corporation's (Coalfield) West Edge Factory, the hub of its job-creation and social enterprise activities for the area. Now, adjacent to the West Edge Factory, the five-acre, 50,000-square-foot former Black Diamond facility is set to contribute to the continued economic upswing in the community by housing the headquarters of the new Appalachian ReUse Corridor.

The tri-state Reuse Corridor will operate as a mixed business and employ southern WV citizens using Coalfield's innovative 33-6-3 workforce development model, offering sustainable and well-paid positions in anything from materials reclamation to logistics. The site is complete with existing infrastructure, including key highways, the Ohio River, and a nearby major CSX Rail line, which connects major commercial, industrial, and Heartland Intermodal Gateway facilities along the WV-KY border. Ultimately, recycled materials can be moved by rail, processed at the intermodal facility, and sold internationally.

PARTNERSHIPS

Partners include the Marshall University West Virginia Brownfields Assistance Center, Westmoreland Neighborhood Association, Westmoreland Women's Club, Unlimited Future's River-to-Rail Coalition, the City of Huntington, Wayne County EDA, Ohio Valley Environmental Council, and the Huntington Chamber of Commerce.

BROWNFIELD DESCRIPTION

The Black Diamond facility is a relic of Huntington's industrial legacy in manufacturing. The property was first built in the late 1910s and was used for metal fabrication and the production of parts for planes in WW1 and Jeeps in WW2, but it is now blighted and has multiple contaminants throughout the site.

The site's proximity to residential homes makes it a crucial cleanup priority for the sake of public health. A series of assessments using an EPA Brownfields Assessment Grant indicate a broad range of contaminants, including heavy metals in soils, volatile organic compounds in soils and groundwater, asbestos in the roof coatings, and polychlorinated biphenyls and heavy metals in the building debris and concrete. While total contaminant removal is not possible, a combination of remediation steps have been recommended, including the removal of impacted soil, debris, and concrete, groundwater management and monitoring, and enrollment in the WVDEP's Voluntary Remediation Program.

FUNDING SOURCES

Primary funding sources include the Communities Thrive Challenge grant award from the Chan Zuckerberg Initiative and Rockefeller Foundation, ARC POWER grants, Wayne County Economic Development Authority resources, Opportunity Funds, and an EPA Brownfields Cleanup grant. Additionally, Coalfield will be leveraging significant resources as well, using its own OSHA 10, HAZWOPER, HazCom, and other skilled workers in conjunction with environmental cleanup contractors, amounting to considerable in-kind contributions.

PROJECT IMPACT

The reclamation and redevelopment of the Black Diamond facility into the ReUse Corridor has the potential to transform the Westmoreland neighborhood in health, economy, and environment. Once a mighty railroad, manufacturing, and coal economy at the gateway to Appalachia, Huntington is now rated as one of the poorest, least healthy, most psychologically depressed, and most opioid-impacted cities in America. The Black Diamond complex is a magnet for criminal activity, which was also the case for the nearby Corbin Factory until Coalfield redeveloped it into the West Edge Factory, which now houses seven thriving business enterprises and a workforce development training center. West Edge has paved the way for revitalization in the neighborhood, promoting engagements such as open houses, forums, art exhibits, fundraisers, concerts, and other events designed to restore a sense of community pride and progress–and converting the Black Diamond facility into the ReUse Corridor will serve to reinforce and cultivate these efforts.

As a result of this project, nearly five acres and 50,000 square feet of brownfield property will be remediated for a productive end use, which will support up to 20 new and sustainable jobs and continued industrial and workforce development as the Appalachian ReUse Corridor gains traction and complements Coalfield's other initiatives in the area. Additionally, the health and well-being of the surrounding community and future site-users will be protected through the removal of contaminants.

Economic modeling of project spending related to this $500,000 project suggests it would result in a total economic output valued at more than $1.1 million and provide nearly $325,000 in wages to employees in the region.


photo: Bridge Valley CTC

RIVER CITIES TRAIL

ABOUT THIS PROJECT

Both rivers and trails have historically been conduits of trade and travel between cities, connecting one commercial hub to the next. Two such cities strung along the Kanawha River are Montgomery and Smithers, West Virginia. United by a bridge, they consider themselves to be "two cities, one community," and intend to reflect that sentiment in joining their respective trails, forming the River Cities Trail System as a component of the River Cities Trail Development Project, spearheaded by the Upper Kanawha Valley Strategic Initiatives Council (UKVSIC), a formal partnership between Smithers and Montgomery.

Left with an economic void following the 2016 departure of West Virginia University (WVU) Tech, the community now seeks to become a functioning trail town and gateway to the popular New River Gorge, forging a new era of industry that revolves around outdoor recreation. The project framework incorporates the two guiding principles of trail-centered rural economic development: a contiguous, marketable trail network connecting existing systems, and sustained community engagement through community programming.

PARTNERSHIPS

The endeavor is supported by local and state entities such as UKVSIC , the Planning and Development Regions 3 and 4, the Kanawha and Fayette County Commissions, the WV Army National Guard, the WVDEP, the WVDOT,

WVU, and West Virginia State University; federal agencies such as the ARC, the US HUD, and the US EPA; regional nonprofits such as the New River Gorge Trails Alliance; and various other regional businesses and organizations.

AML NEXUS

While multiple AML features exist directly along and near the project site, priority for remediation will be given to two Emergency AML features that pose safety risks for visitors: a P2 dangerous impoundment (WV005578) near the existing trail and a P2 underground mine fire (WV005469) which may pose future issues. The total AML remediation costs are estimated to be $290,000.

FUNDING SOURCES

The primary funding sources include AML Pilot, local streams from the cities, in-kind donations, and federal funds.

PROJECT IMPACT

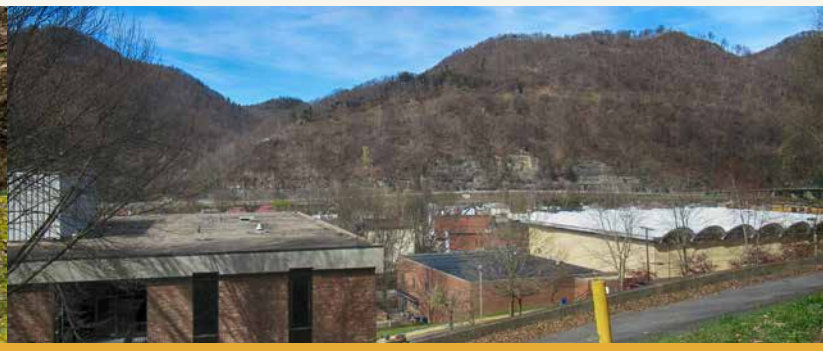
Connecting the two existing trail resources in Montgomery and Smithers will benefit both the immediate communities and those associated with other individual trail systems throughout the state, serving an estimated 150,000 people. The River Cities Trail System will be poised to tie into the Southern West Virginia Bike Trail Network, directly complementing the larger tourism development initiatives throughout WV. The proposed project will initially cost nearly $4.5 million, but the expected annual return is $1.5 million–and growing–alongside both new trail connections and communities and businesses prepared to tap into West Virginia's $9 billion outdoor recreation economy.

The River Cities Trail Town Program will provide capacity-building and help the community capitalize on recreational economy opportunities by assisting entrepreneurs with business and marketing strategies, making Smithers and Montgomery more appealing to businesses and incoming residents.

The project will also convert the former Montgomery City Pool property into a community "River Center," which will serve as a trailhead and public space for environmental education programming, training, and community events.

The improved trail access and public space for physical activity can improve personal and community health and see a 25 percent increase in residents who exercise regularly, which can help lower the counties' high rates of obesity and chronic diseases and raise rates of physical activity.

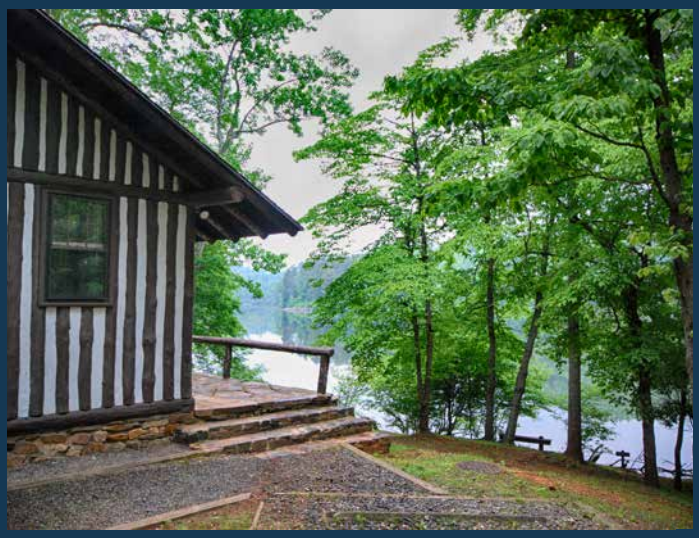
Economic modeling of project development spending ($3.3 million) suggests the River Cities Trail project would result in total immediate economic activity of nearly $7.3 million, contribute nearly $2 million in earnings to employees, support over 41 jobs across different sectors of the economy, and provide close to $3.8 million in value-added benefits.



SNAPSHOT: TUG FORK RESORT

The Tug Fork River weaves through the culturally significant National Coal Heritage Area and Coal Heritage Trail in the picturesque landscape of southern West Virginia and eastern Kentucky. The National Coal Heritage Area Authority was granted an Appalachian Regional Commission POWER Award to establish an access plan along the Tug Fork River, transforming the river into a recreational water trail. This complementary project is poised to build on these budding ecotourism efforts by providing an additional tourist destination and lodging in the form of a resort containing 15 charming, rustic log cabins dotting a riverfront campground nestled in the heart of Appalachian history.

The benefits and functions of these cabins will be manifold. Through Coalfield Development's 33-6-3 workforce development model, crews comprised of young adults from coalfield communities will receive gainful vocational training in the building and construction trades while erecting the cabins, which will feature an assortment of customized layouts to serve as model homes. Ultimately, this project will support the overarching ecotourism economy developing throughout West Virginia and surrounding states. With proximity to such recreational opportunities as the river, forests, the famous Hatfield-McCoy Trails, and abundant cultural assets, the resort is sure to attract visitors from near and far. The cabins, reminiscent of local heritage, will ensure travelers remain seamlessly immersed in the essence of Appalachia.



In addition to supporting the long-term economic climb of the coalfields, the implementation of this project will produce tangible economic impacts during construction. Economic modeling of project development costs (estimated at just over $2 million) suggests the project would result in total immediate economic activity of over $4.6 million, contribute nearly $1.3 million in earnings to employees, support nearly 30 jobs across different sectors of the economy, and provide close to $2.4 million in value-added benefits.

WEST VIRGINIA REUSE CENTER

ABOUT THIS PROJECT

The West Run watershed of Monongalia County in North Central West Virginia, a tributary to the Monongahela River, is home to West Virginia University (WVU) and its organic and husbandry farms and woodlot, hospitals, large and small businesses, and numerous residents. All these entities generate organic waste but lack a local solution for it.

Coalfield Development Corporation (Coalfield), a West Virginia-based social enterprise focused on rebuilding the Appalachian economy from the ground up, aims to establish the ReUse Center, the first commercial composting facility in the region. The facility will help divert waste from landfills and convert it into marketable, high-quality soil and other products to be sold back into the local community and foster training and workforce development, with emphasis on individuals exiting opioid and alcohol treatment facilities.

CDC ReUse Center: Project Map
Adjacency to Flood Zones

PARTNERSHIPS

Partnerships will include WVU's Davis College, which has multiple facilities and programs that produce large quantities of compostable waste, WVU Office of Sustainability, Fairmont State University, Monongalia County Solid Waste Authority, recovery-based organizations, the cities of Morgantown and Fairmont, and other regional municipalities.

AML NEXUS

The project site is on WVU property and is immediately adjacent to West Run #1 Problem Area, which includes one P1, four P2, and two P3 problems, including a dangerous impoundment and water pollution. Coalfield will work with the WV DEP to identify and prioritize features for remediation.

FUNDING SOURCES

WVU is waiving the customary fee for the site and is also permitting the use of the existing wastewater infrastructure on-site, which amounts to a significant donation.

PROJECT IMPACT

The benefits of the ReUse Center will be manifold: economic, agricultural, personal, educational, and environmental. Because no commercial compost facility exists in the area, the project will establish an entirely new line of business. The composting industry is increasingly recognized as a viable landfill alternative and its prevalence has increased fivefold since the 1990s with no signs of slowing. The proposed facility will cost over $3 million, but after just three years of operation, the project is expected to serve nearly 5,000 individuals, 6 major institutions, and 25 small businesses per year. The client base is expected to climb, as any entity that handles green waste in some capacity can benefit from the facility's services. Further, counties neighboring Monongalia, which are highly dependent on the coal industry, can provide employees, clients, and feedstocks.

The ReUse Center will use the Coalfield's 33-6-3 model to aid employees' well-being and workforce readiness. Each week, the employee will receive 33 hours of paid work, 6 hours of higher education in a community college, and 3 hours of personal development in subjects such as financial literacy, healthy living, and life management.

The facility is built to divert and convert 5,000 wet-tons of organic waste per year, resulting in approximately 1,000 tons of marketable compost per year. Additionally, methane emissions are reduced and the organic waste can be converted to agricultural fertilizer.

The ReUse Center will feature space for teaching and research and will accommodate structural expansion as the facility grows.

Economic modeling of project development spending ($3.3 million) suggests the ReUse Center project would result in total immediate economic activity of nearly $7.7 million, contribute nearly $2.4 million in earnings to employees, support over 54 jobs across different sectors of the economy, and provide close to $4 million in value-added benefits.

CONCLUSIONS

Looking ahead, the Reclaiming Appalachia Coalition is excited as we enter into our third year in 2020, with pending foundation funding to support our continued ability to provide assistance to local partners in developing and submitting innovative funding proposals. Changes are on the horizon for our coalition–some very exciting and some bittersweet.

Appalachian Citizens' Law Center will be stepping back from the coalition at the end of this year. Eric Dixon, who played a key role in founding the coalition, left ACLC this fall to pursue graduate school. Though ACLC did replace his position, the organization has decided to focus instead on federal advocacy and local accountability in Kentucky. We will miss ACLC's leadership and energy, though coalition organizations will remain closely connected through other collaborative efforts, such as passing the RECLAIM Act and working for AML Reauthorization. We look forward to continued partnership.

In response to this change, and in an effort to broaden our coalition's reach, we plan to launch a mini-grant program next year that will award packages of cash and technical assistance to organizations in AML Pilot areas, including Kentucky, to develop and submit competitive, innovative proposals for Pilot funding. This strategy will retain Kentucky in our organization's service area–something very important to our coalition–while also expanding our service area into Pennsylvania and Alabama, as well as western tribal lands with AML eligibility. This mini-grant program is an initial step into what could be an expansion of the core group of our coalition, and we are excited to see where this experimental approach takes us as 2020 unfolds.

One thing is certain: though funding streams may change, the idea of and need for a restoration economy is not going away. We are excited to work within a growing community of practice to accelerate the adoption of innovative approaches to land restoration that contribute meaningfully to the region's economic rebirth. Reauthorizing the AML Program is perhaps the most critical next step to maintaining the momentum that has been built recently around this work. This program funds state agencies to do the baseline work of administering the traditional

AML fund, which is foundational for new programs such as the AML Pilot program and the proposed RECLAIM Act. Our coalition supports the funding of all three of these programs.

Keeping that long-game perspective in mind, we continue to observe how the best recipe for success starts with robust and locally-grounded planning processes–oftentimes taking years–for project concept development. Some of our best success stories, such as the Dante revitalization project (described on page 40) and the RE-CRE-ATE project in West Virginia only came to fruition because the community worked diligently for years prior to the AML Pilot application to perform comprehensive planning efforts. In the case of Dante, this was supported by Virginia Tech's Community Design Assistance Center; resources like these are invaluable for communities in Central Appalachia.

Even when some projects that seem to come together magically, like the Southwest Virginia Solar Springboard, which was funded in 2019 to support a 3.5 megawatt solar system connected to a tier-3 data center (we wrote the application in about 2 weeks), they are only made possible by years of groundwork that serve as the foundation for these more "rapid response" type submissions. In this case, the project concept was first profiled by a 2016 report, released by Appalachian Voices and Downstream Strategies, and an unsuccessful development effort in 2017 highlighted the barriers that needed to be overcome–or avoided–to make the project work. And in that interim period, the Solar Workgroup of Southwest Virginia was developed to champion solar development in the region–attracting new developers, such as Suntribe Solar, and providing essential support to local stakeholders on the benefits solar could play in the region's economic future. Without these foundations, the opportunity that came together in the final hour never would have materialized.

Now, as the first AML Pilot projects move from the "giant check moments" to construction, and from construction to operation, we need to objectively assess the effectiveness of projects and intervene where necessary–both within projects and within organizations. Because the AML Pilot program is funded through the general treasury, we have an obligation to taxpayers to demonstrate that the program is having the intended impact–to spur lasting economic redevelopment while addressing legacy mining impacts. Projects that perpetuate extractive or exploitative economic models fall short of that purpose, as do aspirational projects intended to bring about a just transition but lacking adequate resources and capacity to be sustained over the long term. As a coalition, we look forward to doing our part to make sure we live up to the urgent mandate of this moment in Appalachia's journey.

HOW TO GET INVOLVED

This work is only made possible through partnership and collaboration around Innovative Mine Reclamation. Our coalition maintains several points of entry to join the conversation, obtain resources, or partner on projects:

STATE CONTACTS:

Virginia: Adam Wells – adam@appvoices.org
Kentucky: Rebecca Shelton – rshelton@aclc.org
West Virginia: Jacob Hannah – jhannah@coalfield-development.org
Ohio: Marissa R. Lautzenheiser – marissa@ruralaction.org
Region-wide: Joey James – jjames@downstreamstrategies.com

The Reclaiming Appalachian Coalition moderates a listserv for the community of practice around innovative mine reclamation. This list is a forum to share project ideas and updates, funding announcements, learning opportunities, and other relevant information. It is moderated, and subscription is by-invitation-only to maintain list integrity, but we encourage anyone interested to email Adam@appvoices.org to request to be added.

POTENTIAL PROJECT PARTNERS

As a coalition we offer the following services free of charge to communities interested in collaborating with us to develop project proposals:
Mapping and GIS assistance
Identifying viable project locations and checking eligibility
Economic impact modeling
Facilitating introduction with state mining agencies
Knowledge of other funding sources that can be leveraged
Community engagement

APPALACHIAN CITIZENS' *Law Center*

appalachianlawcenter.org

AppalachianVoices

appvoices.org

COALFIELD DEVELOPMENT

Appalachian COURAGE, CREATIVITY, COMMUNITY

coalfield-development.org

Downstream Strategies

Ideas that sustain.

downstreamstrategies.com

Rural Action

ruralaction.org