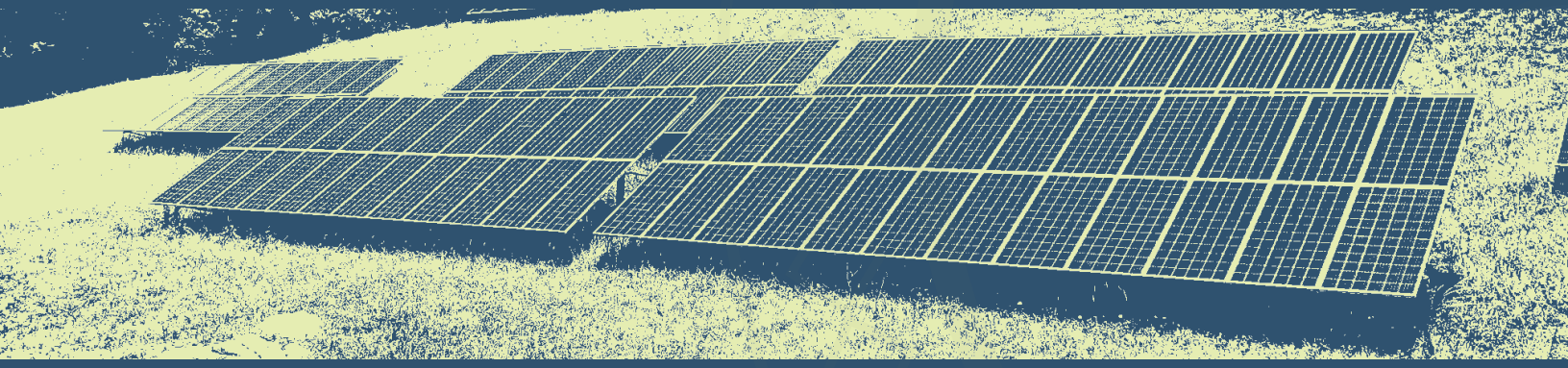
Rural Energy for America Program

Working for Appalachia

A report by:

Appalachian Voices

AUGUST 2024



This report was written by the Appalachian Voices Government Affairs Team, including Quenton King, Lara Howell and Taylor Pate. Its goal is to illustrate the impact that federal investments in clean energy are having on businesses owners and residents throughout Central Appalachia.

We would like to thank everyone who shared their stories with us for this report.

Photograph on cover submitted by Beliveau Farm Winery

AppalachianVoices

About Appalachian Voices

Founded in 1997, Appalachian Voices has brought people together for more than a quarter century to protect the land, water, and air of Central and Southern Appalachia and to advance a just transition to a generative and equitable clean energy economy. We have offices and staff in Virginia, West Virginia, Tennessee, North Carolina, and beyond.

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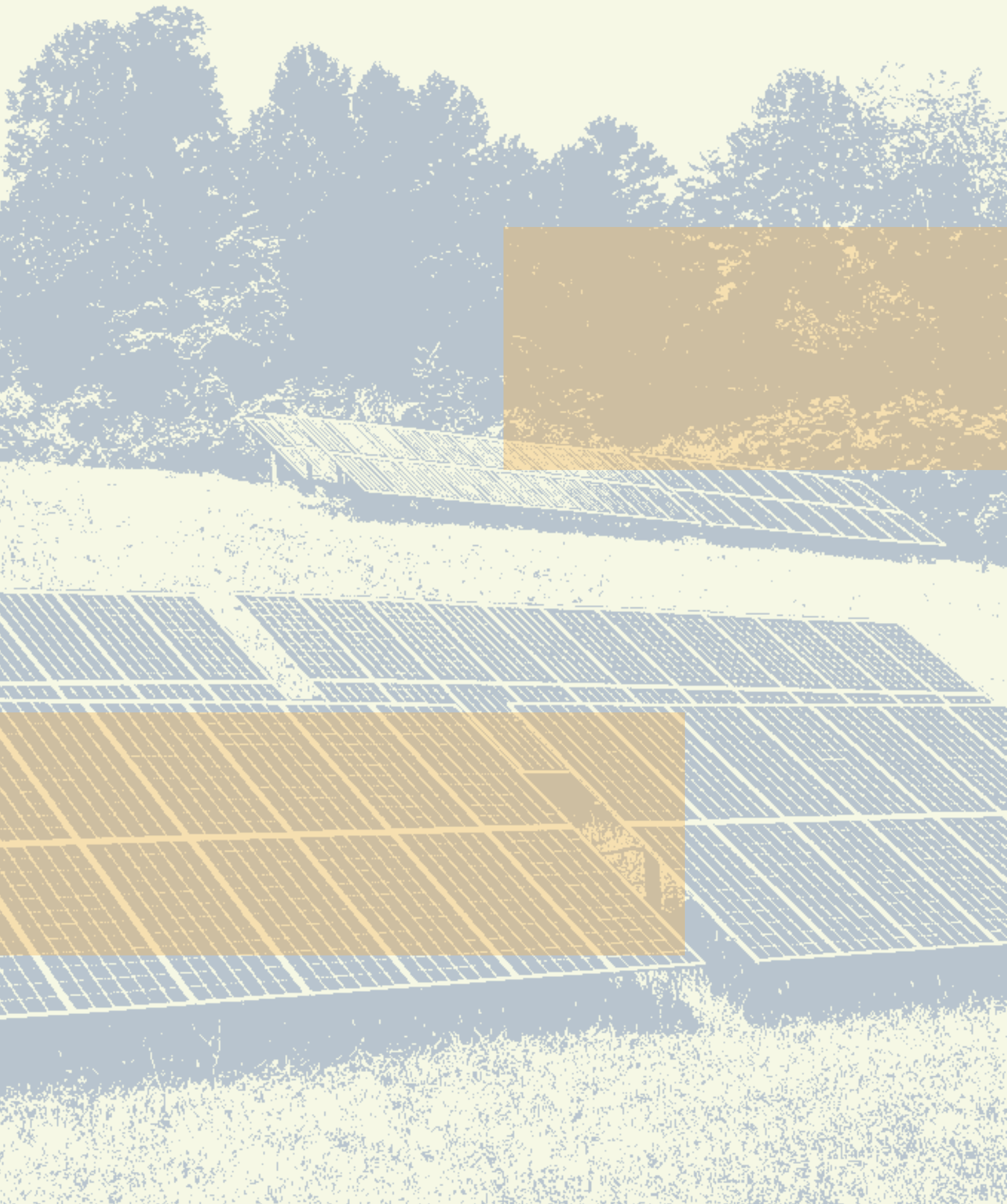

Introduction

The United States Department of Agriculture's Rural Energy for America Program has greatly expanded the ability of rural small businesses and farmers to cut their energy costs through investment in clean energy and energy efficiency. The program, established in 2008 and updated in subsequent legislation, aims to foster energy independence and energy efficiency in rural regions.[1]

REAP offers grants and loan guarantees to agricultural producers and small businesses in rural areas to facilitate the installation of renewable energy systems and improve energy efficiency. REAP grants can finance up to 50% of the overall project expenses, up to a maximum of $500,000 for energy efficiency projects and $1 million for renewable energy systems. Loan guarantees can cover up to 75% of project costs.[2] Because the program requires the farm or business to provide matching funds, REAP leverages private funding to allow the program's grant and loan funds to go further. However, it also limits the program to applicants that have enough private funding to pay for up to 25% of the project, which can exclude more disadvantaged entities from being able to take advantage of the program.

What is a Loan Guarantee?

A loan guarantee from the USDA allows a farmer or small business to obtain a loan for its clean energy project, and the USDA guarantees to the lender that, in the event the farmer or business can't pay back the loan, the USDA will step in and pay the lender. This is useful for cases where a farmer or business can't get a traditional loan because it is a new farm or business without a credit history, or the farm or business has a poor credit history, or the project is otherwise unattractive to mainstream lenders. Under the REAP loan guarantee program, the lender and the USDA collaborate to determine appropriate loan terms based on the borrower's credit history, project benefits, and other factors.

Since its inception, REAP has distributed or guaranteed over $1 billion dollars in funding to rural farms and small businesses. In recent years, this program has provided $50 million annually in direct grant funding to applicants. But demand for the program far outpaces this amount.[3]

Who is Eligible?

The REAP program is limited to agricultural producers and small rural businesses. In order to be eligible as an agricultural producer, at least 50% of the producer's income must be from agricultural operations. In order to qualify as a small rural business, the business must be located in an eligible rural area with fewer than 50,000 people. A map is available online to determine if a site is in an eligible rural area.[4] The business must also be considered "small" based on the Small Business Administration's definition.[5] Lastly, the business must be an eligible type of business, such as a sole proprietorship, partnership, corporation, cooperative, electric utility, tribal corporation, or tribal business entity.[6] These parameters ensure that the funding is targeted to boost rural economic development.

Eligible Technologies

The REAP grant can fund a wide range of projects beyond solar panels. From high-efficiency HVAC systems to insulation, lighting, and cooling, this report shows how the REAP grant caters to a broad spectrum of energy efficiency improvements. According to the USDA, funds may be used for the purchase and installation of renewable energy systems, such as:[7]

- biomass, including biodiesel and ethanol, anaerobic digesters, and solid fuels;
- geothermal for electric generation;
- hydropower below 30 megawatts;
- hydrogen;
- small and large wind generation;
- small and large solar generation;
- and oceanic tidal, current, and thermal generation.

Funds may also be used for the purchase, installation, and construction of energy efficiency improvements, such as:

- high efficiency heating, ventilation, and air conditioning systems (HVAC);
- insulation;
- lighting;
- cooling or refrigeration units;
- doors and windows;
- electric, solar or gravity pumps for sprinkler pivots;
- switching from a diesel to electric irrigation motor;
- and replacement of energy-inefficient equipment.

Impact of the Inflation Reduction Act of 2022

The scope and scale of REAP grants were greatly expanded by the Inflation Reduction Act, the clean energy and climate plan enacted by Congress in 2022, which provided an additional $2 billion over 10 years for the program. The USDA elected to use $1 billion of that boost in Fiscal Year (FY) 2024, creating an immediate impact on rural communities. The final application deadline of the initial boosted period is September 30, 2024.

For FY 2024, USDA increased the maximum size of each individual grant from $250,000 to $500,000 for energy efficiency projects and from $500,000 to $1 million for renewable energy systems.[8] Depending on several factors, a $500,000 grant could support approximately a 2-megawatt solar project, which is enough to power between 150 to 210 homes.[9] The federal cost share also increased from 25% to 50% for energy efficiency and zero-emission projects, and all projects developed by eligible Tribal governments.

The IRA also provided funding for the USDA to establish the Technical Assistance Grant program to enable organizations to help REAP applicants with their applications. The following applicants are eligible to receive this free technical assistance:

- agricultural producers;
- REAP applicants pursuing projects located in disadvantaged or distressed communities;
- tribal entities;
- REAP applicants pursuing projects using underutilized technologies;
- and REAP applicants pursuing projects under $20,000.

The list of REAP technical assistance providers in Central Appalachia can be found at https://www.rd.usda.gov/about-rd/technical-assistance-awards.

REAP in Appalachia

Appalachia is at the forefront of the nation's energy transition, having experienced a significant economic downturn associated with the decline of coal in recent decades.[10] Between 2001 and 2022, coal production in Appalachia decreased by 56%, and coal employment fell by 62%.[11] But even as coal employment fell, the number of small businesses in Appalachia grew by 57% from 2019 to 2024.[12]

In 2020, small businesses made up 99% of businesses in Appalachia.[13] Too often, small businesses have to turn their attention — and their finances — away from expansion and towards covering operational costs to keep their businesses afloat.[14] From 2017 to 2022, Appalachian small businesses "faced an annual average financial shortfall of unmet demand of approximately $70 billion," a 2024 Appalachian Regional Commission report stated.[15] REAP grants and the energy efficiency and renewable energy projects they fund can help to decrease those operating expenses.

Many Appalachian communities are seeking to diversify their economies through new energy development, recreation and tourism. Among the businesses leading the way to a new, diverse economy

in Appalachia are small businesses and agricultural producers. The REAP program is a key tool in the tool box that can help transitioning communities save money on their electricity bills while supporting new, local energy jobs.

Between 2014 and 2024, REAP has supported over 1,700 projects across Kentucky, North Carolina, Tennessee, West Virginia, and Virginia alone, backing or directly funding over $1.3 billion in clean energy and energy efficiency projects, and indirectly supporting hundreds of clean energy jobs.[16] These projects are as varied as are businesses in Appalachia, but several common themes emerge: they help businesses cut energy costs and invest in their operations and communities, they allow businesses to innovate their own, custom energy solutions to meet their unique needs, and they give farmers and business owners the satisfaction of reducing pollution.

REAP projects in Central Appalachia 2014-2024

State	Number of projects	Funding granted or guaranteed (rounded to nearest million)
Kentucky	462	$77,000,000
North Carolina	610	$1,205,000,000
Tennessee	320	$17,000,000
Virginia	209	$23,000,000
West Virginia	232	$12,000,000

Adobe Stock photo

REAL STORIES OF THE RURAL ENERGY FOR AMERICA PROGRAM

How Appalachian entrepreneurs and farmers are leveraging REAP to help their businesses and communities thrive


Photo submitted by Gat Creek

Gat Creek

Where: Morgan County, West Virginia
REAP funding: $362,630
Project: Energy efficient dust collection
Year: FY 2023
Congressional District: 2nd

Twenty-eight years ago, Gat Caperton purchased an old factory in Berkeley Springs, West Virginia, and transformed it into Gat Creek, now the largest private employer in the area with 165 employees. Gat Creek is a family-owned furniture manufacturer known for its handcrafted, solid wood furniture. Gat Caperton takes pride in his sense of regional identity, sourcing 90% of the company's wood directly from Appalachian forests. The company is known for its commitment to quality, sustainability, and community.

Gat Creek is dedicated to being a responsible part of the ecosystem. As a founding member of the Sustainable Furnishings Council, they advocate for environmental responsibility in the furniture industry. In 2023, Gat Creek, also known as Caperton Furniture Works, received a $362,630 grant from the Rural Energy for America Program. This funding allowed them to upgrade their 50-year-old dust collection system to a new dust mitigation system, improving the quality of their furniture and the work environment for employees.

"The grant program is a wildly valuable program and truly essential to development in Appalachia in particular," Gat Caperton said. "I find it a wildly valuable and wildly effective thing. I truly appreciate it and I would recommend anyone to go after it."

The project took about eight months to complete, as the crew gradually replaced the old system with the new one. As a result, Gat Creek is saving $11,900 in energy costs annually and reducing their electricity consumption by 106,971 kilowatt hours per year. The new dust system also enables the company to recycle sawdust in their biomass boiler and generate power from their own waste. The biomass boiler and a 64.4 kilowatt solar array were also made possible by prior REAP grants.

The REAP grant typically covers 25% of project costs, making it a significant source of project funding for companies like Gat Creek. Through initiatives like the REAP grant, they have enhanced their operations, reduced energy costs and promoted environmental responsibility.

"The best way to create economic change in an area is to bring capital to the area, and it has been critical for us in many cases," Caperton says. "It's worth the paperwork, and it's a program I truly appreciate."

SouthDown Farms

Where: Letcher County, Kentucky
REAP funding: $7,688
Project: 20-kilowatt solar array
Year: FY 2020
Congressional District: 6th

SouthDown Farm of Ermine, Kentucky, received a $7,688 grant from the Rural Energy for America Program in 2020, enabling the family-owned farm to install a 20-kilowatt solar array. The solar array drastically reduced the farm's monthly electricity expenses from $350 to $21.50.

Grant writing assistance from the Mountain Association, a nonprofit organization that works to advance the economy of Eastern Kentucky, helped farm owners Seth and Sheryl Long secure REAP funding for the project. The Mountain Association is one of the grantees selected by the USDA to help small businesses with small dollar REAP applications under $20,000.[17]

Spanning 55 acres, SouthDown Farm practices organic farming and sells their produce and maple syrup at local farmers' markets. They even host an annual Maple Day where they showcase their syrup tubing system and teach others in their community about the value of their land through maple tapping.

But Seth Long's journey with solar energy did not start here. It began with HOMES, a nonprofit organization in Kentucky that provides affordable housing to low-income families. As the executive director of HOMES, Seth Long initially approached solar energy with a sense of skepticism.

"I thought it would work in sunny California, but not in Mid-America," Seth Long admitted. A pragmatic and logic-driven businessman, his perspective shifted as power costs rose in the region. Despite his initial doubts, Long recognized the need for alternative solutions in the face of these challenging economic conditions.

As Long witnessed the installed solar system outperforming expectations, his initial skepticism gave way to a newfound appreciation for the power of solar energy. Long decided to support the education of a young electrician in solar installation, recognizing the growing demand for skilled workers in the field. Seeing an opportunity to empower his community through job creation and sustainable energy practices, he expanded HOMES' services to include solar installation.

These experiences led him to pursue solar for his farm through a REAP grant.

Reflecting on the success of solar energy on his farm and within his community, Long emphasized the importance of embracing renewable energy solutions, particularly for small businesses.

"This is a way you can reduce your operating costs for the next 25 years," he states.

Photo submitted by Sundogs Bed and Breakfast

Sundogs Bed and Breakfast

Where: Jefferson County, West Virginia
REAP funding: $14,520
Project: 12.8-kilowatt solar array
Year: FY 2020
Congressional District: 2nd

Nestled along the Potomac River lies Shepherdstown, one of the oldest towns in West Virginia. This is a place where historic charm meets real small-town magic, and Sundogs Bed and Breakfast is no exception. Owned by Peggy Bowers and David Plummer, this 46-acre retreat embraces sustainable gardening practices, healthy living and a dog-friendly atmosphere for guests. In addition, they have a commitment to clean energy and are among the 200 small business owners in West Virginia who have taken part in REAP over the last ten years.

In 2020, the USDA awarded a $14,520 REAP grant to Sundogs Bed and Breakfast to make energy improvements with the installation of a 13-kilowatt solar array. They worked with Milestone Solar to bring this project to fruition. From paperwork to installation, the project took approximately six months.

This support from REAP has been instrumental to Sundogs' mission of sustainability. With the solar panels, Sundogs has reduced its environmental impact while benefiting from long-term cost savings, to the tune of approximately $1,908 per year, according to Plummer.

Inspired by the joyful spirit of Sunny, a golden hound mix who joined their family in 2002 through the Lost Dog Rescue Foundation, Bowers and Plummer set out to create a retreat where humans and their furry companions can unwind and enjoy quality leisure time together. At Sundogs, canine companions are not only welcomed but encouraged.

The bed and breakfast reflect West Virginia's renowned hospitality amid serene landscape and with a commitment to environmental stewardship. The well-maintained gardens, tailored for native wildlife, and the nearby hiking trails, provide an opportunity to engage with nature. The peaceful setting is complemented by the gentle sounds of waterfalls and the presence of various rescue animals that call the property home. Peggy, with four decades of experience working in horticulture, and David, a veteran of the National Weather Service, have forged a haven where sustainability and clean energy harmoniously converge.


Photo submitted by Sylvatica Forest Farm

Sylvatica Forest Farm

Where: Rockcastle County, Kentucky
REAP funding: $11,200
Project: 8.8-kilowatt solar array
Year: FY 2023
Congressional District: 5th

Sylvatica Forest Farm, located in Mt. Vernon, Kentucky, is a small-scale tree nursery dedicated to holistic ecosystem health, land regeneration and climate resilience. Operations include regenerative agroforestry, mushroom cultivation and native tree nurseries. Founded by Joana Amorim and Michael Beck, the farm hosts educational events and workshops for the local community, aiming to share ecological knowledge and enhance future access to native plants. Complementing these efforts is their Herbal Community Supported Agriculture subscription box and product line.

In 2023, Sylvatica Forest Farm secured an $11,200 grant from the REAP. This grant will facilitate the installation of an 8.8-kilowatt roof-mounted solar system, propelling the farm into a new era of energy efficiency, and self-sufficiency. Once the solar infrastructure is operational, the farm anticipates significant annual savings and potential expansion of their indoor mushroom cultivation facilities.

“It’s a really nice cost share, covering 70% of the project costs,” Beck said.

Sylvatica Forest Farm’s journey into renewable energy was assisted by the Mountain Association, a nonprofit dedicated to fostering a resilient Eastern Kentucky. It was through this collaboration that Michael Beck first learned of REAP. Initially, Sylvatica Farm received a business development grant from the Mountain Association, setting the stage for their subsequent involvement with REAP. The Mountain Association also provided invaluable grant writing assistance to Sylvatica Farm during the REAP application process.

In addition to their engagement with REAP, Sylvatica Farm also received assistance from the USDA’s On-Farm Energy program. This initiative, known as the Environmental Quality Incentives Program (EQIP) On-Farm Energy Initiative, operates through the Natural Resources Conservation Service and empowers farmers and ranchers to implement voluntary improvements that enhance energy efficiency on their properties.

Amorim and Beck deeply value the community in Mt. Vernon, and appreciate Kentucky’s supportive homesteading laws and clean water sources. Their vision goes beyond business growth to encompass a commitment to serving the local community and preserving native plant life. The energy savings they will enjoy as a result of their REAP project will help them achieve these goals.

Shepherd's Whey Creamery

Where: Berkeley County, West Virginia
REAP funding: $19,990
Project: Energy-efficient cheese cave
Year: FY 2022
Congressional District: 2nd

Located in Martinsburg, West Virginia, Shepherd's Whey Creamery is a family-owned farm, dairy, and creamery that has been serving the community for 13 years with a mission deeply rooted in providing wholesome, locally sourced food.

Founded on a 2.5-acre plot with just nine goats, Shepherd's Whey Creamery has blossomed into a local treasure. Specializing in minimally processed goat milk products, their repertoire of 14 specialty cheeses showcases seasonal flavors crafted from ingredients sourced right from the surrounding area. From spinach pesto to bacon cheddar, each cheese reflects the essence of Martinsburg's agricultural landscape.

In 2022, Shepherd's Whey Creamery embarked on an ambitious project to enhance its sustainability efforts. With the support of a $19,990 REAP grant, the creamery set out to construct an energy-efficient cold storage facility on its premises. This facility reduces energy consumption by approximately 50% and will save the creamery about $1,605 per year.

Suzanne Behrmann, the owner of Shepherd's Whey Creamery, likes to refer to this cold storage facility as the "cheese cave." This innovative underground cheese cave, conceived by Behrmann herself, is central to Shepherd's Whey Creamery's sustainability initiative. Beneath the creamery's grounds, this cave maintains a consistent temperature of 50 degrees Fahrenheit, minimizing the need for energy-intensive cooling systems. The earth itself acts as a natural insulator, helping to stabilize temperatures inside the cave, requiring minimal energy input, unlike contemporary refrigeration methods. The cave provides the perfect environment for the slow maturation of the creamery's artisanal cheeses.

Complementing the cheese cave is a water reclamation system, a sophisticated solution to the challenge of water waste in dairy production. Designed to capture and recycle water from the pasteurization process, this system takes a significant step towards sustainable water management. The reclaimed water is channeled into a network of pipes that is directed to replenish the underground reservoirs within the cheese cave, contributing to the maintenance of optimal humidity and temperature levels and enhancing the cave's functionality.

By integrating these technologies, Shepherd's Whey Creamery reduces its environmental impact and embodies a vision of agriculture that is both economically viable and environmentally responsible. The cheese cave and water reclamation system are not just components of the creamery; they are tangible expressions of a commitment to sustainability, ensuring a legacy of delicious cheeses for generations to come.

Beyond its culinary offerings, Shepherd's Way Creamery also serves as a hot spot for community engagement and education.

"One of my passions is helping communities who have been distanced reconnect with agriculture," Behrmann said. From cheese-making courses to volunteer opportunities that allow participants to bottle-feed the farm's adorable baby goats, these initiatives cultivate a sense of connection and appreciation for sustainable farming practices.

Their grant from REAP has allowed Shepherd's Whey Creamery to put their commitment to sustainability and community empowerment into action and create positive change, one delectable cheese at a time.

Photo submitted by Shepherd's Whey Creamery


Photo submitted by Beliveau Farm Winery

Beliveau Farm Winery

Where: Montgomery County, Virginia
REAP funding: $38,000
Project: 123-kilowatt solar array
Year: FY 2019
Congressional District: 9th

Beliveau Farm Winery, situated in Blacksburg, Virginia, is a fusion of passion, innovation, and sustainable practices in the world of viticulture and agritourism. Founded by Yvan and Joyce Beliveau, the estate has evolved into a multifaceted destination, offering not only award-winning wines but also a picturesque venue for weddings, a bed and breakfast experience, and a vibrant lavender festival drawing visitors from across the nation.

In 2019, Beliveau Estate Vineyard And Winery embarked on a journey towards renewable energy, fueled by a $38,000 REAP grant. This grant facilitated the installation of a solar array system, marking a significant stride towards sustainability. Joyce Beliveau expresses profound satisfaction in creating an agritourism destination that not only spreads joy to guests but also embraces eco-conscious practices.

The decision to embrace solar energy was not without its challenges. Despite initial hesitations, she was thrilled with the results yielded by the solar array.

“Within about two months it was paying for just about [all of our energy needs] which was a good surprise,” Joyce Beliveau said.

Beyond harnessing solar energy, Beliveau Estate exemplifies a holistic approach to sustainability. For example, in 2020 they introduced cats to the estate for pest control and they repurpose winemaking byproducts to feed local livestock. Through these efforts, the estate minimizes its ecological footprint while nurturing a thriving ecosystem. They were even awarded Green Business of the Year in 2019 by the Montgomery County Chamber of Commerce.

Lee's Garden

Where: Larue County, Kentucky
REAP funding: $20,000
Project: 60-kilowatt solar array
Year: FY 2022
Congressional District: 2nd

In Hodgenville, Kentucky, Scotty Lee, a fourth-generation farmer, leads Lee's Garden Center and Plant Farm alongside his children. The family farm, which opened in 1985, is a diverse operation integrating greenhouses, a retail garden center, food processing, and livestock. Committed to family sustainability and community welfare, the farm has embraced energy efficiency solutions through the use of clean energy, funded in part by a REAP grant.

Facing high electricity costs in processing sweet corn for the Jefferson County School District, Lee's Garden Center transitioned to solar energy with the REAP and the Kentucky Proud Energy grants. The Kentucky Proud program is funded through the Kentucky Agricultural Development Fund and was created to promote services and agricultural products that are grown, raised, or made in Kentucky. They offer grant opportunities available exclusively to Kentucky Proud members.

After receiving the $20,000 grant through REAP, the farm and garden center was able to install a 60-kilowatt solar array, comprised of 144 panels. This solar array has eliminated their electric bill, as the solar panels generate enough power to meet their needs. These solar panels have not only been great for reducing costs; they also allow the farmers to experiment with agrivoltaics, fostering crop growth beneath the solar panels.

The REAP grant transformed a potentially risky endeavor into a success, enabling Lee's Garden Center to compete with larger operations. Lee refers to the choice as a "no-brainer." He submitted the grant application himself, having prior experiences with grant applications through the Kentucky Center for Agriculture and Rural Development.

Beyond technological advancements, the 400-acre farm in Larue County serves as a community epicenter. The solar array became a local attraction, drawing interest from residents and visitors. The positive reception bodes well for the broader implications about making the switch to green energy solutions in rural areas.

Photo submitted by Lee's Garden

Wise and Lee County Schools

Where: Wise and Lee Counties, Virginia
REAP funding: $500,000 across two school districts
Project: Solar arrays totaling 3,470 kilowatts
Year: FY 2022
Congressional District: 9th

The school districts of Wise County and Lee County, both located in Southwest Virginia, are enjoying the benefits of solar power. Both counties contracted with Secure Solar Futures, a regional solar developer, to install rooftop solar on 11 school buildings across both counties, and to provide educational benefits for students in the classroom.

Through their partnerships with Secure Solar Futures, both Wise and Lee counties were among the REAP winners announced in 2022, each receiving up to $250,000. The projects are expected to significantly reduce the school districts' electricity costs. Maggie Davison, Chief Operating Officer of Secure Solar Futures, estimates that the solar arrays will provide 61% of Lee County's annual electricity needs across the five schools that the arrays serve. For one of these school buildings in particular, solar will likely offset 99% of its annual energy cost. For Wise County schools, solar will offset about 45% of their total annual electricity needs, and the panels are expected to save $7.5 million over the lifetime of the solar equipment.


Photo : Ben Bolling / Appalachian Voices

"Solar is showing them savings so they can take the money [...] back into their core competencies for teachers, for aides, for supplies," said Davison.

But less money spent on energy bills isn't the only benefit that the counties are experiencing from going solar. As part of the installation process, Wise and Lee counties partnered with the Solar Workforce Accelerator program, which gives students real-world experience working on the solar installation at their school. This partnership between Mountain Empire Community College, the Solar Workgroup of Southwest Virginia, and two local solar companies, GOT Electric and Secure Solar Futures, is helping to train a new generation of Southwest Virginia energy workers.

Student apprentices are paid a competitive wage to help install solar on the schools' roofs. They gain training, certification, and course credit at their local community college, as well as references for future jobs. Some even end up working for Solar Workforce Accelerator partner companies, which helps to keep jobs and families in the local area.

Matt McFadden, the Associate Director of Business Development for Secure Solar Futures, sees the benefit of these programs first-hand. "That's more money going back into the local economy, more families that don't have to move, more folks that can start their own business with the experience that they get here," he said.

McFadden explains that these solar installations on public schools and the associated apprenticeship program are changing the trajectory of the area. "Now you can see it moving and [that]gives me hope for the future for my daughter," he said.

Haze Gray Vineyards

Where: Dobson, North Carolina
REAP funding: $7,875
Project: 10.7-kilowatt solar array
Year: FY 2019
Congressional District: 5th

The Muhlenberg's family business has, for eight generations, been military service. All the way back to the Revolutionary War, every male in the family has served in the military. When Deane Muhlenberg, co-founder and owner of Haze Gray Vineyards, retired from the Navy, he and his wife Becky decided to open a new family business and started a vineyard in Dobson, North Carolina. It was only fitting that the couple name their vineyard Haze Gray, after the color of Navy ships.

The connection to veterans can be seen not only through the owners, but in the vineyard itself in the wall honoring veterans. The first five columns of the wall hold pictures of veterans in the Muhlenberg family, and the remainder of the wall is for veterans who visit to leave their picture as well. Unsurprisingly, Haze Gray has a large following among veterans.

In 2019, four years after the Muhlenbergs originally purchased the land for their vineyard, they opened a tasting room, which is now completely powered by their rooftop solar array. For Becky and Deane, this was always the vision.

Photo submitted by Haze Gray Vineyards

"I had planned on putting solar in from the very beginning," said Deane Muhlenberg. That's why Deane oriented the back roof to point directly south so that it would be in a good position if they were ever able to install solar.

The Muhlenbergs always had a vision for installing solar on their land, but they didn't know that the REAP grant was available to help them make that vision a reality until speaking with their solar installer. The $7,875 grant they received in 2019 helped subsidize the cost of the rooftop solar, which now provides enough power for their tasting room and an electric vehicle charger that winery members can use.

Photo submitted by Wampler's Farm

Wampler's Farm Sausage

Where: Lenoir City, Tennessee
REAP funding: $67,504
Project: Energy efficiency upgrades and 632.1 kilowatt solar array
Year: FY 2017, FY 2018, FY 2021, FY 2023
Congressional District: 2

Wampler's Sausage Farm has been in business for over 80 years. A lot has changed for the family-owned farm since then, including the introduction of several REAP-funded projects.

According to Trae Wampler, project engineer for the farm, Wampler's has been applying for REAP grants since 2009, when they put up their first solar array — a 30-kilowatt project that is still on top of the sausage kitchen. At the time, environmental responsibility was not the driving force behind the decision to invest in solar, rather it was a financial decision.

Trae Wampler describes the reasoning when installing the first array: "It wasn't just something that you did to feel good and if you had nothing better to do with money. This was something that you could do with your money right now and it would actually cash flow itself in a reasonable timeline."

Today, Wampler's various solar installations — all but one funded in part by REAP — add up to 680 kilowatts. Part of that energy is given back to the community. Wampler's is able to provide power directly to their neighbor, the nonprofit Child Advocacy Center, which Wampler says has almost entirely reduced the nonprofit's power bill, allowing them to focus on programming. "We're just paying their electric bill," he adds, "they're doing the hard part."

In more recent years, Wampler's, which now employs almost 150 people, has moved beyond just

finding sustainable ways to generate power for their operations, and is now trying to identify ways to improve energy efficiency and use less energy overall.

In 2017, Wampler's received a REAP grant of $7,504 to help them switch all of their lighting to LEDs. That switch brought their annual electricity bill from $64,392 to closer to $57,000. Four years later, in 2021, Wampler's received $20,000 to modernize the refrigeration system in their shipping facility, which had not been updated since it was installed in the early 1980s.

"We're able to get much more efficient compressors and new evaporators hung inside these freezers, and we cut our energy consumption basically in half for the whole building," Wampler said.

The added insulation and replacement of equipment brought the electricity bill down from $57,000 to $27,000 annually.

Without REAP, Wampler says, "I don't think those projects would have happened at all."

Conclusion

The REAP program is a meaningful tool for Appalachian communities, providing small businesses and farms at the frontlines of the energy transition, and those feeding rural Appalachia, with significant cost savings while boosting the local economy. The infusion of an additional $2 billion in funding for REAP through 2031 thanks to the Inflation Reduction Act will bring vital investments and clean energy jobs to Appalachia.

But according to the USDA, demand for the program outpaces available funding, even with the IRA's temporary funding boost. For example, in November 2023, USDA reported it had received applications totaling 60% of the initially boosted REAP funding with 11 months remaining to apply.[18] USDA had received almost 60 REAP applications from West Virginia alone but was only able to fund 15 winners from that state at the time of the report.

Updates to the program design and a permanent boost for program funding will ensure that REAP remains an impactful force in Central Appalachia for years to come.

Members of Congress have introduced bipartisan legislation that would make several improvements to REAP and increase the program's accessibility to farmers and rural, small businesses owners. The REAP Modernization Act of 2023, introduced by Sen. Tina Smith (D-Minn.) and Reps. Abigail Spanberger (D-Va.) and David Valadao (R-Calif.), would make the Inflation Reduction Act's temporary cost share increase to 50% a permanent fixture of the program. It also would raise the maximum project cost to qualify for technical assistance, meaning more applicants who are applying for small REAP grants would be eligible to receive technical assistance from a provider.

These changes are important, and Congress should also designate more funding on an annual basis to ensure that more farmers and rural small businesses are able to access the benefits of this federal program.

As West Virginia furniture manufacturer Gat Caperton said, "The grant program is a wildly valuable program and truly essential to development in Appalachia in particular."

With additional improvements and funding, more small businesses and farmers in Appalachia can "REAP" these benefits.

To learn more about the process of applying for a REAP grant, sign up to receive the Solar United Neighbors guide: https://act.solarunitedneighbors.org/a/rural-business-guide

Endnotes

1. https://crsreports.congress.gov/product/pdf/R/R41985/23
2. https://www.rd.usda.gov/programs-services/energy-programs/rural-energy-america-program-renewable-energy-systems-energy-efficiency-improvement-guaranteed-loans
3. https://www.eesi.org/articles/view/usda-investments-in-clean-energy-for-rural-businesses#:~:text=REAP%20has%20funded%20over%20%2410,with%20applications%20exceeding%20available%20funding.
4. https://eligibility.sc.egov.usda.gov/eligibility/welcomeAction.do
5. https://www.sba.gov/federal-contracting/contracting-guide/size-standards
6. https://www.rd.usda.gov/programs-services/energy-programs/rural-energy-america-program-renewable-energy-systems-energy-efficiency-improvement-guaranteed-loans#overview
7. https://www.rd.usda.gov/programs-services/energy-programs/rural-energy-america-program-renewable-energy-systems-energy-efficiency-improvement-guaranteed-loans
8. https://www.eesi.org/articles/view/usda-investments-in-clean-energy-for-rural-businesses ; https://www.rd.usda.gov/media/file/download/reap-renewable-energy-systems-faqs.pdf
9. https://www.seia.org/initiatives/whats-megawatt
10. https://www.arc.gov/wp-content/uploads/2023/09/Coal-Production-and-Employment-in-Appalachia-2023.pdf
11. https://www.arc.gov/wp-content/uploads/2023/09/Coal-Production-and-Employment-in-Appalachia-2023.pdf
12. https://www.arc.gov/wp-content/uploads/2024/04/ARC_FINAL-REPORT_April-16.pdf#page=9
13. Ibid
14. Ibid
15. Ibid
16. REAP winners 2014-2024 Appalachian Voices analysis of USDA data
17. https://www.rd.usda.gov/about-rd/technical-assistance-awards
18. https://www.nrcs.usda.gov/sites/default/files/2023-11/ira-climate-west-virginia.pdf

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