

ENERGY INGENUITY COMMITTEE



▪ *In-Person Meeting* ▪

A G E N D A

ENERGY INGENUITY COMMITTEE

**The MET, Patrick & Henry Community College
65 Motorsports Drive, Martinsville, VA 24112**

**Wednesday, September 25, 2024
3:00 P.M.**

If participating in the meeting by phone, dial: **1-332-249-0607** and enter access code: **623 690 842#**.

The Commission will not change the method by which it chooses to meet without providing a new meeting notice that is in accordance with the Virginia Freedom of Information Act. If you experience problems calling in, please contact: **Hannah Franke-Fuller** at (804) 894-9659 or hfranke-fuller@revitalizeva.org or **Roz Stein** at (804) 894-9651.

Welcome and Call to Order

The Honorable Thomas Garrett, Chair

Call of the Roll

The Honorable James Campos, Executive Director

Public Comment

Approval of 5/21/24 Minutes
(published on website)

The Honorable Thomas Garrett, Chair

Energy Fund Overview

The Honorable James Campos, Executive Director

Grant Projects

*Mr. Jerry Silva, Director of Regional Energy
Development and Innovation*

Other Business

Mr. Stephen Versen, Deputy Director

Adjournment

**FY25 Energy Ingenuity Program
Staff Summaries and Recommendations
September 25, 2024**

The Commission received 13 pre-applications for the July 18, 2024, application deadline of the FY25 Energy Ingenuity Program. Ten applicants were invited to submit full proposals, and seven (7) proposals were ultimately received by the August 15, 2024, deadline. Two (2) projects, Edtunity Institute and Brunswick County, were tabled from the previous round in May and will remain tabled in this round. The Energy Committee will act on these applications at its meeting scheduled for September 25, 2024, at 3:00p.m. The applications are grouped by investment category.

Req#	Organization	Project Title	Requested Amount	Staff Rec.
Energy Catalyst – Planning Grants				
4262	Edtunity Institute	The Next Military EV Education	\$50,000	Tabled
4281	Town of Wytheville	Energy Action Plan	\$50,000	\$50,000
Energy Execution – Implementation Grants				
4287	Appalachian Voices	Energy Storage and Electrification Manufacturing (ESEM) Jobs Project	\$2,825,000	Tabled
4261	Brunswick County	LNG Storage Project	\$1,000,000	Tabled
4284	City of Danville	900 Mount Cross Road Battery Energy Storage System	\$1,500,000	\$750,000 grant/ \$750,000 loan
4285	Town of Richlands	Town of Richlands Energy Diversification Project	\$4,000,000	\$2,000,000 grant/ \$2,000,000 loan
4283	Downtown Wytheville, Inc.	Downtown Heritage Greenway Trail Demonstration EV Charging Station	\$15,000	Tabled
4282	Town of Wytheville	Replace Aeration Blowers Energy Efficiency Project	\$592,000	No Award
4286	ATIP Foundation, LLC	ATIP Foundation/BargerTech Waste to Energy Demonstration Project	\$1,000,000	\$1,000,000
TOTAL (9 requests) / Staff Recommendation			\$11,032,000	\$3,800,000
				<u>grants</u>
<ul style="list-style-type: none"> • Southwest VA - \$2,050,000 grant, \$2,000,000 loan; \$4,050,000 total • Southern VA - \$1,750,000 grant, \$750,000 loan; \$2,500,000 total 				\$2,750,000
				<u>loans</u>
				\$6,550,000 total

Energy Catalyst – Planning Grants

Edtunity Institute

The Next Military EV Education (#4262)

\$50,000 Requested

Project Summary: As a result of the landmark federal Inflation Reduction Act (IRA) and the Infrastructure Investment and Jobs Act of (IIJA), the federal government is investing over \$7 Billion dollars in Electric Vehicle (EV) charging infrastructure. The states and regions that will benefit most from this massive investment will be the ones with an EV-ready workforce that has the skills to design, install and repair the battery charging stations on which electric vehicles depend. Edtunity Institute is a nonprofit training organization that certifies transitioning military, reservists, National Guard members and other underserved populations for technical jobs in telecommunications and media fields. Edtunity just started a pilot training program for EV technicians. In this proposal, Edtunity will assess the EV charging skills needed by transitioning military personnel in Southern and Southwest Virginia to qualify for jobs in infrastructure installation, maintenance, and repair. The Needs Assessment will include an Implementation Plan that will lay out the curriculum, institutional partnerships and resources needed to create a local, skilled EV charging infrastructure workforce.

Matching Funds:

- \$50,000 - grant from ElectrifyAmerica (a subsidiary of Volkswagen Group of America established in late 2016 by the automaker as part of its efforts to offset emissions).

Project Outputs:

- A ten-year analysis and report projecting a 10-year outlook on:
 - Number of charging infrastructure jobs in the target region.
 - Current and projected supply of workers in the Southern and Southwestern regions, and assessment of the gap between supply and demand.
 - Specialized skills needed for selected EV charging infrastructure jobs including charging station design, installation, maintenance and repair, and creating and maintaining charging networks and payment systems.
 - Current public and private training and job placement resources serving the target area.
 - Environmental and economic impacts of bringing additional EV-related jobs to Virginia.
- 10-year Plan for Training the TRRC Regional EV Infrastructure Workforce

Staff Comments: Grant funds are requested to support a workforce needs assessment for Southern and Southwest Virginia to inform electric vehicle (EV) infrastructure training plans. This training, funded in part by a \$100,000 grant from Electrify America, will be targeted to transitioning active military personnel, reservists and National Guard members living or serving in various locations in Southern and Southwest Virginia. These locations include the following:

SOUTHERN	SOUTHWEST
<ul style="list-style-type: none"> • Fort Barfoot, Nottoway • Army Reserve Harmony Crossing, Bedford • US Army 98th Training Division, Campbell 	<ul style="list-style-type: none"> • US Army 412th Theatre Engineer Command, Smyth • Army Reserve unit 655 Transportation Company Detachment 1, Galax • Engineers (heavy equipment operators, electricians, carpenters) and wheeled vehicle mechanics, Tazewell • Truck drivers and wheeled vehicle mechanics, Scott and Washington Counties

Since 2021, Electrify America has granted more than \$3MM to community organizations to deliver STEM and workforce development programs. Organizational leadership for the project will be provided by Brigadier General (Retired) Marianne Watson, Edtunity Institute’s Chief Operating Officer. She has notable expertise in veteran employment efforts. Other partners in the project include Virginia Clean Cities, Green Paradigm Consulting, and SkillFusion, a software development corporation specializing in developing skilled EV workers.

The Electrify America grant, \$50,000 of which will serve as matching funds for the project, is restricted to the delivery of training for 50 individuals exclusively from the Tobacco Region footprint. Because the EA grant was specified for training materials and trainee recruitment and tracking, it cannot be applied 50/50 across the expenses for the needs assessment being proposed for TRRC funding. Staff typically like to see equal distribution of expenses across the budget line items between TRRC and the applicant organization. Edtunity has been made aware of TRRC funding policies that require documentation of expenditures and application of match funding; and that the matching funds must be expended before they can receive reimbursement from TRRC for the needs assessment. Staff is supportive of the effort, however, to identify and address the specific needs of service members and others from the Tobacco Region to facilitate their transition into energy careers.

Financial Viability Assessment:

A review of key viability criteria reveals an interesting opportunity to study needs and best practices for training individuals in Southern and Southwest Virginia for careers that support zero-emission vehicles and their associated service/infrastructure needs. Edtunity Institute is a bonafide 501(c)(3) nonprofit headquartered in Norfolk, VA and is active and in good standing with the State Corporation Commission. Edtunity Institute has been in operation since 1994. The budget is supported by cost estimates with delineated scopes of work from identified contractors. The application of match is a bit lopsided due to Electrify America grant use restrictions, which may present an obstacle to receiving reimbursement in a timelier manner. This may affect cash flow for Edtunity, and they will need to structure their operations to account for this issue.

Staff Recommendation: The project remains tabled as the applicant seeks a different source of match.

Town of Wytheville
Town of Wytheville Energy Action Plan (#4281)
\$50,000 Requested

Project Summary: The Town of Wytheville is applying for a Catalyst Grant from the Tobacco Region Revitalization Commission's Energy Ingenuity Fund to develop a comprehensive "Community Energy Action Plan." This plan will study all town-owned facilities to identify solutions that increase energy efficiency, sustainability, and resilience. By aligning energy improvements with the existing Capital Improvement Plan, Wytheville aims to reduce operating costs, hedge against future energy price volatility, and attract energy-dependent businesses. This effort will position Wytheville as a leader in energy innovation among rural communities in Southwest Virginia, fostering economic development and workforce training while enhancing infrastructure resilience.

Matching Funds:

- \$50,000 from the Town of Wytheville

Project Outputs:

- Energy Action Plan for the Town of Wytheville

Staff Comments: Wytheville faces a critical need to enhance its infrastructure due to rising energy costs and growing demands on public services. The town has experienced a significant increase in electrical expenses, with costs rising by \$244,375 in one year to \$1,155,986. The increasing utility rates and the town's reliance on electricity for essential services (e.g., water, sewer, fire stations) make it particularly vulnerable. The proposed "Community Energy Action Plan" aims to address these challenges by improving energy efficiency and sustainability, positioning Wytheville as a regional model for energy planning.

The proposal requests \$50,000 from the TRRC to support costs for plan development that will be executed in five phases over 18 months, which include an energy audit, stakeholder meetings, feasibility studies and facility prioritization, planning workshops, plan draft, review with the public, and plan finalization and funding strategy development. The plan integrates with existing infrastructure projects and could serve as a model for rural energy planning. It sets the stage for future grant applications and showcases a comprehensive approach to energy efficiency and economic development.

Financial Viability Assessment: A review of key viability criteria reveals a fairly straightforward plan to study the audit and recommends improvements for infrastructure in the town of Wytheville. It is assumed from the submission that these contractual costs will be generated by a yet to be identified third party that will be selected through a bidding process. It was not clear from the submission as to whether the town has fully secured the matching funds from its budget, which will necessitate a contingency being added to the recommendation. The Town has committed to covering any costs in excess of \$100,000. If the matching funds can be secured, the project will be viable and will inform future infrastructure projects.

Staff Recommendation: Staff recommends a grant award up to \$50,000 for 50% of third-party contractual expenses to complete an Energy Action Plan contingent on acquisition of at least 1:1 matching funds.

Energy Execution – Implementation Grants

Appalachian Voices

Energy Storage and Electrification Manufacturing (ESEM) Jobs Project (#4287)

\$2,825,000 Requested

Project Summary: This proposal seeks funding for the innovative partnership between the Energy Storage and Electrification Manufacturing (ESEM) Program and GenEdge's ITAC assessment process, representing a powerful and synergistic collaboration poised to transform the advanced manufacturing landscape across the entire TRRC footprint. This collaboration, comprising two parallel and coordinated initiatives, shares a common objective of revitalizing Southwest Virginia's manufacturing sector by supporting the transition from historically coal-centric operations to emerging markets in Energy Storage and Electrification Manufacturing.

The ESEM Program, backed by state funding through GO Virginia and federal support from the US Economic Development Administration (EDA), has laid a strong foundation by providing critical planning and technical assistance to six multigenerational, family-owned manufacturers in far Southwest Virginia. Delivery of these services has already begun to diversify operations and increase production capacity, with documented and measurable results, preparing these companies to enter new energy market sectors.

In parallel, and within the same overall collaboration, the GenEdge ITAC project aims to expand industrial energy efficiency and decarbonization by offering comprehensive technical assessments and support to manufacturers across the entire TRRC service region. Through targeted energy efficiency assessments, strategic market analysis, and the introduction of advanced manufacturing practices, GenEdge will equip up to 50 companies with the data, analysis and tools they need to reduce energy consumption, enhance operational efficiency, and qualify for capital funding through the US DOE ITAC Implementation Grant Program.

Together, these two parallel initiatives administered under a single collaboration will create a stronger, more resilient manufacturing ecosystem that not only sustains existing businesses but also attracts new investment and innovation. By leveraging the combined expertise and resources of ESEM and GenEdge, this partnership will serve as a catalyst for advanced manufacturing, driving economic growth, job creation, and environmental sustainability throughout Southern and Southwestern Virginia.

Matching Funds:

- \$750,000, U.S. Economic Development Administration Economic Adjustment Assistance Program (application intended)
- \$75,000, GENEDGE, in-kind
- \$2,000,000, Private Company Contributions to Equipment and Property as part of a cost-share arrangement

Project Outputs:

- Completed Energy Assessments for up to 50 manufacturing companies.
- Strategic Market Entry Plans for participating manufacturers.
- Trained Workforce ready to support advanced manufacturing.
- Expanded and Upgraded Facilities equipped for energy-efficient production.
- Economic Growth in Southwest Virginia through diversified manufacturing, with investments of \$21,500,000, and new and retained revenues of \$16,500,000.
- Creation and Retention of 250 jobs within the energy storage and electrification sectors.
Enhanced Environmental Sustainability through reduced energy demand and efficiency improvement by reducing energy costs by \$6,500,000.

Staff Comments: This project aims to revitalize the manufacturing sector in Southwest Virginia through a partnership between the Energy Storage and Electrification Manufacturing (ESEM) Program and GenEdge's ITAC assessment process, by supporting the transition from coal-centric operations to energy storage and electrification manufacturing in the region.

The ESEM Program, funded by state and federal sources, provides planning and technical assistance to local manufacturers, enabling them to diversify into energy markets and adapt to changing economic conditions. The ITAC partnership with GenEdge focuses on energy efficiency, decarbonization, and qualifying manufacturers for capital funding through the DOE's ITAC Implementation Grant Program.

The project involves several local manufacturers:

1. AMR PEMCO (electronics)
2. Simmons Equipment Company (battery-powered mining equipment)
3. Buchanan Pump Service
4. Paul's Fans (ventilation systems)
5. West River Conveyors (mining equipment)

The budget for this project specifies the following investment requests for Energy Innovation Funding:

- \$825,000 for ITAC assessments, to be matched with \$750,000 in anticipated USED A funding and \$75,000 of in-kind services from GenEdge
- \$2,000,000 to support 50% cost-sharing on the purchase of equipment, property, and improvements for four of the six companies noted above: to be matched with company contributions:
 - \$95,000 for an automated powder coating machine for West River Conveyor
 - \$155,000 for line bore large frame assemblies and subassemblies for Simmons Equipment
 - \$755,000 toward a facility expansion for Lawrence Brothers Inc to house a new laser
 - \$995,000 to purchase a lot for a second production facility for Paul's Fans

Delivery of technical assistance services from ITAC could be considered an eligible use of funds under the current RFP, and Commission funding has been historically used in limited capacity to help cost share programs. The most recent cost-sharing projects supported by the Commission limit equipment purchases for agribusiness cost-share projects to 33% of the cost, with a cap of \$5,000. The Small Business Development Incentive for catalyst businesses in business district revitalization projects featured in the regional Economic Development funding programs are limited to up to \$30,000 and no more than 25% of the capital costs for construction or equipping costs for the new business enterprise. The Commission has

no history of supporting real property acquisition costs or facility expansions for private businesses via its grant programs, although the TRRC's loan program could possibly be used to those ends. The applicant was advised of these limitations and asked to reduce the project's scope to demonstrate a smaller scale proof of concept for the program.

Financial Viability Assessment: A review of key viability criteria reveals an ambitious request for an extensive technical assistance program and significant levels of investments in private sector property and equipment. An appropriate match source was identified for the ITAC assistance but is not yet committed. Additionally, the scale of cost-sharing is unprecedented in past Commission projects.

A cost breakdown per ITAC assessment would help Staff better understand the complexity of the process. Staff's basic assumption with a \$1,650,000 total cost on the 50 ITAC assessments indicates it requires \$33,000 per assessment, but more context is needed to determine reasonability of cost. For the cost-sharing portion of the project, an estimate should be provided by each firm of the jobs created/jobs retained and capital investment associated with these projects. There are no quotes accompanying the requests, and we would need those to substantiate the requested budget amounts. Staff will need to determine the thresholds for a cost-share investment for this program since it is fairly new. Proformas and/or financial statements for the participating companies (due to the size of the funding request) would be beneficial to perform due diligence on the financial standing of the companies. It is also not clear how the program would be sustained. Staff does not feel this proposal is financially viable in its current state.

Staff Recommendation: Staff recommends this project be tabled to allow the applicant more time to refine the scope of work.

Brunswick County

LNG Storage Tank Project (#4261)

\$1,000,000 Requested

Executive Summary:

Dominion Energy Virginia plans to construct a liquified natural gas (LNG) storage facility to support Brunswick and Greenville Power Stations with backup fuel. Mecklenburg Cooperative, the local distribution company at the proposed construction site, will build a new substation to provide power to the LNG facility. Brunswick County is seeking funding from the Tobacco Region Revitalization Commission on behalf of Dominion Energy to support the purchase of equipment installed in the electric substation.

Matching Funds:

- \$1,000,000 from Dominion Energy to support equipment purchase (cash in hand).

Project Outputs:

- Agreement between Dominion Energy and Mecklenburg Electric Cooperative
- Electric load requirement document
- Design Engineering Report
- Substation ready for operation

Staff Comments:

The operation of the LNG Storage facility will improve the dependability of DEV's electric grid, which provides service to 2.7 million customers in North Carolina and Virginia. The implementation of the LNG Storage facility will serve as a blueprint for other potential projects seeking to improve resiliency and reliability of the electric infrastructure, positioning Virginia's Southern Tobacco region as a case study to support similar projects throughout the country. The proposed LNG Storage Project is a high-impact/priority project for Dominion Energy Virginia (DEV) since it helps mitigate risks associated with natural gas fuel supply to two power generation stations that are critical to supporting electricity demand in the Commonwealth from DEV's electric customers.

Traditionally, utilities generate earnings through regulator-approved adjustments to rates that recover investment costs and add a margin of return, typically a return-on-equity over the life of the investment asset(s). In this case, the investment in the LNG Storage Project by DEV, if approved by the Virginia State Corporation Commission (DEV's regulator) will earn a fixed return on equity, currently approved at 9.7%, annually through the expected life of the asset. Additionally, the reasonable and prudent operating and maintenance costs would also be recovered from customers on an annual basis and passed along at cost to DEV customers. If the VA TRRC decides to provide a \$1M grant for this project, it would result in lowering the cost recovered from DEV customers, by reducing the capital investment basis that is used to determine customer rates.

Financial Viability Assessment:

A review of key viability criteria for this project indicates that more information is needed to determine if it is a good investment for TRRC funding. The project's budget lacks details on the specific piece(s) of equipment that would be supported by the grant. The outcomes projections appear to need further refinement.

Staff Recommendation: This application will continue to be tabled for the applicant to supply additional information.

City of Danville

900 Mount Cross Road Battery Energy Storage System (#4284)

\$1,500,000 Requested

Project Summary: Danville Utilities and Lightshift Energy (formerly Delorean Power) have been jointly developing a 12-megawatt advanced battery energy storage system ("BESS") in Danville Virginia that will be used to reduce peak load for Danville Utilities and will in turn save Danville Utilities tens of millions of dollars over the life of the project. These savings will be directly passed through to the commercial, industrial, and residential customers of Danville Utilities, helping ensure lower electricity costs for current and future residents as well as attract new businesses to the Tobacco Region in southwest Virginia. The project will also enable workforce training for the emerging BESS industry in Virginia which has been catalyzed by the Virginia Clean Economy Act, and the project will provide emissions reductions benefits and reduced transmission and generation requirements for the regional grid, as well as a clean source of local power for Danville Utilities.

Matching Funds:

- \$11,461,805, cash from Lightshift Energy

Project Outputs:

- A battery energy storage system and peak shaving services that it will provide to the City of Danville.

Staff Comments: This energy project aims to reduce costs and enhance reliability for the City of Danville through the implementation of a battery storage system (BESS) and will be implemented on a three-acre parcel at 900 Mount Cross Road in Danville, Virginia.

Lightshift will provide an integrated BESS for Danville, including all necessary equipment to connect to the city's medium voltage distribution network. The system will include battery containers, power conversion systems, and an energy management system, with 24/7 remote monitoring and control capabilities. The system is designed to be modular for ease of construction and maintenance. The project is estimated to generate average annual net savings of \$3.37 million for Danville and its customers. Savings will come from reduced transmission and capacity charges, as well as revenue from participating in the competitive wholesale electricity market that buys and sells large amounts of electricity across 13 states and the District of Columbia. Current demand charges total \$11.41/kW-month and are expected to increase significantly in the future.

In addition, the project is expected to reduce over 7,500 tons of greenhouse gas emissions annually. It will contribute to cleaner air and water by reducing reliance on fossil fuel generation during peak hours. The total project budget is \$12,961,805. The City of Danville is requesting \$1,500,000 in funding, which will be applied to battery costs. The remainder of the funding will be provided by Lightshift through their partnership with Greenbacker Capital.

The project aims to keep electricity rates low for Danville residents and businesses and enhance grid reliability, which will help support economic development in the region. Lightshift guarantees effective operations for a minimum of 20 years.

Financial Viability Assessment: A review of key viability criteria indicates a well-planned project with substantial support by the applicant's collaborator. The applicant declares match in excess of the 1:1 requirement with a letter providing a firm commitment from Lightshift for the funds. A detailed line-item budget of total costs was provided and was appropriately scaled when compared to vendor quotes. The project's outcomes present a strong return on investment in terms of annual savings over 20 years. This BESS project represents a significant investment in Danville's energy infrastructure, promising economic, environmental, and workforce development benefits for the community. While there is public benefit to this project, there is also the opportunity for generation of revenue, and as such a portion of the request is appropriate for a loan product.

Staff Recommendation:

Staff recommends a grant award of \$750,000, and a referral to the TRRC loan program for the additional \$750,000; with the contingency that the project receives approval by the City Council.

Town of Richlands
Town of Richlands Energy (#4285)
\$4,000,000 Requested

Project Summary: The Town of Richlands is an electric municipality. Over the past 90 years, the Town has provided energy to its citizens and businesses. However, over the past five years, the transmission costs the Town pays to move energy from its assets in the Ohio River Valley area to Richlands have increased dramatically, which has significantly impaired the Town's economic development capacity. The Town of Richlands needs to diversify its energy assets and begin to build behind a meter energy generation project. The Town is moving forward with a project to purchase a Solar Mercury 50 natural gas fired turbine and generator. This generator will allow the Town to utilize a homegrown supply of natural gas to create and provide electricity to its citizens, current businesses, and to use as an economic development tool for attracting prospective businesses and other economic development projects.

Matching Funds:

- \$2.1MM by Town of Richlands, cash deposit
- 11.354MM by Town of Richlands in revenue bond proceeds

Project Outputs:

- Installation of scalable energy product
- Reductions in energy costs incurred by current residents and businesses
- Revenue generation for the Town of Richlands
- Changing area-wide energy readiness to improve marketability to targeted sectors
- Increase in coverage and capacity for industry's energy needs

Staff Comments: The Town of Richlands is requesting \$4,000,000 toward a \$13,454,000 project to implement a behind-the-meter energy generation project to combat rising energy costs and improve economic competitiveness. The Town plans to install a Solar Mercury 50 natural gas-fired turbine generator with a 4.6 MW continuous power output to connect to an open-source natural gas pipeline. This project will diversify the town's electricity generation and improve reliability. Richlands has a population of over 5,000, and approximately 2,500 businesses and residents are served by the Town's electrical utility.

The key components of this 18-month project are:

1. Generator: Solar Mercury 50 natural gas-fired turbine generator with a 4.6 MW continuous power output, and an efficiency rating of 36-40% depending on ambient temperature.
 - a. Cost (as of 11/9/23): \$8,715,865
2. Distribution Line: 4.5 miles of 12.5 kV distribution line to Richlands co-op substation.
 - a. Cost (including contingency): \$1,945,000
3. Substation Upgrades: Addition of a 15 kV breaker in the Richlands substation.
 - a. Cost: \$102,000
4. Site Development, to include grading and foundation work, and road construction.
 - a. Cost: \$993,000
5. Engineering, Outdoor Equipment, Testing, Cabling, Etc.
 - a. Cost: \$1,698,135

The Town wishes to move quickly to secure funding and approvals to avoid additional price increases. They will act quickly to conduct a detailed environmental assessment, secure necessary permits, and finalize real estate arrangements for the project site and distribution line route. They will implement a comprehensive project management plan to ensure timely completion and cost control.

The applicant stresses that without addressing the fundamental issue of energy generation and transmission costs, they risk putting the community at a significant economic disadvantage. The applicant's proposed behind-the-meter generation project is their most effective strategy to combat these rising costs and provide immediate relief to residents and businesses. Additional benefits cited include an increase in the town's ability to attract business, which would increase revenue generation for the town in addition to creating new jobs and increases in property values.

The Town plans other crucial future initiatives that will build upon the foundation laid with the current project, to create a more resilient, efficient, and cost-effective energy system for Richlands. These efforts will include comprehensive energy audits of all municipal buildings, exploration of additional renewable energy sources, implementation of advanced metering infrastructure, development of demand response programs and integration of energy storage solutions.

Financial Viability Assessment: A review of key financial viability criteria for this project indicates that the Town has a well-developed and regularly updated plan for strengthening the energy resiliency for the Town. Current quotes for services and equipment accompany a detailed budget for the project. A three-year revenue projection provided by the applicant indicates an expected return of \$12.37MM, which represents a positive return on investment for the Commission's funds. The viability of the project hinges on the ability to raise the bulk of funding through issuing revenue bonds, and Staff recommends a contingency on this factor. The Town will also secure a line of credit to manage cash flow against TRRC reimbursements. While there is public benefit to this project, there is also the opportunity for generation of revenue, and as such a portion of the request is appropriate for a loan product.

Staff Recommendation: Staff recommends a grant award of \$2,000,000 contingent on securing sufficient funding for the project via revenue bonds within one year of award; and a referral to the TRRC loan program for the additional \$2,000,000.

Downtown Wytheville, Inc.

Downtown Heritage Greenway Trail Demonstration EV Charging Station (#4283) **\$15,000 Requested**

Project Summary: Downtown Wytheville, Inc. and the Town of Wytheville are applying for an Energy Implementation Grant from the Tobacco Region Revitalization Commission's Energy Ingenuity Fund to install electric vehicle (EV) chargers in the heart of Wytheville's historic and walkable downtown district. This project will leverage a prior utility infrastructure investment and strategically place EV chargers near local businesses, the Millwald Theatre, and the Wytheville Farmers Market, promoting tourism, economic development, and sustainable energy use. By drawing EV travelers into the downtown area, this initiative will create new opportunities for local businesses while supporting the region's broader economic diversification and energy resiliency goals. The chargers will also serve as a key feature of the Heritage Walk

Greenway system, connecting the town's parks, museums, and natural beauty, further encouraging foot traffic and enhancing quality of life.

Matching Funds:

- \$15,000 from Town of Wytheville, application approved.

Project Outputs:

- 2 new EV Charging spaces on Main Street Wytheville adjacent to the trailhead of the Heritage Walk Greenway Trail System.
- 2 Level 2 Chargers available (1 for each space).
- New signage directing those with Electric Vehicles to this station from the Interstates incorporated within the Town Wayfinding System.

Staff Comments: This project aims to install electric vehicle (EV) charging stations in Wytheville's historic downtown to enhance sustainable infrastructure and boost local tourism and economic development. This project also aims to connect with the Heritage Walk Greenway, enhancing access to recreational and cultural assets.

The anticipated impact includes increased foot traffic in downtown Wytheville, improved energy resiliency, and the establishment of strong partnerships among local organizations. The implementation timetable spans nine months, covering planning, site preparation, installation, testing, and ongoing monitoring.

This is a laudable project, but Staff recognize the opportunity here to create a greater level of impact by expanding the scope of the project to include other trailheads, tourism assets and business districts. Staff would like to work with Downtown Wytheville Inc and the Town of Wytheville to convene a more sizable group of potential stakeholders who could benefit from and would be willing to invest in an effort to identify additional potential sites to create a more extensive network of EV charging stations in the immediate region to advance tourism and other economic ventures.

Financial Viability Assessment: A review of key viability criteria indicates a small-scale project with a well-supported budget. Appropriate match is fully committed to the project. However, potential exists for the creation of greater impact by taking a regional approach to installation of the chargers.

Staff Recommendation:

Staff recommends tabling this proposal to rescope the project as a regional tourism effort to create a higher level of impact for the area.

Town of Wytheville

Replace Aeration Blowers Energy Efficiency Project (#4282)

\$592,000 Requested

Project Summary: The project will achieve a 30% reduction in electrical use of the wastewater plant by replacing the aging centrifugal blowers with rotary screw blowers that use variable frequency drives (VFD). Funds will be used to purchase and install the equipment which will include three (3) new 100 hp blowers with VFD's, and associated mechanical and electrical improvements, instrumentation, valves, and controls to reduce wastewater aeration power consumption while improving the treated effluent quality. The new system will improve the plant's capacity to treat additional industrial and economic growth expected to occur in future years. The public wastewater system serves 8200 citizens and hundreds of businesses and industries reliant on the wastewater plant's efficient operation to maintain steady wastewater rates by reducing operational and energy costs through wise investments and innovative approaches.

Matching Funds:

- \$592,000 from Town of Wytheville, application approved.

Project Outputs:

- Installation of new aeration blowers at wastewater plant

Staff Comments: The Town of Wytheville is planning to replace three aeration blowers and associated equipment at their wastewater treatment plant to improve energy efficiency. The project will increase the Town of Wytheville's capital investment in clean energy in several ways:

1. **Direct Investment:** The town is investing \$1,184,000 in total for this energy efficiency project, with \$592,000 coming from their own funds.
2. **Energy Efficiency Upgrade:** By replacing the old centrifugal blowers with new energy-efficient rotary screw blowers, the town is directly investing in clean energy technology that will reduce energy consumption by 30%.
3. **Long-term Savings:** The project is expected to save \$64,800 annually in electrical costs, which can potentially be reinvested in future clean energy initiatives.
4. **Carbon Footprint Reduction:** The investment will reduce the town's carbon footprint by 364 metric tons of carbon dioxide, contributing to overall environmental sustainability.
5. **Increased Capacity:** The modern technology will allow the plant to process wastewater faster and handle additional volume, supporting future economic growth while maintaining energy efficiency.
6. **Future-proofing:** By investing in this technology now, the town is positioning itself to be more resilient against future energy cost increases and potential environmental regulations. The project will not immediately reduce wastewater rates but could prevent dramatically increasing wastewater rates due to increasing electricity costs.

Financial Viability Assessment: The Feasibility study submitted is a sample report for a different project created by a vendor. The economic impact study is a paragraph referring to the Preliminary Engineering Report done by CHA Consulting referring to an annual savings of \$64,800 in energy costs. For a project with a total cost of \$1.184MM, this indicates that it will take 18 years for the investment to break even. Considering that the Commission will award \$50,000 to the town to produce an energy action plan, it would seem prudent to assess this project as part of that effort to determine the existence of other options that would improve the ROI.

Staff Recommendation: Staff recommends no award.

ATIP Foundation, LLC

ATIP Foundation/BargerTech Waste to Energy Demonstration Project (#4286) **\$1,000,000 Requested**

Project Summary: BargerTech has agreed to design, engineer, build, implement, and operate a Biomass converter (specifically, a TriFi 7000 unit) on location at a farm within the Tobacco Revitalization Commission territory.

Matching Funds:

- BargerTech:
 - \$5.4MM capital costs through equity investment and debt
 - \$3MM for project management and operations (in-kind personal services)
- ATIP Foundation, \$100,000 in-kind technical assistance

Project Outputs:

- Creation of three (3) jobs averaging an annual salary of \$65,000
- Commodities Produced: Renewable Electricity, Clean Water, Biochar
- Environmental Benefits: GHG Reductions and Carbon Sequestration
- Creation of marketable products including biochar, energy, and dry, storable fertilizer, after year 3 in steady state

Staff Comments: ATIP Foundation, in partnership with the private firm BargerTech, is applying for a \$1 million Energy Ingenuity Grant for a renewable energy project demonstration. The project involves installing a 1MW energy generation system at Vanderhyde Dairy in Pittsylvania County. The applicant estimates that the total project costs will exceed \$7 million.

The system, called TriFi 7000, processes dairy manure to produce multiple valuable outputs including electricity (1MW), distilled water, biochar and carbon credits. Vanderhyde Dairy will be the off-take buyer for the 1MW of electricity. Discussions have been initiated with Cobblestone Cooperative for marketing climate-smart dairy products. BargerTech is also exploring partnerships with tech companies (Google, Meta, AWS, Microsoft) for water and carbon sequestration credits, and having advanced discussions with Midwest fertilizer distributors for biochar.

The project's 18-month timeline includes the following milestones:

1. Finalize agreements with Vanderhyde Dairy (30-60 days)
2. Secure collaboration agreement with Cobblestone Cooperative (30-60 days)
3. Obtain Letters of Intent for product off-take (60-90 days)
4. Secure private financing commitments (90-120 days)
5. Complete design/build engineering (120 days)
6. Install and operate TriFi 7000 Unit (12-18 months)

A final engineering design and budget will be completed upon securing agreements and location. The ATIP Foundation's role is to review and verify milestone completion and report progress to TRRC. The applicant has indicated that a third-party feasibility study will be completed as part of the final engineering plan.

Because this is a demonstration product of a novel innovation, there is no comparable technology or existing data to benchmark against for evaluation purposes.

Financial Viability Assessment: The applicant states a commitment to a 7:1 ratio of private and federal funding to the requested grant amount. \$3.1MM of the \$8.4MM declared as match is considered in-kind personal services. \$5.4MM of the match is listed as equity investment and debt. The budget provided did not provide details or quotes on the installation and operation cost of the TriFi 7000, nor the breakdown of equity and debt that is being pledged as match. It was not clear from the information provided where the match funds are being deployed (whether the match is being used within the TRRC footprint versus other operational locations of the company). Clarification was provided to the applicant that only \$250,000 of the required minimum \$1 million match could be in-kind. Detailed installation and equipment costs are still to be provided. ATIP has provided a declaration that their in-kind match is not being supported by the recently awarded Energy Catalyst planning grant or federal funding already committed to said grant. Based on the current information in hand, Staff has outlined what it believes to be extensive financial and project control contingencies to this project in order to be able to recommend funding. Staff considers the project to have financial risk as in most new ventures, which is inherent with a demonstration project of a novel technology.

Staff Recommendation: Staff recommends up to \$1,000,000 funding with the following contingencies:

- Finalization of an agreement with the identified dairy farm collaborator;
- Execution of letters of agreement for offtake of the energy and biproducts;
- Submission of a detailed budget for all direct costs of the project and the composition and usage of matching funds, to be reviewed by the TRRC Grants Director and the TRRC Regional Energy Director, and signed off on by the TRRC Executive Director;
- Proof of secured financial commitments within one year of award approval date that would satisfy a 1:1 match requirement consistent with TRRC Funding Policies.