

# Former Mine Lands to Sustainable Lands Project

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# Executive Summary

**Objective:** Transform WV's Former Mine Lands (FML's) from their prior use to sustainable, economically driven properties that continue to serve the communities that surround them.

## **Key Focus Areas:**

- 1.Site Evaluation & Predevelopment
- 2.Sustainable Technology
- 3.Conservation Finance
- 4.Workforce Development
- 5.Regulatory Solutions

# Project Scope

**Goal:** Create a framework to repurpose FML into sustainable assets.

**Target Impact:**

- 3,187 FML analyzed
- Workforce training on 5 FML
- \$52 million in capital deployed
- 528 jobs created
- \$112.8 million in economic impact

# Land Site Evaluation & Predevelopment

**Challenge:** High cost and barriers in predevelopment.

**Approach:** Develop a “Mine Reuse Zillow” platform for data-driven site evaluation.

## **Milestones:**

- Create a feasibility assessment tool.
- Develop a site database and identify the top 15 FML sites for reuse.

# Minelands Selection Tool

## Concept

- Desktop-based analysis tool to identify previously mined sites for redevelopment based on user input
- Built on ArcView (GIS Platform)
- Initially developed for the coalfields in the southern 21 Counties
- Potential end users include:
  - State/Local EDA's
  - Private Developers
  - Utilities





West Virginia University  
ENERGY INSTITUTE



**ACT NOW COALITION**  
APPALACHIAN CLIMATE TECHNOLOGY













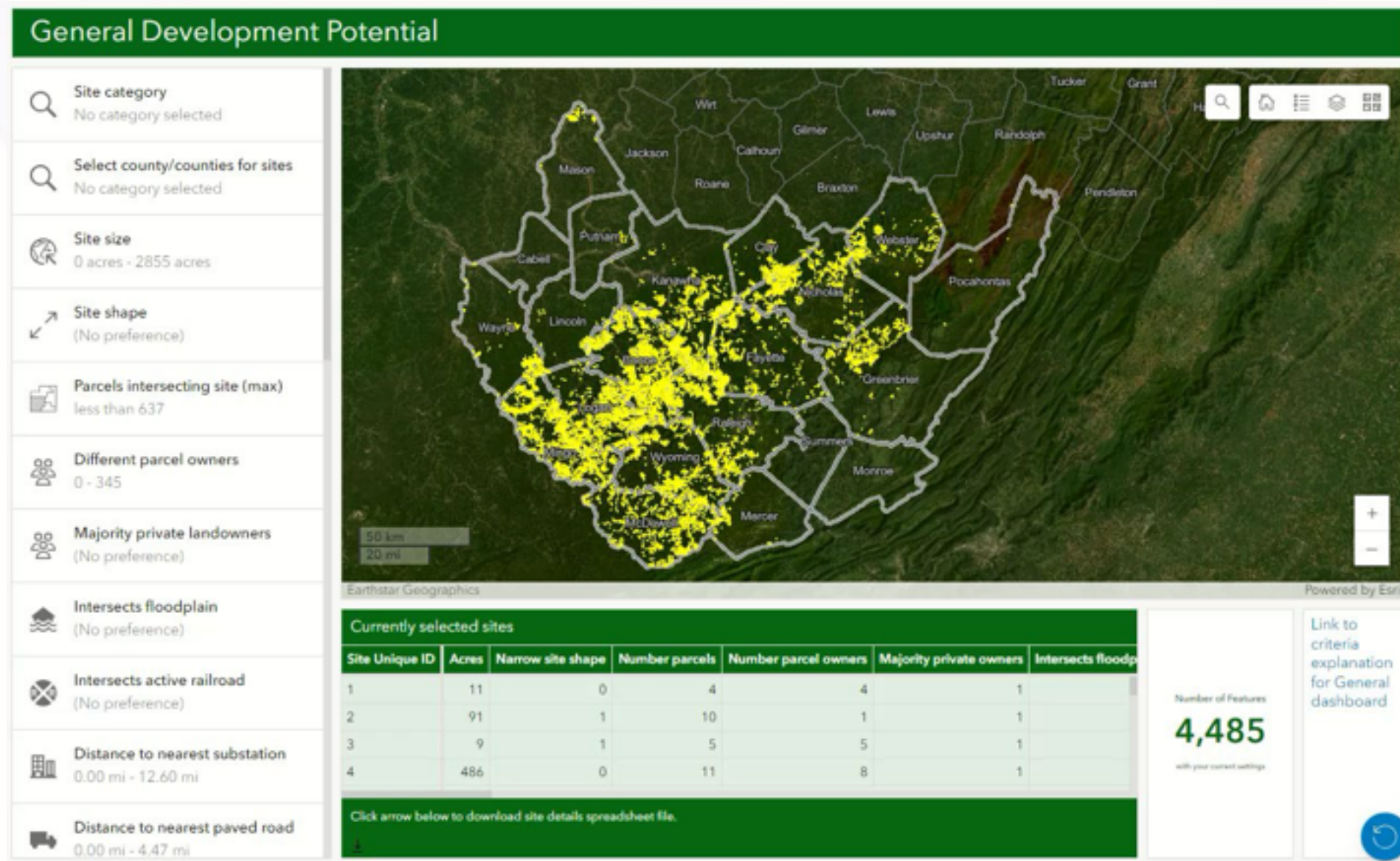






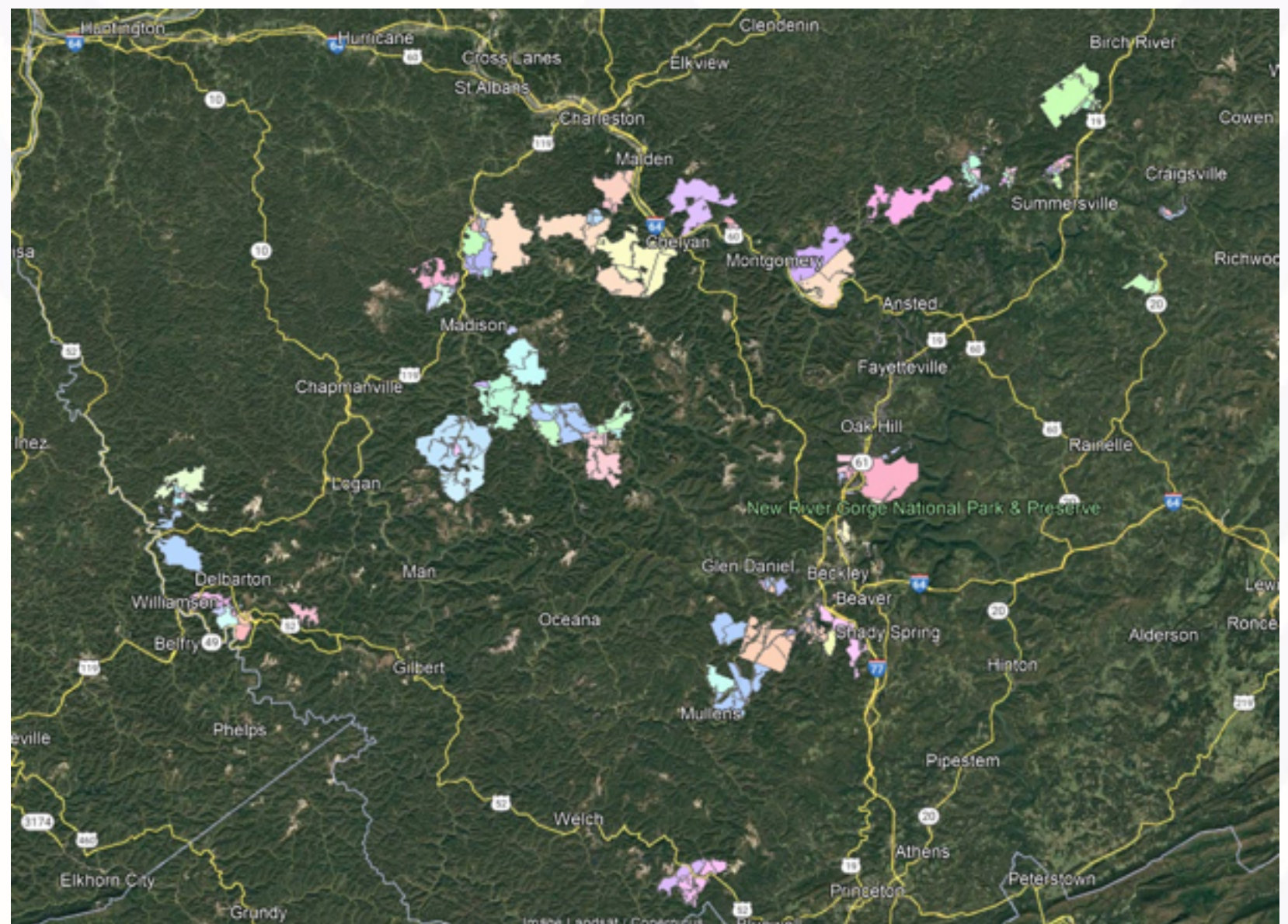


# Mine Lands Selection Tool





# 20 Candidate sites



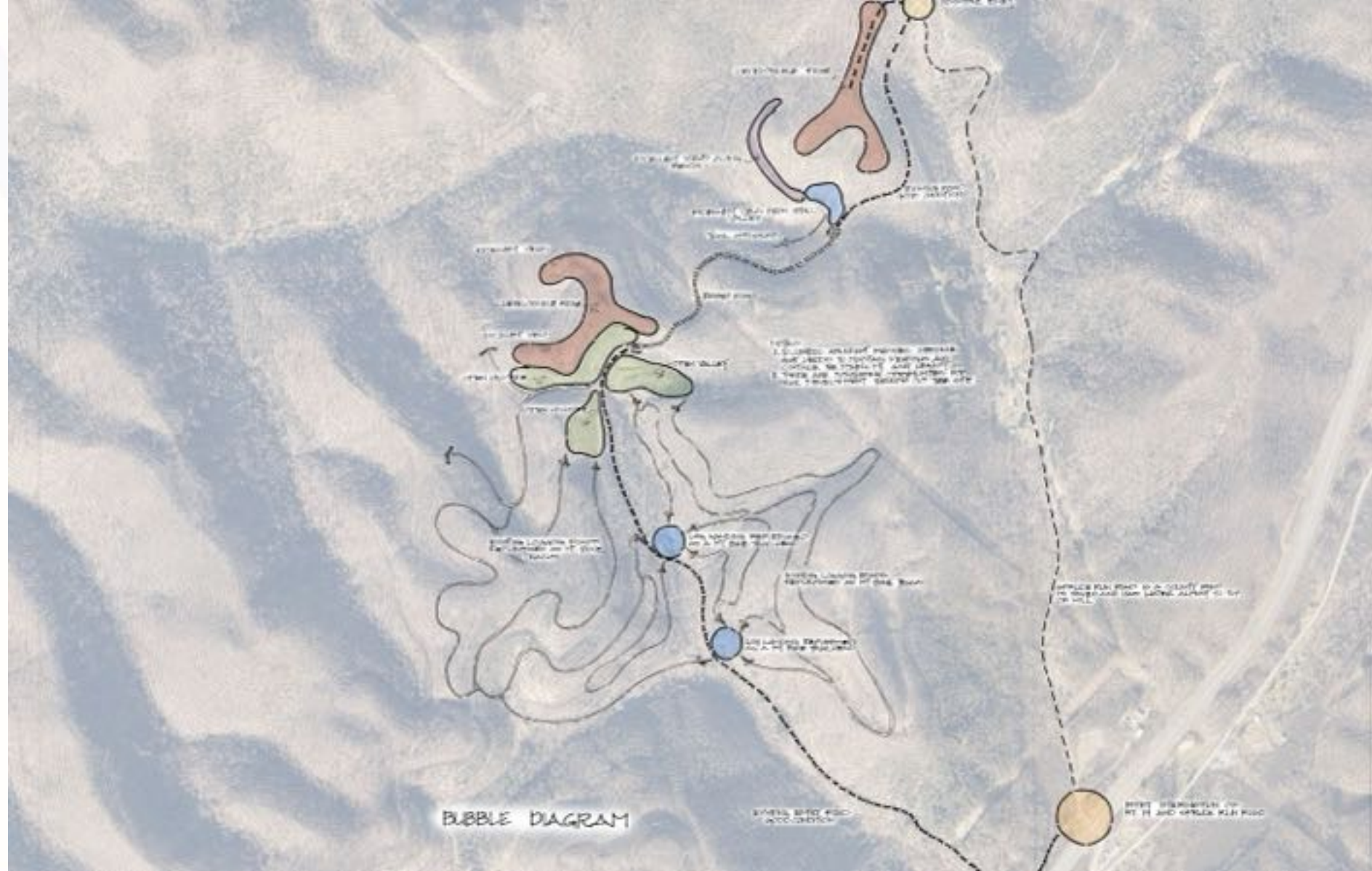
# Master Site Plans

- Development of 10 Master Site Plans
- Sites are identified based off Minelands Selection Tool
- CEC has been tasked with completing the plans
- Goal is to spread plans across the southern 21 counties and account for a number of end uses



# Example Plan

- Powell Mountain, NiCo
- North of Summersville, adjacent to Rt 19
- Recreation
- Forest Management















# Sustainable Technology Cluster

**Challenge:** Sustainable technology is costly to scale.

**Approach:** Partner with USRIA to grow sustainable tech.

**Milestones:**

- Recruit 20 tech startups over 4 cohorts.
- Provide R&D and market validation support.
- Foster commercialization pathways.

# Sustainable Technology Cluster

- Approximately 8 companies have been enrolled in cohorts to date
- WVU-led I-Corps course will take place September 30 – October 30. The deadline to apply is September 4.
- Contract now in place for Energy Incubator at WVUIC
- OIC will be hosting Evolving Energy, but will be pivoted to the Engines proposal (Carbon Management/Methane Reduction)
- USRIA is piloting "EIR-Corps" program with summer cohort of 3 startups



# Conservation Finance & Capital

**Challenge:** Financial limitations hinder large-scale land reuse.

**Approach:** Align public and private capital for SL projects.

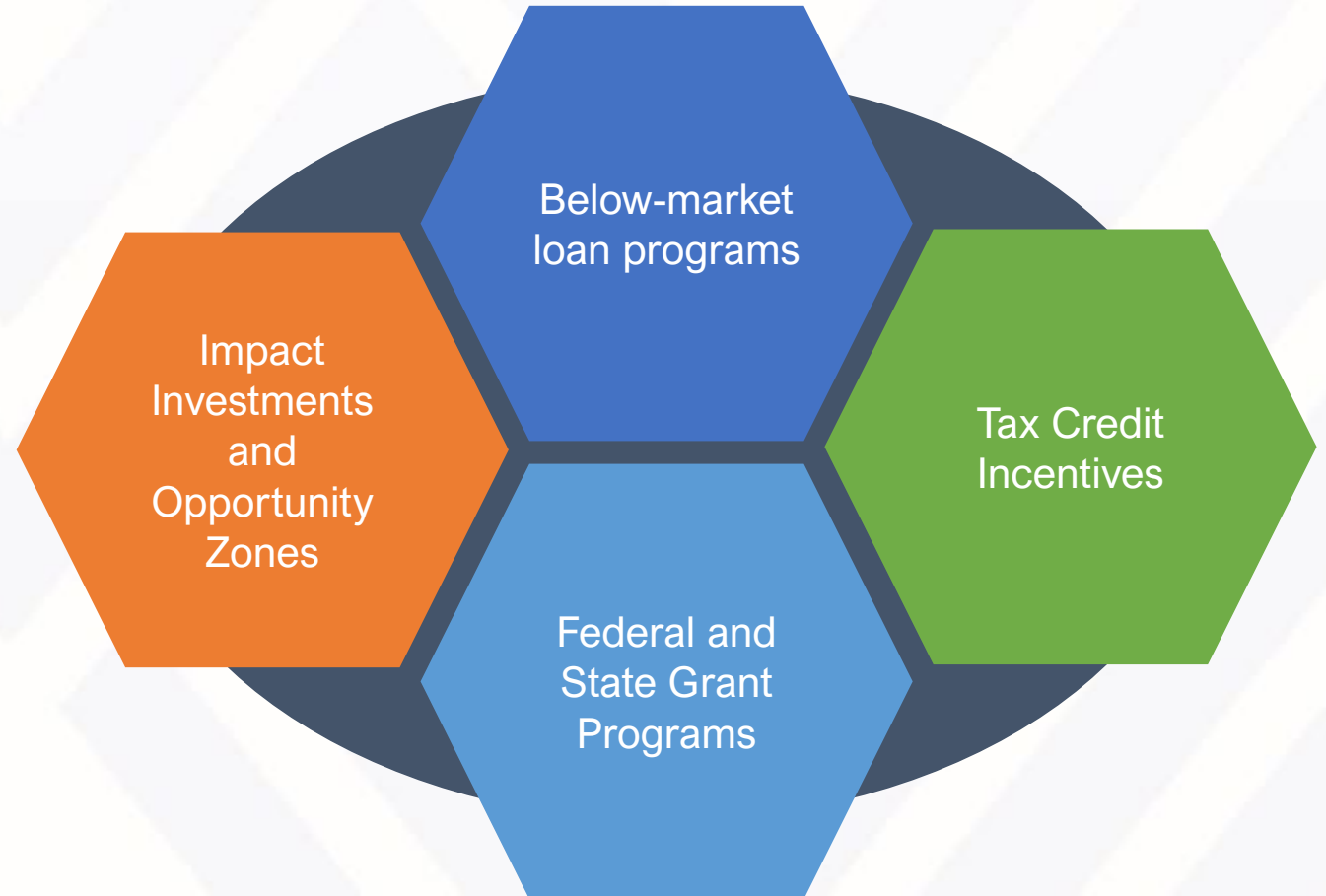
## **Milestones:**

- Create use cases for conservation finance.
- Close 5 transactions for SL opportunities.
- Analyze financial mechanisms to reduce capital costs.

# Conservation Finance: Creating Appealing Project Financials

**Conservation Finance blends public, private and philanthropic capital to lower costs for innovative projects with development, climate, and social nexus**

*Blending sources of capital can attract investment that can bridge the gap between initial reclamation efforts and long-term stewardship.*





# Opportunities for Capital Stacking on FML: Public Funding and Financing

## Pre-Reclamation Stage

Funds for site classification and identification

Grants	Debt	Equity	Tax Credits
<ul style="list-style-type: none"> <li>Regional Conservation Partnership Program (RCPP)</li> <li>America the Beautiful Challenges (NFWF)</li> </ul>			

## Reclamation Stage

Funds for site reclamation

Grants	Debt	Equity	Tax Credit
<ul style="list-style-type: none"> <li>AMLER</li> <li>Brownfield Grants</li> <li>EQIP</li> <li>Nonpoint Sources Implementation Grant</li> <li>RCPP</li> </ul>			

## Post Reclamation

Funding by project type

	Grants	Debt	Equity	Tax Credits
<i>General</i>	<ul style="list-style-type: none"> <li>WV Flood Resilience Trust Fund</li> <li>WV Disaster Recovery Trust Fund</li> <li>Broadband Funding</li> </ul>	<ul style="list-style-type: none"> <li>State Revolving Fund</li> <li>Small Business Investment Company</li> </ul>	<ul style="list-style-type: none"> <li>Venture Capital</li> <li>Private Equity</li> </ul>	
<i>Clean Energy</i>	<ul style="list-style-type: none"> <li>ARPA</li> <li>Hydrogen Hubs</li> <li>Direct Air Capture Hubs Program</li> </ul>	<ul style="list-style-type: none"> <li>DOE Loan Program</li> </ul>	<ul style="list-style-type: none"> <li>Opportunity Zones</li> </ul>	<ul style="list-style-type: none"> <li>Clean Energy Tax Credits</li> </ul>
<i>Housing</i>	<ul style="list-style-type: none"> <li>USDA Rural Development Grants</li> </ul>	<ul style="list-style-type: none"> <li>Community Development Banks</li> <li>WVEDA Industrial Development Bonds</li> <li>USDA Rural Development Loans</li> <li>CDFI loans</li> <li>Green Bank Loans</li> </ul>	<ul style="list-style-type: none"> <li>Opportunity Zones</li> </ul>	
<i>Mixed Industrial/Commercial</i>		<ul style="list-style-type: none"> <li>WVEDA Industrial Development Bonds</li> </ul>	<ul style="list-style-type: none"> <li>Opportunity Zones</li> </ul>	<ul style="list-style-type: none"> <li>Manufacturing and Corporate Headquarter Credits</li> </ul>
<i>Small Business</i>		<ul style="list-style-type: none"> <li>WVEDA Direct Loans</li> <li>CDFI loans</li> <li>Small Business Investment Company</li> <li>WV Jobs Investments Trust</li> </ul>	<ul style="list-style-type: none"> <li>Opportunity Zones</li> </ul>	
<i>Recreation</i>	<ul style="list-style-type: none"> <li>WV DOT Recreation Trails Program</li> </ul>			<ul style="list-style-type: none"> <li>Tourism Development Credit</li> </ul>
<i>Agriculture</i>	<ul style="list-style-type: none"> <li>Specialty Crop Block Grant</li> </ul>			
<i>Transit</i>	<ul style="list-style-type: none"> <li>RAISE Grants</li> <li>WEP</li> </ul>			
<i>Workforce Development</i>	<ul style="list-style-type: none"> <li>Economic Opportunity Credit</li> <li>POWER grant</li> <li>Workforce Opportunities for Rural Communities Grant</li> </ul>	<ul style="list-style-type: none"> <li>USDA Rural Development Community Facilities Direct Loan and grants Program</li> </ul>		
<i>Reforestation</i>	<ul style="list-style-type: none"> <li>NRCS EQIP</li> <li>NRCS RCPP</li> </ul>			

# Workforce Development – Coalfield Development

**Challenge:** Lack of skills and workforce trauma in FML areas.

**Approach:** Expand Coalfield Development's 33-6-3 apprenticeship model.

**Milestones:**

- Recruit 8 cohorts for training.
- Train 200 individuals to reclaim 5,000 acres of FML.



# Workforce Development – Coalfield Development

- Lavender Farm, Boone Co.  
Coalfield Development has hired a crew chief, assistant crew chief, and 5 trainees for this site. We will be operating 40 acres, with the option to expand.
- Goal of training 100 new people by end of 2024
- Ongoing efforts to work on Nicholas County Solar Project among others



# Regulatory Sandbox Efforts

**Challenge:** Regulatory hurdles prevent FML conversion.

**Approach:** Create a series of Science and Policy notes to discuss various energy topics.

**Milestones:**

- Host 8 roundtables to discuss regulatory challenges.
- Develop policy recommendations to foster FML reuse.



# Regulatory Sandbox Efforts

- Community Roundtables -- 2024; Partnering with The Hub
- Science & Technology Notes
  - Finished: Geothermal on AML; Regulatory Sandbox 101, West Virginia Strategies to Encourage Brownfield Renewal
  - Final Editing: Mine Landowners Perspectives on Development Opportunities
  - External Review: Opportunities and Challenges of Cleaning up Former Mine Land in West Virginia, Restoration of Former Mine Lands in West Virginia, What is the Surface Mining Control and Reclamation Act of 1977 (SMCRA)?
  - Writing: Wind and Solar Energy on FML; Use of Mine Lands as a Carbon Sink (Carbon Capture/Biomass and/or Direct Air Capture); Grid Reliability and Resiliency
  - Future Topics: Electricity market regulation
- Community Roundtables -- 2024; Partnering with The Hub

# Regional Industry Assets & Needs

- Region Served:** 21 counties in Southern WV, 12 persistent poverty counties.
- Issues:** Economic distress due to coal industry decline, high number of FML.
- Goals:** Spur economic recovery through site repurposing and job creation.



# Measurable Goals & Impacts

- **Within 4 Years:** 10 Site Master Plans
- 3 Pilot Sites for workforce development
- 20 Technology startups supported
- 528 jobs created
- \$112.8 million in economic impact

# Partnerships & Collaboration

- **Key Partners:** WVU Center for Sustainable Mine Lands
- The Nature Conservancy
- Coalfield Development
- Natural Resource Partners
- USRIA Accelerator Program



Questions?

