West Virginia University

Bridge Initiative for Science and Technology Policy, Leadership, and Communications

Science and Technology Note

Perspectives of Former Coal Mine Land Owners on Development Opportunities in West Virginia

September 2024

This Science and Technology Note addresses challenges and opportunities that owners of former coal mine land (FML) in West Virginia must consider when deciding whether to pursue land development. While developing FML may be economically beneficial, there are developmental and financial risks, market uncertainties, environmental considerations, implementation challenges, and technical barriers involved.

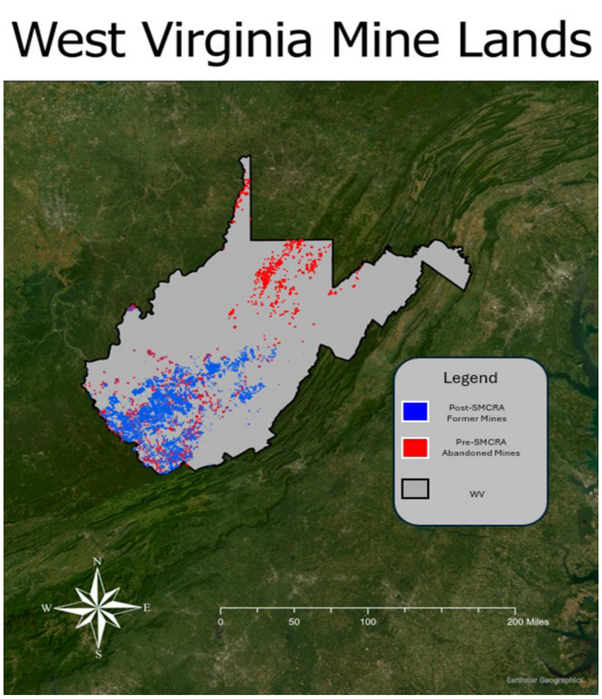
Research Highlights

- Former mine land (FML) owners in West Virginia face challenges in developing their land due to financial constraints, complex regulations, and technical hurdles.
- Addressing these challenges is crucial for economic revitalization, environmental restoration, and job creation in coal-dependent communities and may ultimately foster sustainable development in the state.
- West Virginia policymakers may consider implementing financial incentives, streamlining regulatory processes, and fostering collaborative partnerships to incentivize FML development and promote economic diversification in coal-impacted regions.

Challenges and Opportunities for FML Owners

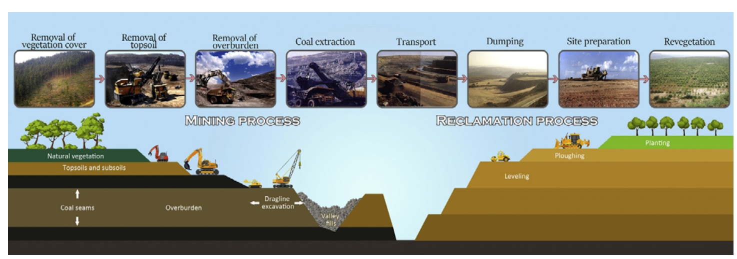
West Virginia has approximately 200,000 acres of unreclaimed or under-reclaimed FML with potential for economic development. New commercial, residential, or nature-based development of FML presents opportunities to create jobs and generate income. However, converting FML into “shovel-ready” sites for development requires a considerable investment of both funding and time.

The Surface Mine Reclamation Act (SMCRA) and the Abandoned Mine Lands Economic Revitalization (AMLER) Program both provide funding for FML restoration. Further, collaborative partnerships between FML owners and nonprofit organizations, private developeres, and government entities can also help facilitate actions to develop these lands for societal benefits.



Map of West Virginia’s Former and Abandoned Mine Lands, Pre- and Post-SMCRA (Original Graphic; Data Source: WVU GIS Technology Centers)

Incompatible terrain, inadequate infrastructure, and limited financial resources all pose significant challenges for West Virginia FML owners seeking to develop their lands. For instrance, the size of FML can be logistically challenging in terms of coordination, management, and compliance to EPA regulations, which can also make accessing resources difficult. Additionally, risk-based regulations impose stricter barriers on larger sites, hindering FML owners’ ability to obtain EPA assistance for remediation efforts.



Mining and Reclamation Processes (Source: https://www.sciencedirect.com/science/article/pii/S0012825217305925)

Sustainable land use applications for FML pose several technical challenges for landowners. The restoration process involves reshaping the landscape, reintroducing native vegetation, and establishing wildlife habitats, all while adhering to regulatory requirements and often working within time constraints. Soil contamination from mining activities and heavy metals can necessitate costly remediation efforts to meet environmental standards. Constructing essential infrastructure such as wastewater treatment facilities and stormwater management systems also requires significant funding and resources.

Current FML Owner Perspectives on Economic Development Opportunities

In West Virginia, FML owner perspectives on development are shaped by federal regulations like SMCRA. Economic interests drive development, but environmental concerns can pose challenges. Meeting the environmental and reclamation requirements outlined in SMCRA, such as restoring land to its original contour, reestablishing native vegetation, and possible acid mine drainage (AMD) treatment, can hinder economic development.

However, beyond SMCRA funding, there are regulatory programs that encourage economic development of FML by providing incentives and support for land reclamation; these include the Abandoned Mine Land Economic Revitalization (AMLER) Program, the Special Reclamation Fund (SRF), and the Office of Surface Mining Reclamation and Enforcement (OSMRE) AML Reclamation Program.

Societal Benefits of Responding to FML Owners' Concerns

Implementing measures to encourage land remediation efforts could create jobs for West Virginians and generate revenue for the state. By incentivizing development on FML, the state can expedite mine land repurposing, encouraging economic revitalization and environmental restoration. More specifically, FML remediation and development can lead to enhanced property values, which may attract new businesses and investments as well. Environmentally, restoring the ecological integrity of FML can improve both air and water quality, support biodiversity, and enhance the overall health and wellbeing of local coal communities.

Government programs like AMLER are financed through the general treasury rather than relying on state funds. This alleviates the burden on the state's budget for remediation efforts, providing alternative funding to support mine land reclamation initiatives. Financial incentives like subsidies and tax credits can also mitigate investment costs.

Comparing West Virginia's Policy to Other Appalachian States' Policies to Support FML Owners

Financial incentives such as subsidies, tax credits, and alternative revenue streams can mitigate financial burdens and provide economic stability. Moreover, environmental remediation efforts targeting issues like acid mine drainage (AMD) cleanup and soil degradation offer opportunities to enhance the suitability of FML for development and enhance public protection from potential environmental damage.

The tables on the right offer a comparison between West Virginia's policies and other Appalachian states' current policies surrounding the development of FML as well as possible policy options that West Virginia policymakers may adapt from other Appalachian states' policies.

STATE	POLICY
Ohio	**Ohio Coal Development Office Grant Program:** This program is financed by state appropriations, federal grants, and private contributions. Through the program, grants are distributed to projects that target hazard mitigation, land and water resource stabilization, and the promotion of reclaimed land reuse for economic development.
Pennsylvania	**The Abandoned Mine Reclamation Fund:** Pennsylvania's Abandoned Mine Reclamation Fund is financed through fees levied on coal production and distributed for reclamation projects. This funding is mainly allocated to projects that address safety hazards, restore the ecology of the land, and promote economic development.
West Virginia	**W.Va. Code § 22-3-13(c):** West Virginia uniquely permits "homesteading" as a post-mining land use, allowing for the development of electric service to serve residential communities on reclaimed sites. This provision allows for a mix of residential and energy-related development.

Other Policies to Consider

POLICY/PROGRAM	DESCRIPTION
Ohio Coal Reclamation Fee Reduction Program	Ohio offers reductions in coal reclamation fees for mine operators who implement effective reclamation measures, such as soil stabilization, re-vegetation, and erosion control. The program aims to incentivize responsible reclamation practices and mitigate environmental impacts.
Indiana Reclamation Fee Refund Program	Indiana provides refunds of reclamation fees paid by mine operators who conduct approved reclamation activities on mined lands. The program incentivizes timely reclamation efforts and provides financial assistance to operators undertaking reclamation projects.
Kentucky Mine Land Tax Credit	This credit is provided to landowners for qualified reclamation expenses incurred during the reclamation process, which may include costs related to site preparation, land grading, vegetation establishment, erosion control, and other activities aimed to restore the land to productive use.
Coal Refuse Energy and Reclamation Tax Credit	This program provides tax credits to eligible facilities that generate electricity by using coal refuse for power generation, control acid gasses for emission control, and use ash produced by the facilities to reclaim mining-affected sites.

This Science & Technology Note was written by Jacob Morris, Graduate Research Assistant at West Virginia University, on behalf of West Virginia University's Bridge Initiative for Science and Technology Policy, Leadership, and Communications.
Please see https://scitechpolicy.wvu.edu/ or contact scitechpolicy@mail.wvu.edu for more information.