Abandoned Mine Land Program: A Policy Analysis for Central Appalachia and the Nation

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This paper seeks to educate the public on the Abandoned Mine Land (AML) program and provide an analysis of the policy, economic, environmental, and financial repercussions of the program. This paper is ambitious in its scope—never before has a research project provided such a far-reaching and thorough analysis of the AML program. Relevant analyses are based on previously unreleased AML funding data and on data collected through a survey of state and tribal AML officials. In addition to its educational purpose, the paper also provides a set of policy recommendations that, according to our research findings, are necessary for the AML program to achieve its core purpose of reclaiming America’s abandoned coal mines.
1. **Executive Summary and Key Findings**

This paper seeks to educate the public on the Abandoned Mine Land (AML) program and provide an analysis of the policy, economic, environmental, and financial repercussions of the program. This paper is ambitious in its scope—never before has a research project provided such a far-reaching and thorough analysis of the AML program. Relevant analyses are based on previously unreleased AML funding data and on data collected through a survey of state and tribal AML officials. In addition to its educational purpose, the paper also provides a set of policy recommendations that, according to our research findings, are necessary for the AML program to achieve its core purpose of reclaiming America’s abandoned coal mines.

**Finding 1:** The Abandoned Mine Land (AML) program, established by Congress in 1977, has reclaimed over $5.7 billion worth of AML problems—and nearly 800,000 acres of damaged land and water across the country—saving the streams, land, homes, businesses, lives, and communities of innumerable coalfield citizens along the way.²

For over 250 years coal provided cheap heat and electricity that powered the American economy. The historical benefit of coal is undeniable, yet it has not come without great costs. Before coal can be burned for energy it must be extracted from the earth, a process that necessarily damages and pollutes land and water. Since the country’s first commercial coal mine opened in 1748, the coal industry has extracted billions of tons of coal across the country.³ During this long history, the industry routinely abandoned mines—and the corresponding damage and pollution of those mines—once all of the coal had been extracted. As a result, thousands of abandoned underground and surface coal mines accumulated in predominantly poor, rural communities across the country—especially in the coalfields of Central Appalachia.

This accumulation of abandoned mines was made possible by the lack of any federal system to reclaim the damage caused by coal mining, prior to 1977. Congress passed the Surface Mining Control and Reclamation Act (SMCRA) in 1977, which created the AML program “in order to hold the entire coal industry responsible for reclaiming coal mine lands left abandoned across the country.” ⁴ In line with its explicit purpose of addressing the legacy costs of abandoned mines, the Act boldly established that the coal industry would finance—through a per ton fee on current coal production—the reclamation projects of the AML program.

The Office of Surface Mining Reclamation and Enforcement (OSMRE) within the US Department of the Interior (DOI) administers the program. OSMRE appropriates AML

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² See chapter 3 to learn more about the AML problems that have been reclaimed through the program; see chapter 5 to learn more about the structure of the program.
⁴ “FY2015 OSMRE Budget Justifications,” p.3
fees in the form of annual AML grants to state and tribal AML programs, which then use the grant funding to coordinate the reclamation of AML sites within their respective state or tribal boundaries. The appropriation of grants is determined by a complex statutory-defined funding formula that does not require annual discretionary approval from Congress. Historically AML funding was financed entirely through the collection of AML fees. Statutory changes in the 2006 AML reauthorization altered this, financing two sub-funds of the AML program with funds from the General Treasury.

The program has achieved significant progress in cleaning up the coalfields due to the valuable work of state and federal AML officials, watershed organizations, conservation districts, community groups, and others. In total, the program has reclaimed over $5.7 billion worth of AML problems—and nearly 800,000 acres of damaged land and water across the country—saving the streams, homes, businesses, land, lives, and communities of innumerable coalfield citizens along the way.

Finding 2: The AML program had a net impact of $450 million on US GDP in FY2013, and supported 4,761 jobs across the country. The program supported 1,317 jobs in Central Appalachian states, and delivered a value-added impact of $102 million in these states.

In FY2013, the AML program made a total economic impact of $778 million, a net impact of $450 million on US GDP, and supported 4,761 jobs through AML reclamation work. Central Appalachian states saw a total economic impact of $182 million, a value added impact of $102 million, and 1,317 jobs supported by the AML program. As demonstrated by a national FY2013 value-added (net) impact of nearly half a billion dollars, the program delivers a substantial contribution to the American economy on an annual basis. For its environmental and economic impacts, the AML program is absolutely crucial to the future of coalfield communities in the United States.

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5 See Chapter 5 for more information about the current and historic funding provisions of the AML program.
6 E-AMLIS generated report, "Cost PAD Summary By State & County." Includes all priorities (not just high priority; not just non-coal) and all problem types. Retrieved April 28, 2015; E-AMLIS generated report, "Problem Type Unit & Cost (State) w/ GPRA*; includes all priorities (not just high priority; not just non-coal) and all problem types; received May 5, 2015. This acreage value is based on a standardized GPRA unit that OSMRE uses to quantify the reclamation of AML sites. If a reclamation site is typically measured in a metric other than acres—such as miles of streams restored—OSMRE converts those units into GPRA figures, so that comparison and sum calculations can be made. From the OSMRE e-AMLIS site: “OSM is required under the Government Performance and Results Act (GPRA) of 1993 to report measurable goals to Congress. One of OSM’s key measures under GPRA is the number of abandoned mine land acres reclaimed as reported in the AMLIS. Units not reported as acres are converted to acres when reporting GPRA acres.”
7 See chapter 6 to learn more about the economic impacts of the AML program.
Finding 3: While great strides have been made in reclaiming America’s abandoned mines, it will take at least $9.6 billion to remediate the remaining 6.2 million acres of lands and waters ravaged by abandoned coal mine problems, and, under the current funding scheme, AML distributions are declining by the year.⁸

While great strides have been made in reclaiming America’s abandoned mines, the program has a long way to go. It will take at least $9.6 billion to remediate the remaining 6.2 million acres of lands and waters ravaged by abandoned mine features such as: landslides, the collapse of exposed highwalls, mine fires, subsidence caused by the deterioration of underground mines, water problems caused by abandoned mine pollution, and more.⁹ These problems continue to markedly impede local economic development and threaten the livelihoods of citizens. If the AML program is to solve these problems in an effective and efficient manner, statutory changes are urgently required to improve the program.

Finding 4: Congress should initiate a five-year wholesale update of the federal inventory of AMLs so that complete, reliable data is available on the remaining size and geographical distribution of all coal AMLs—not just high priority AMLs—in the United States.¹⁰

Modern changes in the coalfields necessitate modern solutions. Experts agree that the federal AML inventory—e-AMLIS—is technologically out-dated and excludes billions of dollars worth of unreclaimed AMLs that likely exist in the coalfields. Congress should initiate a five-year wholesale update of the federal inventory of AMLs so that complete, reliable data is available on the remaining size and geographical distribution of all coal AMLs—not just high priority AMLs—in the United States. Local community members should be employed for the fieldwork required to update this inventory.

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⁸ See chapter 3 to learn more about the unreclaimed AML problems in the United States. See chapter 5 to learn more about the decline of AML distributions.

⁹ E-AMLIS generated report, "Problem Type Unit & Cost (State) w/ GPRA"; includes all priorities (not just high priority; not just non-coal) and all problem types; received May 5, 2015.; E-AMLIS generated report, "Cost PAD Summary By State & County." Includes all priorities (not just high priority; not just non-coal) and all problem types. Retrieved April 28, 2015.

¹⁰ See chapter 3 to learn about the federal AML inventory and its shortcomings; see chapter 8 to learn more about the proposed policy solution.
Finding 5: AML funding is not distributed according to need. Congress should enact legislation that replaces all AML sub-funds with a single distribution mechanism based on a state’s percentage of the updated federal AML inventory. This would distribute funding to states and tribes that have the largest AML problems and would simplify an unnecessarily complicated funding system.\textsuperscript{11}

The formula for AML distributions to states and tribes is broken. AML state and tribal share distributions are presently based on a state or tribe’s \textit{current coal production}, which is not an indicator of its remaining AML need. Since the passage of the SMCRA in 1977, coal production in the United States has largely shifted westward across the continent. The result is that a majority of the remaining AMLs lie in the eastern coalfields while the majority of coal production—and thus AML funding—lies in the western coalfields.

The only system that can accomplish the program’s goal is one that distributes funding according to the extent of the AML problem in a state or tribe, which the current formula does not accomplish. Congress should enact legislation that replaces all AML sub-funds with a single distribution mechanism based on a state’s percentage of the updated federal AML inventory. This would distribute funding to states and tribes that have that the largest AML problems and would simplify an unnecessarily complicated funding system.\textsuperscript{12}

Finding 6: Congress should accelerate disbursement of the $2.5 billion AML Fund to states and tribes, and target this funding towards AML projects that support or create long-term economic opportunities in coalfield communities hit hardest by recent mass layoffs in the coal sector.\textsuperscript{13}

Over the years an unappropriated balance of $2.5 billion has accumulated in the federal AML Fund. It is currently used to support crucial United Mine Worker of America (UMWA) health and pension plans through interest earned on investing this idle AML Fund in Treasury Securities. Congress first needs to update the law to ensure that these vital UMWAF plans are funded and healthy, without relying on this AML Fund interest.

In the past it may have been sensible to garner interest from the AML Fund, but a number of recent developments, including historically low interest rates, low gas prices, and—most importantly—severe economic distress in coalfield communities, make leaving the AML Fund idle in Washington no longer a viable policy. Congress should accelerate disbursement of the $2.5 billion AML Fund to states and tribes, and target

\textsuperscript{11} See chapter 5 to learn more about the funding provisions of the AML program; see chapter 8 to learn more about the proposed policy solution.
\textsuperscript{12} Because the distribution formula would be based on the AML inventory, updating the inventory is a necessary pre-requisite for such reform.
\textsuperscript{13} See chapter 5 to learn more about the unappropriated balance of the AML Fund and its current uses; see chapter 8 to learn more about the proposed policy solution.
this funding towards AML projects that support or create long-term economic opportunities in coalfield communities hit hardest by recent mass layoffs in the coal sector.

**Finding 7: In order to enable the program to effectively reclaim America’s abandoned mines in light of modern problems, a number of additional legislative fixed should be made by Congress.**

In addition to the aforementioned recommendations, the following proposals could substantially advance the ability of the AML program to fulfill its core purpose in the modern era. These policy solutions call for Congress to:

- Reinstate the historic AML fee levels, which would increase the AML program’s annual economic output by an estimated $116 million and would create nearly 750 jobs across the country. AML fee levels have never been updated for inflation and were lowered by 20% in 2006.
- Ensure the long-term financial health of United Mine Workers of America (UMWA) pension and benefit plans currently supported through the AML program.
- Reauthorize AML fee collection beyond FY2021 and continue mandatory AML distributions. Congress should not let such a vital program expire when billions of AML problems will remain in 2022.
- Reform the AML program to underline environmental performance, alongside human health and safety.
- End payments to states and tribes that have no remaining AML problems (i.e. “Certified states and tribes”), and empower OSMRE through statutory changes and increased funding to: a) reclaim future and existing AML problems in Certified states and tribes may they arise, and b) resume the responsibility of addressing AML emergencies. In the cases where Certified states and tribes have remaining AML problems, these programs should receive funding only to the extent of remaining AML problems—and only for the purpose of coal mine reclamation.
- Commission a routine annual study of the economic and environmental effects of the AML program.
- Exempt AML funding from sequestration effects. The program is funded through fee collections—not tax dollars—and thus will not accomplish deficit reduction.
- Establish a federal hard rock abandoned mine land reclamation program within OSMRE. There currently exists no federal program to reclaim the thousands of hardrock mines across America.

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14 See chapter 8 for the full set of policy proposals and their justification.
15 These estimates are relative to current fee levels. See sections 5.2 and 6.3 to learn more about fee levels.
Finding 8: If designed strategically, AML projects can provide long-term economic impacts and create local jobs. As evidenced by a set of case studies, AML sites have been leveraged to create thousands of jobs in agriculture, recreation, tourism, renewable energy production, retail, and beyond.\textsuperscript{16}

AML projects across the country—and world—have demonstrated that, if proper strategic planning is done up front, long term economic impacts including job creation can result from creating economic and business opportunities from AML reclamation.

Finding 9: The AMLER pillar of the Obama Administration’s proposed POWER+ Plan would create an estimated 3,117 jobs, contribute a total of $489 million to the US economy, and deliver a net GDP increase of $289 million, annually. Approximately 35\% of these impacts would accrue in Central Appalachian states, in FY2016.\textsuperscript{17}

In February 2015, the Obama Administration announced the proposed POWER+ Plan, an initiative to improve the economy of frontline communities in Appalachia and other coalfields experiencing the brunt of the shifting energy sector. The AML Economic Revitalization (AMLER) proposal, part of the POWER+ Plan, would disburse $200 million of existing AML funds per year, over five years, “for the reclamation of abandoned coal mine land sites and associated polluted waters in a manner that promotes sustainable redevelopment in economically distressed coal country communities.” \textsuperscript{18}

The AMLER proposal would create an estimated 3,117 jobs, contribute a total of $489 million to the US economy, and deliver a net a GDP increase of $289 million, annually. Estimates show Central Appalachian states would see a total economic contribution of over $107 million and a value added impact of nearly $39 million, in FY2016. The proposal would create nearly 770 jobs throughout Central Appalachian states, with Kentucky and West Virginia seeing the bulk of those jobs at 253 and 417, respectively.

\textsuperscript{16} See chapter 4 to learn more about case studies of AML projects with long-term economic impacts; also see chapter 4 to learn more about how state and tribal AML programs operate.
\textsuperscript{17} See chapter 6 to learn more about the economic impacts of the POWER+ Plan; see chapter 8 to learn more about how the POWER+ Plan would operate.
Finding 10: The current version of the AMLER proposal does not go far enough in targeting funding towards the states and tribes that are the most economically distressed.  

The President’s FY2016 budget and the AMLER proposal lay out a bold set of programs and AML reform initiatives to drive a just economic transition in struggling coalfield communities. The current version of the AMLER proposal, however, does not go far enough in targeting funding towards the states and tribes that are the most economically distressed. As the proposal states, the “majority of un-reclaimed coal mine lands are concentrated in Appalachian states that have experienced coal mining job loss.” Yet, the proposal would distribute a mere 35% of funding to Central Appalachian states in FY2016, and would not distribute AML funding to states and tribes according to any factor that incorporates coal mining job loss.

In order to achieve the POWER+ Plan’s expressed goal of assisting struggling Appalachian and other coalfield communities, the distribution formula must incorporate some economic distress factor. If such a factor were incorporated, Central Appalachian states would see an estimated total economic output of over $144 million, an impact of $54 million in value added to the regional economy, and 1,038 jobs created. That’s nearly 300 more jobs than the current version of the AMLER proposal, which lacks an economic distress factor.

In addition, the plan presents great potential for progress in coalfield communities, but it must prioritize a robust and inclusive public process and provide power to new, non-traditional partners in shaping AMLER projects. This—and the overarching imperative of a just transition—must be prioritized as the proposal continues to take shape.

Funding 11: A Just Transition framework is crucial for moving ahead with mine reclamation in coalfield communities.

Due to the fact that a majority of the country’s abandoned mine sites lie in Appalachia, the transition in this region is vital context for AML reform. The region is experiencing unprecedented economic decline, environmental damage, and inequality. An economic transition in Appalachia is inevitable, and in that inevitability communities see an opportunity to create a new economy that is just, sustainable, and works by and for Appalachians. This framework is guided by a respect for Appalachia’s past, and is driven by a belief that we can and must improve the quality of life of people affected by this transition.

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19 See chapter 6 to learn more about the economic impacts of the POWER+ Plan if it were revised to incorporate an economic distress factor; see chapter 8 to learn more about the POWER+ Plan and how the need for an economic distress factor in the plan.
21 See chapter 8 to learn more the just transition framework and its importance.
Any responsible approach to AML must be situated within the reality of these changes and the framework of a just Appalachian transition. The analysis of the AML program laid out in this paper, as well as its vision of the AML program moving forward, are situated within the framework of a just transition.

Chapter 2 of this paper lays out a brief legislative history of the AML program. Particular emphasis is placed on the political and policy dynamics of the 2006 AML reauthorization and recent AML amendments. Chapter 3 is useful for understanding what sites qualify as AMLs and on what exactly AML funding can be legally spent. Chapter 3 also provides a national and state-specific summary of reclaimed and unreclaimed AML problems, and highlights the shortcomings of the existing federal AML inventory. Chapter 4 provides some insight as to how state and tribal AML programs select, design, and implement reclamation projects. Chapter 4 also showcases a handful of AML projects that have delivered local economic development impacts.

Chapter 5 explores the current and historic funding provisions of the AML program. The chapter, based on previously unreleased funding data, analyzes historic trends in AML distributions and AML fee collections, and outlines the status and use of the $2.5 billion unappropriated AML balance. Chapter 6 underlines the current and potential economic impacts of the AML program, both nationally and in Central Appalachian states. This chapter includes impact assessments of the current AML program, reinstating historic (pre-2006) AML fee levels, and of accelerating disbursement of the unappropriated AML balance—as proposed in the POWER+ Plan and beyond. Chapter 7 provides a glimpse of the environmental techniques of AML reclamation and the preferred Forestry Reclamation Approach.

Chapter 8 lays out a set of federal AML policy recommendations directed towards Congress. These policy recommendations, which are guided by the framework of a just economic transition, are based on the findings of a participatory research project led by the authors and speak to necessary improvements in the AML program that would require statutory changes to the SMCRA. The chapter also explains the President’s proposed POWER+ Plan as it relates to AML, and provides a set of policy recommendations aimed at strengthening the plan from the perspectives of economically-distressed coalfield communities.