ReImagine Appalachia

Repairing the Damage:

Appalachia can reclaim dangerous environmental liabilities while creating tens of thousands of jobs for the region.

After powering America for over a century, Appalachia is seeing devastating impacts from our global energy shift away from fossil fuels. In less than a decade, the Ohio Valley Region - including Kentucky, West Virginia, Ohio and Pennsylvania, has lost 25,000 coal mining jobs and nearly 13,000 oil and gas jobs. In addition, 34 coal-burning facilities in the region have closed in the past decade, resulting in the loss of thousands more jobs.

This staggering industry decline has not only hurt families, but had ripple effects across communities, forcing schools to close and a loss of essential services in places hardest hit.

Appalachian communities did not fuel our nation's prosperity without a cost – thousands of environmental hazards burden our land. Abandoned mine sites, coal ash waste sites, and orphaned oil and gas wells deter development, hurt ecosystems, contribute to the climate crisis, and threaten the health and safety of nearby people.

These liabilities represent an American infrastructure crisis.

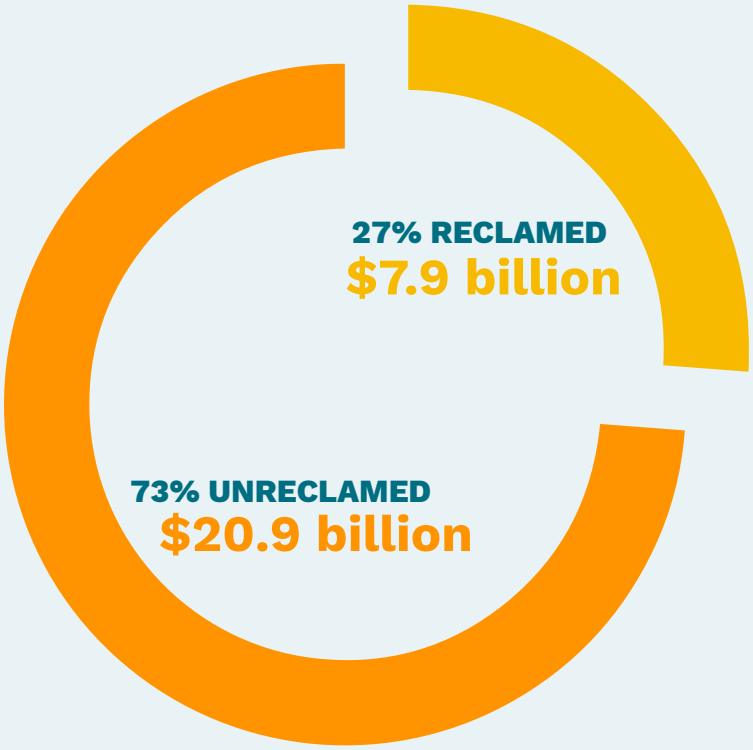
This is why ReImagine Appalachia has supported the "Repairing the Damage" series of reports, partnering with experts on these issues at groups including the Union of Concerned Scientists, Appalachian Voices, and the Ohio River Valley Institute, to shine a light on the crisis - and the opportunities - presented by the massive economic shifts the region is facing.

These environmental burdens will only get more expensive, and more dangerous, if we fail to act. Increased flooding and other severe weather threats linked to climate change increase risk. At the same time, the economic pressures faced by the region make now the time to invest in clean up.

We can turn these liabilities into job-creating opportunities with investment at the scale of the problem.

If done correctly, including strong worker safety protections, high labor standards, and input from communities most impacted, cleaning up these sites can create jobs, increase the potential for redevelopment and ensure that all Appalachian communities are places where people can safely live and work.

Reclaiming abandoned mine lands could create 17,000 jobs in Appalachia.



Since 1977, 978,000 acres and $7.9 billion worth of this damage has been cleaned up, but much more remains. Higher levels of investment are necessary.

Source: *Repairing the Damage: Cleaning up the land, air, and water damaged by the coal industry before 1977* by the Ohio River Valley Institute

For nearly a century, the coal industry was not consistently required to clean up after coal mining. In 1977, Congress passed The Surface Mining Control and Reclamation Act (SMCRA) to require companies to reclaim after mining – this law created the Abandoned Mine Land (AML) Fund. This successful program has eliminated over 46,000 open mine portals, reclaimed over 1,000 miles of dangerous highwalls, restored water supplies and protected 7.2 million people nationwide from hazards like landslides and flooding. However, the work isn't done yet: millions of Americans live less than a mile from one of these sites, and they pose a continuing threat to public health and economic development.

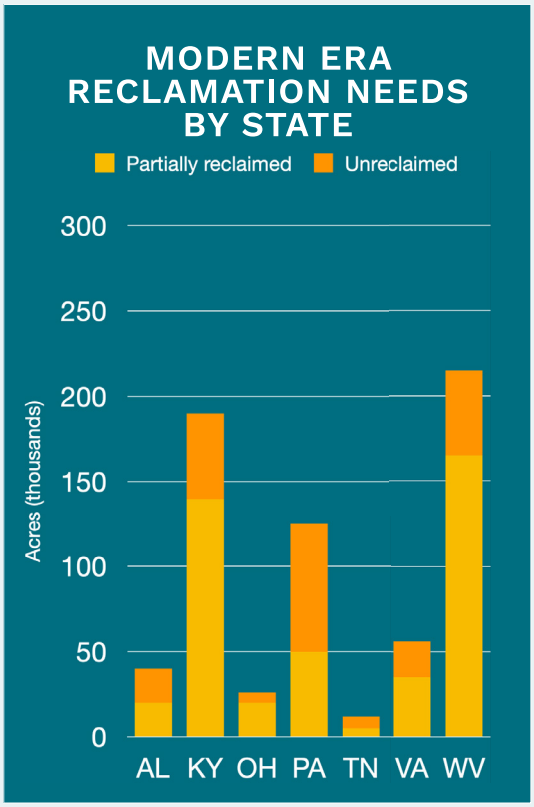
The longer that Congress allows thousands of acres of AML-damaged land and water to linger, the more these sites threaten coalfield communities, downstream residents, and the planet, and the more it will cost taxpayers. The need to repair mine-scarred damage is urgent. It will require drastic increases in the scale of funding, as well as ambitious changes to policy.

New estimates reveal an estimated $20.9 billion in abandoned mine lands remain across the U.S. – this number is nearly twice as high as the government's current $11 billion cost estimate. Appalachian states carry 84% of unreclaimed costs, with over 565,000 acres of abandoned mine lands burdening the region.

Essential legislation such as the RECLAIM Act and reauthorization of the Abandoned Mine Lands (AML) program must be passed now to keep reclamation work going. Additional funds will be needed to make sure all reclamation can be completed.

Read the full report: *Repairing the Damage: Cleaning Up the Land, Air, and Water Damaged by the Coal Industry Before 1977,* by Eric Dixon with the Ohio River Valley Institute.

A new generation of coal mine clean up must also be addressed.



As noted above, Congress passed SMCRA to ensure proper reclamation of modern era coal mines. However, as the coal industry declines, mining companies are delaying reclamation for long periods of time.

We are now facing a new wave of modern unreclaimed mines, in addition to the billions of dollars of damage left by coal mines abandoned in the previous century.

In Eastern states, an estimated 633,000 acres of modern era mining are in need of some degree of reclamation. The law requires coal companies to obtain bonds to help ensure proper reclamation of modern coal mines – however, bond structures did not predict the number of companies currently declaring bankruptcy, and are not sufficient to cover predicted reclamation needs. Analysis has found that the total outstanding cost of reclamation needed to address the modern mine burdens ranges from $7.5 to $9.8 billion dollars. The total available bonds amount to only approximately $3.8 billion dollars.

To address this impending crisis, the federal government must step in to ensure coal companies are held accountable for cleanup, and to fund high-quality, timely reclamation where bonds do not fully cover reclamation needs. Such a program should incentivize local and union labor, and fund reclamation projects that are responsive to local communities' needs.

If the remaining 633,000 acres in need of reclamation were reclaimed, this would create between 23,000 and 45,000 job-years across the Eastern states. Proper mine reclamation could have significant positive economic impacts, and contribute to methane mitigation, carbon sequestration and climate change resilience.

Read the full report: *Repairing the Damage: The Cost of Delaying Reclamation at Modern Era Mines*, by Erin Savage with Appalachian Voices

Plugging and restoring orphaned and abandoned wells could create 15,000 jobs in the Ohio River Valley region.

Across the United States, millions of oil and gas wells are no longer in production, but have no party legally or financially responsible for plugging them. These “orphaned” or abandoned wells pose serious risks to public safety and our environment, leaking oil and gas into our water and soil and releasing climate warming methane into the atmosphere. An estimated 538,000 abandoned wells remain in the Ohio River Valley, and plugging them could cost upwards of $34 billion. However, this work could create a 72.3 million metric ton reduction in CO2 emissions.

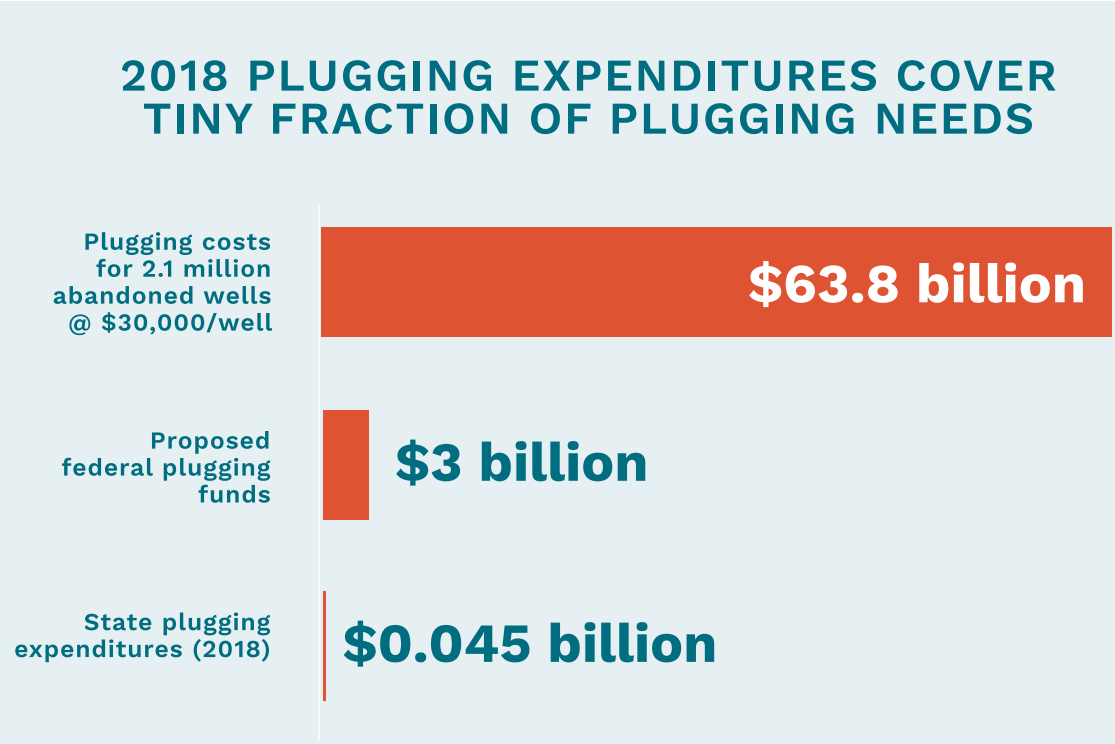


Image caption: At the current rate of remediation, it could take nearly 900 years for states to plug the estimated 2.1 million abandoned oil and gas wells in the U.S. Source: *Repairing the Damage from Hazardous Abandoned Oil & Gas Wells A Federal Plan to Grow Jobs in the Ohio River Valley and Beyond* by the Ohio River Valley Institute

In the short-term, a minimum investment of $5 billion is needed to plug and restore more abandoned wells, improve administration, identify more wells and improve well reclamation. Over the long run, a federal program is needed that can monitor and remediate these dangerous sites. This will require annual funding that far exceeds the allocations in current federal legislation.

Pennsylvania, Ohio, West Virginia, and Kentucky bear one-third of the nation’s estimated 4 million abandoned wells – and one in five wells that are in production today. The region would not only disproportionately benefit from a large-scale well plugging program, but it would also greatly benefit from more local jobs and income.

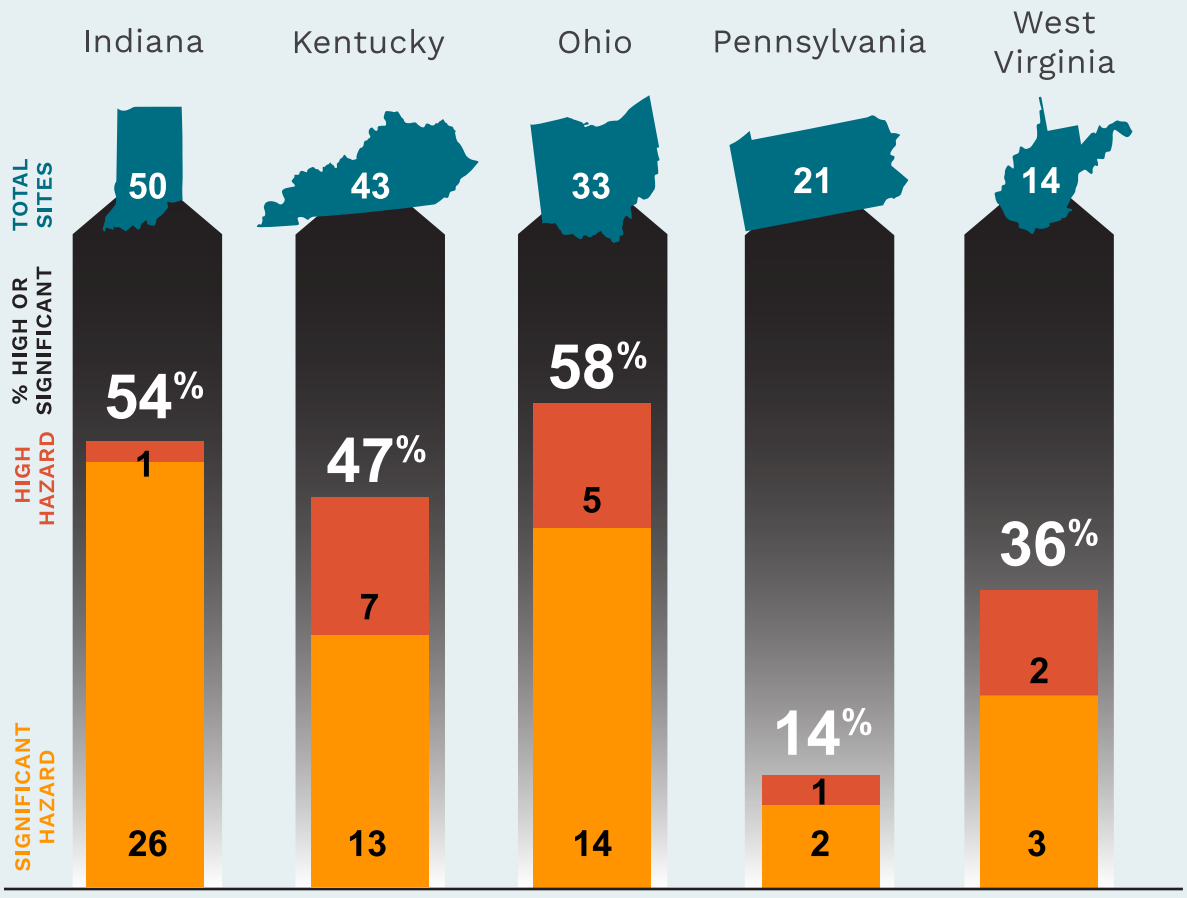
Read the full report: *Repairing the Damage from Hazardous Abandoned Oil & Gas Wells* **by Ted Boettner with the Ohio River Valley Institute**

Comprehensive cleanup of coal ash can create jobs and make communities safer.

Burning coal to produce electricity leaves behind coal ash. Coal ash contains more than a dozen toxic substances and is one of the largest industrial waste streams in the US. The Ohio Valley region alone is burdened with more than 162 billion gallons of coal ash waste at 161 disposal sites.

Coal ash waste sites are known to be dangerous - of the 55 coal-fired power plants in the Ohio River Valley tracked by the EPA, 96% exceed the threshold for at least one pollutant. More than 95% of coal ash ponds nationally are unlined or poorly lined, allowing them to contaminate groundwater. Coal ash waste sites are often located in the floodplain, increasing risk to drinking water and aquatic life. Increased rains and flooding brought by climate change will only increase the risks coal ash waste sites pose to local communities.

SUMMARY OF COAL ASH DISPOSAL SITE HAZARD RATINGS



However, case studies of coal ash clean up have found that “clean closure” plans create up to 7 times more jobs than minimum clean up. Analysis of two plants in the region show that clean closure plans create significantly more jobs and more than $100 million in economic activity compared to owners’

proposed plans.

If done correctly, including strong worker safety protections, high labor standards, and community input, cleaning up these sites can create jobs and increase the potential for redevelopment of former coal plants. The federal government must step in to ensure these measures are taken.

Read the full report: ***Repairing the Damage: Cleaning Up Hazardous Coal Ash Can Create Jobs and Improve the Environment*****, by Jeremy Richardson, Union of Concerned Scientists**

We must ensure genuine opportunities and maximize good union jobs.

There is an extraordinary opportunity to develop pathways to address these issues and, in the process, create tens of thousands of jobs.

We must ensure that workers are paid a living wage, with policies to support collective bargaining rights. Policies should include hiring preferences and/or set-asides for former coal workers, oil and gas workers, local workers and people of color. Pathways, such as apprenticeships, should be available to open the door to these careers for women, people of color, formerly incarcerated workers, and those recovering from substance abuse.

At present, many reclamation contracts can be too small for union contractors to consider; aggregating multiple reclamation projects in a similar geographic area and bidding them as a larger single contract could increase the ability of unionized firms to realistically consider them. This approach is especially applicable in an environment where annual reclamation volume is increased drastically as proposed.

The public investments we make today to stem climate change will pay off in the long run by protecting our health and the health of future generations. Solving the climate crisis is a reemployment plan for the Ohio River Valley and an investment in the region's future.