ReImagine Appalachia

Sustainable Development

ReImagine Appalachia blueprint creates 235,000 jobs in Ohio

Summary of results from PERI economic recovery program analysis

Introduction

Appalachians have never been afraid to roll up their sleeves and put in hard work. But for too long, certain politicians and their corporate backers have rigged the rules in their favor. They've exploited workers, scarred the land, and made our neighbors sick. Now is the time to come together to reimagine a 21st century economy for the Ohio Valley that is good for workers, communities, the environment and our health.

Earlier this year, the ReImagine Appalachia Coalition unveiled its policy blueprint. The plan shows how federal resources can support high quality jobs in sustainable manufacturing, a modern Civilian Conservation Corps and by building out the region's broadband infrastructure. Now a new study from the Political Economy Research Institute at the University of Massachusetts-Amherst shows that the blueprint could provide good jobs for over 235,000 Ohioans every year for the next 10 years. This paper summarizes the report's findings.

Whether it's one year, or five years from now: National climate change legislation will happen. The worse the economy gets, the more likely there will be a federal economic stimulus package. When that happens—when our federal leaders rise to the occasion—Appalachians need to be at the table.

By enacting the blueprint, federal leaders could create 235,000 Ohio jobs.

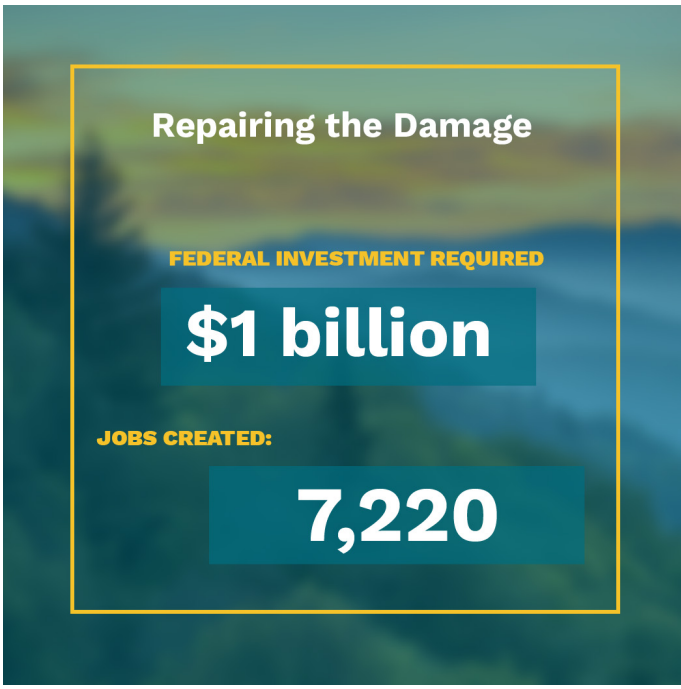
A federal investment package with annual average allocations of $9 billion to Ohio, from 2021 to 2030, along with an additional $19 billion in private investments, would generate approximately 235,000 jobs in Ohio — enough to bring Ohio's high unemployment rate back down to 4 percent.

These federal investments would not only represent a counterforce to the economic collapse associated with COVID-19, they would also build the foundation for a more sustainable and vibrant Appalachia going forward. One that builds local wealth. The average household would also spend 40% less on energy.

The investment amounts, job numbers and compensation figures outlined in this brief are entirely based on the work of Robert Pollin, Jeannette Wicks-Lim, Shouvik Chakraborty, and Gregor Semieniuk in the Department of Economics and Political Economy Research Institute at University of Massachusetts-Amherst (October 2020), entitled Impacts of the ReImagine Appalachia & Clean Energy Transition Programs for Ohio: Job Creation, Economic Recovery, and Long-Term Sustainability

Our Strategy for Job Creation

Expand Opportunity through Public Investments: By urging our federal leaders to drive federal resources into Appalachia for needed infrastructure improvements, and attaching requirements for strong wages, benefits, diversity requirements and union rights, we can create good union jobs. Federal policy can also give people moving out of extractive industries priority for jobs created, while building pathways into union jobs and family-sustaining careers for women, Black people, indigenous people, and other people of color.



Build a 21st Century Sustainable Appalachia:

National climate change legislation and federal economic stimulus packages are opportunities to bring much-needed resources into our region. The information below represents the number of jobs that can be created, in Ohio, if policy and policymakers sent a fair share of future climate change stimulus package to the region and ensured it is designed to meet the needs of the people living in Appalachia, not just the needs of corporations.

Repair Damage Done over the Last Century:

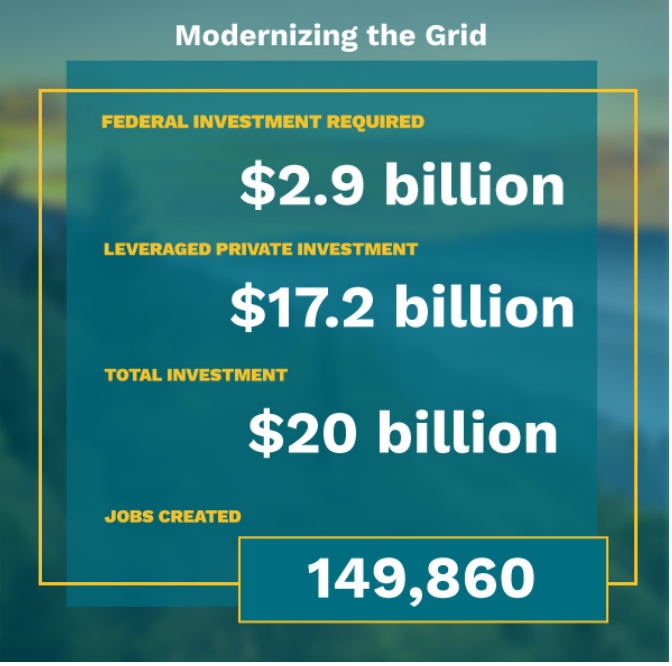
Reclaim abandoned lands and put them back to good use. And provide health care and secure pensions for coal workers, especially those with black lung disease.

Table 1

Repairing the Damage Job Creation through Annual Spending of $1 billion

$1 billion in federal investment creates more than 7,000 Ohio jobs annually							
	Spending amounts	Spending amounts Direct jobs	Indirect jobs	Direct + indirect jobs	Induced jobs	Direct, indirect + induced jobs	Average total compensation
Plugging orphaned oil and gas wells	$500 million	550	650	1,250	950	2,150	$73,800
Gas distribution pipe-lines—repairing leaks	$200 million	200	260	460	380	840	$142,300
Dams/levees	$300 million	2,400	660	3,030	1,200	4,230	$61,600
TOTALS	**$1 billion**	**3,150**	**1,570**	**4,740**	**2,530**	**7,220**	

Source: *PERI: Impacts of the ReImagine Appalachia & Clean Energy Transition Programs for Ohio*



Modernize the Electric Grid: By upgrading our antiquated electric system, decentralizing generation, expanding broadband, and making our homes and businesses more energy efficient, the state can cut emissions, save money and create new jobs.

Table 2

Modernizing the Grid Job Creation through Total Annual Spending of $20 billion

$2.9 billion federal investment creates nearly 150,000 Ohio jobs annually							
	Spending amounts	Direct jobs	Indirect jobs	Direct + indirect jobs	Induced jobs	Direct, indirect + induced jobs	Average total compensation
Electrical grid upgrades	$830 million	2,656	1,245	3,818	2,324	6,142	$67,800
Building retrofits	$2.2 billion	10,340	5,280	15,840	5,500	21,340	$60,600
Solar	$8.0 billion	15,200	13,600	28,000	19,200	48,000	$65,700
Onshore wind	$3.2 billion	7,360	5,760	13,120	8,000	21,120	$65,000
Low-emissions bioenergy	$2.39 billion	9,799	4,541	14,340	5,975	20,315	$55,800
Geothermal	$1.19 billion	6,545	2,380	8,925	3,927	12,852	$63,100
Small-scale hydro	$1.19 billion	7,854	2,142	9,996	4,403	14,399	$62,300
Broadband	$1 billion	1,900	1,900	3,800	1,800	5,700	$64,500
TOTALS	**$20 billion**	**61,654**	**36,848**	**97,839**	**51,129**	**149,868**	

Source: *PERI: Impacts of the ReImagine Appalachia & Clean Energy Transition Programs for Ohio*

Expand Manufacturing by Making it More Energy Efficient and Clean: Federal investments can repurpose shuttered coal plants, turning them into eco-industrial parks. Together, we can spur more energy efficient manufacturing and reduce operating costs in a way that doesn't involve lowering wages.

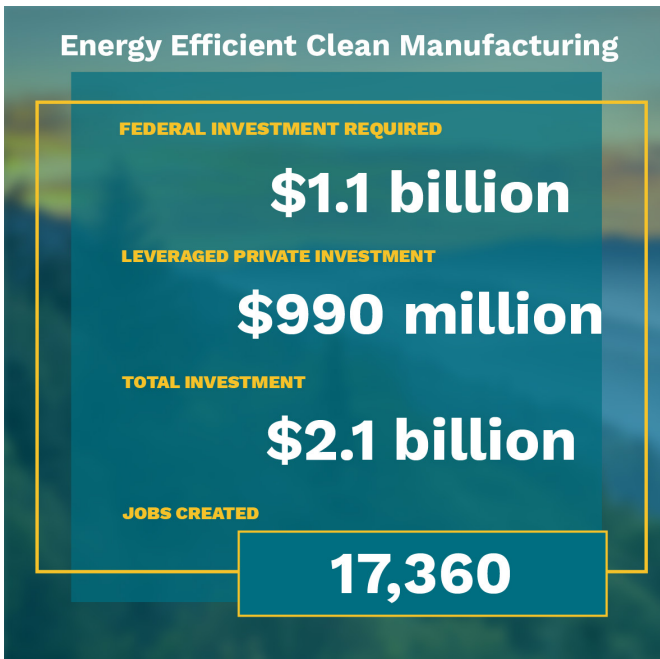


Table 3

Modernizing Manufacturing Job Creation through Total Annual Spending of $2.1 billion

$1.1 billion in federal investment creates more than 17,000 Ohio jobs annually							
	Spending amounts	Direct jobs	Indirect jobs	Direct + indirect jobs	Induced jobs	Direct, indirect + induced jobs	Average total compensation
Industrial efficiency, including combined heat and power	$1.1 billion	2,970	1,980	4,950	3,300	8,360	$64,300
Manufacturing R&D	$500 million	1,650	1,350	3,000	1,500	4,500	$72,200
Bioplastics R&D	$500 million	1,650	1,350	3,000	1,500	4,500	$72,200
TOTALS	**$2.1 billion**	**6,270**	**4,680**	**10,950**	**6,300**	**17,360**	

Source: *PERI: Impacts of the ReImagine Appalachia & Clean Energy Transition Programs for Ohio*

Build a More Sustainable Transportation System: By laying rail and expanding infrastructure for electric vehicles fueled by renewables, policy and investment can create good jobs while putting half of our region's energy dollars to better use and create new jobs for transit workers and laborers.

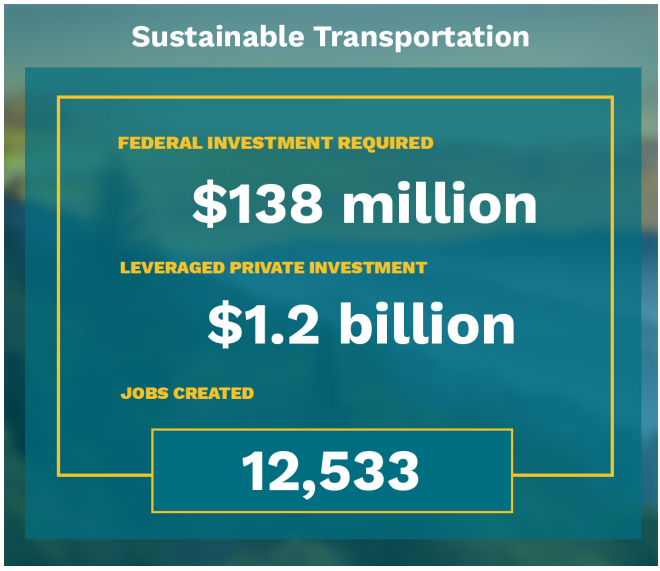


Table 4

Sustainable Transportation Job Creation through Total Annual Spending of $1.38 billion

$153 million federal investment creates 12,000 Ohio jobs annually							
	Spending amounts	Direct jobs	Indirect jobs	Direct + indirect jobs	Induced jobs	Direct, indirect + induced jobs	Average total compensation
Public transportation expansion/upgrades, including rail	$830 million	8,217	1,494	9,711	2,739	12,533	$46,200
Expanding high efficiency automobile fleet	$550 million	0	0	0	0	0	
TOTALS	**$1.38 billion**	**8,217**	**1,494**	**9,711**	**2,739**	**12,533**	

Source: *PERI: Impacts of the ReImagine Appalachia & Clean Energy Transition Programs for Ohio*

Relaunch the Civilian Conservation Corps (CCC): The absorption of carbon, when done via carbon farming, can put people to work expanding our forests, wetlands and sustainable farms. This work can help heal our society by creating hiring priorities for returning citizens caught up in the "war on drugs" and the opioid epidemic. Reviving the CCC can create pathways to family sustaining jobs for those facing labor market discrimination.

Table 5

Carbon Farming Job Creation through Total Annual Spending of $4 billion

$4 billion federal investment creates 50,000 Ohio jobs annually							
	Spending amounts	Direct jobs	Indirect jobs	Direct + indirect jobs	Induced jobs	Direct, indirect + induced jobs	Average total compensation
Water/wastewater/ inland waterways	$1 billion	5,300	1,900	7,200	3,000	10,200	$60,800
Land restoration	$500 million	3,000	950	3,950	1,650	5,650	$57,100
Regenerative agriculture	$1.5 billion	15,450	3,750	19,050	2,700	21,750	$40,300
Farmland conservation	$1 billion	7,400	2,300	9,700	3,600	13,300	$52,700
TOTALS	**$4 billion**	**31,150**	**8,900**	**39,900**	**10,950**	**50,900**	

Source: *PERI: Impacts of the ReImagine Appalachia & Clean Energy Transition Programs for Ohio*

Other priorities: Combatting negative impacts on fossil fuel industry workers: There are roughly 50,000 Ohioans working in fossil-fuel based industries, including in oil and gas extraction, coal mining and refineries. The PERI analysis, driven by emissions reductions that come in part from reduced energy consumption of high-emission fuels, determined that by the year 2030, there would be 21,000 fewer fossil-fuel industry workers—half of whom would retire, but half of whom would require re-employment.

Each year, for the next 10 years, roughly 1,000 workers will deserve priority status for re-employment in jobs created via national climate change legislation. In addition, it is important to recognize the average annual compensation for workers in the fossil fuel industry, about $100,000, is higher than the compensation found in most jobs listed above (with the exception of repairing leaks in gas lines). The PERI analysis recommends, among other things, income support from supplemental wage insurance for any difference in pay levels that result from moving into cleaner energy industries. Some additional training for new work may also be necessary. For this purpose, federal funding should be allocated towards union apprenticeship programs providing continued learning opportunities.

Conclusion

Our work is time sensitive. We are experiencing one of the most divisive and difficult times in our nation's history. But there is also opportunity. We can use this moment to Reimagine Appalachia. Federal policymakers will be passing major legislation that will shape the future of our nation. Our blueprint creates a vision for a 21st century sustainable Appalachia, and identifies the federal resources needed to get from where we are to where to we need to go. The findings of this study underscore what we already know - a better future is within reach, if we are willing to work for it. We're working to ensure the people of Appalachia have a say in how our region rebuilds. Join us in defining our future.

Table 6

Definitions: Direct, Indirect, and Induced Job Creation
Reprinted from page 43 of PERI: Impacts of the ReImagine Appalachia & Clean Energy Transition Programs for Ohio

[W]e need to briefly describe the three channels through which jobs will be generated through clean energy investments. In Fact, three resources of job creation will be associated with any expansion in any area of the economy, including energy investments. They are: direct, indirect, and induced employment effects. For purposes of illustration, consider these categories in terms of investments in home retrofitting or installing solar panels:

1. Direct effects-the jobs created, for example, by retrofitting buildings to make them more energy efficient or installing solar panels;
2. Indirect effects-the job associated with industries that supply immediate goods for the building retofits or solar panels, such as glass, steel, and transportation. In other words, indirect effects measure job creation along the clean energy investment supply chain;
3. Induced efforts-the expansion of employment results when people who are paid in the construction or steel industries spend the money they have earned on other products in the economy. These are multiplier effects within a standard of macroeconomic model.

Efficient Power, Good Jobs: Table 7 describes jobs associated with investments to modernize the grid, promote cleaner and more efficient manufacturing, and upgrade our transportation system to make it more sustainable.

Table 7

Modernizing grid, industry and transportation creates jobs

Modernizing the Grid: Increasing efficiency in electric generation, and getting power from local renewable energy sources	Upgrading the grid, reducing waste heat	Energy engineers, electricians, electrical power-line installers and repairers, boilermakers, power distributors and dispatchers, stationary engineers and boiler operators, pipe fitters and steamfitters, power plant operators, service unit operators, service unit operators, storage and distribution managers
	Upgrading the grid, reducing waste heat	Environmental, mechanical, and electrical engineers and technicians, electricians, installation technicians, helpers, managers, laborers, construction operators and managers, iron and steel workers, millwrights, sheet metal workers, metal fabricators, welders, machinists, electric equipment assemblers, construction equipment operators, industrial production managers, first-line production supervisors, industrial truck drivers, solar assessors
	Upgrading the grid, reducing waste heat	Methane/landfill gas collection and capturing, generation system engineers, installers. project fuel managers and operators, production managers and technicians, engineers and technicians, hydrologists, hydroelectric production managers, and plant technicians
Clean & Efficient Manufacturing	Eco-Industrial Parks	Energy Managers/Sustainability officers, Green Marketers, Refuse and Recyclable Material Collectors, Hazardous Materials Removal Workers, Brownfield Redevelopment Specialists and Site Managers, Commercial and Industrial Designers, Industrial engineers, architectural drafters, Landscape Architects, Soil and Plant Scientists, water and soil conservationists, Marketing Managers, supply chain manager, Electrical and Electronics Repairers, Commercial and Industrial Equipment, Industrial Production Managers, Industrial Ecologists, and sustainable design specialists, Water Resource Specialists, and water/wastewater engineers, Industrial Machinery Mechanics, and Repair Workers, Helpers--Installation, Maintenance, and Repair Workers, Transportation Managers, Logistics Analysts, engineers, and managers, Production, Planning, and Expediting Clerks, Shipping, Receiving, and Traffic Clerks, Transportation Vehicle, Equipment and Systems Inspectors, Maintenance
Sustainable Transportation	Freight rail	Civil engineers, rail track layers, electricians, welders, metal fabricators, first-line transportation supervisors, dispatchers, railroad conductors and yardmasters, laborers and freight, stock, and material movers, engine assemblers, production helpers
	Energy-efficient automobiles	Computer software engineers, electrical engineers and technicians, welders, transportation equipment painters, metal fabricators, computer-controlled machine operators, engine assemblers, production helpers, operations managers

Sources: Pollins & Wicks-Lim, Political Economy Research Institute (PERI), UMass, Job Opportunities in the Green Economy (2008); Bureau of Labor Statistics at http://www.bls.gov/green/greencareers.htm#greendata