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Revitalizing Appalachia

How Congress Can Correct Distortions in the Coal Market
and Invest in Struggling Coal Communities

By Gov. Ted Strickland, Greg Dotson, and Matt Lee-Ashley February 2015

Center for American Progress



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Introduction and summary

The U.S. coal industry is in the midst of a painful transition. The number of coal-mining jobs in the United States has fallen steadily in recent years, a trend that has had a profound impact on communities that depend on the coal industry for employment and tax revenue. Policymakers should manage this transition and ensure that coal communities emerge stronger and more resilient to fluctuations in the coal market.

Numerous market forces are driving the challenges facing the U.S. coal industry. Over the course of several decades, mechanization has progressively chipped away at the number of workers needed to mine a ton of coal. More recently, abundant and cheap supplies of cleaner-burning natural gas have outcompeted coal as the preferred fossil fuel for new electricity-generating capacity.

The coal industry in Appalachia—a region that spans portions of Kentucky, Ohio, Pennsylvania, Virginia, and West Virginia—faces challenges that are unique to a coal basin in which the richest coal seams have been mined already. It is easier—and therefore cheaper—to extract coal in other U.S. coal basins, such as the Powder River Basin, or PRB, in Montana and Wyoming or the Illinois Basin in Illinois, Indiana, and western Kentucky. This creates a daunting market barrier for Appalachian coal. In addition to facing domestic competition, Appalachian coal producers are losing market share to low-cost imports and are struggling to compete in an oversupplied global export market.

Unfortunately, these market challenges have been exacerbated by federal coal policies that further distort the market and undercut Appalachian coal.

The federal program for leasing coal on publicly owned lands is fundamentally noncompetitive and does not ensure that taxpayers receive the true fair-market value for coal extracted from public lands. The distortionary effect is particularly stark in the PRB of Montana and Wyoming, where the vast majority of federal coal is mined. PRB coal is significantly undervalued and sells at a fraction of the

cost of coal produced in other regions of the United States—less than one-third of the price of Appalachian coal, even when accounting for Appalachian coal’s higher heat content. Some analysts argue that these low prices give PRB producers a near monopoly, making it difficult for coal producers in other U.S. basins to compete.

In this report, the Center for American Progress proposes that Congress act to correct the flaws in the federal coal-leasing program that create these market distortions. Specifically, CAP offers two policy choices. The first is that Congress could raise the royalty rate that mining companies pay on the value of surface-mined coal they extract from federal lands. This change would prospectively apply to new coal leases only, leaving the current rate for existing leases untouched. Alternatively, Congress could leave the existing rate unchanged but require mining companies to apply the existing royalty rate to the price of coal at its final point of sale rather than at the first arms-length transaction. This change would ensure that coal companies pay royalties on the true market value of federal coal, and it would apply to both new and existing leases.

Both of these changes would achieve two important goals. First, they would ensure that taxpayers receive a fairer return on publicly owned coal resources. Second, they would create a significant new revenue stream that Congress could direct to struggling coal communities in Appalachia in order to help them rebuild and diversify their economies. Policymakers and stakeholders have begun to shape and implement programs to provide economic development, job training, and employment assistance in Appalachian communities, but securing adequate funding for these programs remains a challenge.

The prosperity of the PRB and Appalachian coal communities are in some ways linked. As the Appalachian coal industry has declined, the PRB coal industry has grown. Ineffective and outdated federal coal policy has depressed the price of federal coal and skewed the market in favor of the PRB over others, including Appalachia. Fixing this flawed policy can generate new revenue for investment in Appalachian coal communities in dire need of economic diversification and revitalization.

Market challenges facing Appalachian coal

The U.S. coal industry has changed significantly since the 1980s. Employment in the nation's coal mines has fallen as production has shifted from underground mining to surface mining, which is more mechanized and less labor intensive. Coal producers simply need fewer workers to produce each ton of coal. Between 1985 and 2008—the year U.S. coal production peaked—the number of coal miners in the United States fell by more than half, while coal production climbed by 32 percent.¹

The majority of these jobs were lost in Appalachia, where the number of coal-mining jobs fell from 122,000 in 1985 to 58,750 in 2008 and to less than 58,000 in 2012.² Some counties in this region are overwhelmingly dependent on the coal industry for jobs and tax revenue. As a result, closing or idling even a single mine in one of these communities can have a ripple effect that is felt across the local economy.

Several powerful market forces have combined to create this challenging economic environment for the U.S. coal industry and the communities that depend on it, particularly in Appalachia.

Appalachian coal producers face significant market barriers

Appalachian coal producers face a grim geological reality. The largest, easiest-to-access coal seams in the region have been mined already, making it more labor intensive and expensive to produce a ton of coal in Appalachia than in other U.S. basins. The Energy Information Administration, or EIA, projects that Appalachian coal production will continue to decline in the coming years “as coal produced from the extensively mined, higher-cost reserves of Central Appalachia is supplanted by lower-cost coal from other regions.”³

The high price of Appalachian coal makes its domestic market share vulnerable to competition from the global market. In addition to coal produced from other U.S. basins, Appalachian coal producers are competing with an influx of imported coal,

particularly from Colombia. The National Mining Association has said that “U.S. power plants on or near Eastern or Gulf ports can access coal much more cheaply from ... traditional offshore exporting countries than they can from the U.S. interior.”⁴ Over the first nine months of 2014, coal imports nationwide were 38 percent higher than imports over the same period of time in 2013.⁵

In addition, today’s global coal market is not favorable to exported U.S. coal. Slower-than-expected coal demand in China—the world’s largest importer and consumer of coal—and a supply glut have depressed the global price of coal. As a result, U.S. coal producers have had to pull back: U.S. coal exports fell 16 percent over the first nine months of 2014 compared with the same time period in 2013.⁶ This is particularly problematic for Appalachian coal producers, as they have become increasingly dependent on foreign markets for revenue. Appalachian producers exported 31 percent of the coal that they produced in 2012, up from 25 percent in 2011 and 19 percent in 2010.⁷

The natural gas resurgence in the United States has put tremendous pressure on the U.S. coal industry as a whole. Between 2007 and 2012, natural gas production from shale increased fivefold in the United States,⁸ driving down natural gas prices significantly.⁹ These low prices—combined with the air-quality benefits of burning gas rather than coal for electricity—have eroded coal’s position as the go-to energy source for power generation.¹⁰

Appalachia is losing the competition with Powder River Basin coal

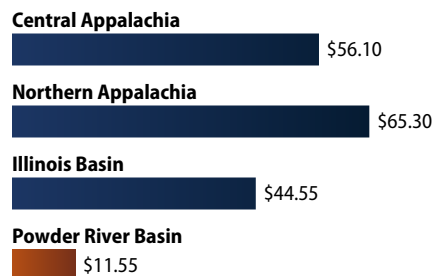
Appalachian coal is struggling to compete with PRB coal, which is produced in northeast Wyoming and southeast Montana. PRB coal is easier to mine and sells at a much lower price than coal extracted from the older Appalachian coal fields.

PRB coal is less labor intensive to produce than coal from other U.S. basins because the coal seams are thicker and relatively close to the Earth’s surface. Producers in the PRB can extract more than 12 times as much coal per employee hour as those operating in Appalachia and almost seven times as much as those operating in the Illinois Basin, another coal basin that has been taking market share from Appalachian coal producers.¹¹ PRB coal sells for less than one-third of the price of Appalachian coal, even when accounting for Appalachian coal’s higher heat content—meaning that Appalachian coal produces more energy when it is burned.¹² (see Figure 1)

FIGURE 1

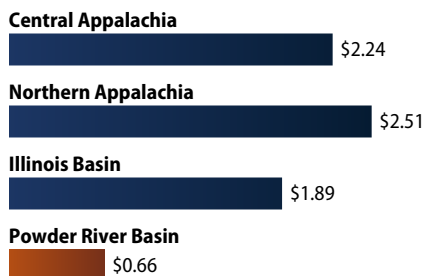
Cost comparison of coal from the Appalachian, Illinois, and Powder River Basins, as of December 12, 2014

Coal spot prices measured in dollars per short ton



Source: U.S. Energy Information Administration, "Coal News and Markets, week ending December 12, 2014," available at http://www.eia.gov/coal/news_markets/ (last accessed December 2014).

Coal spot prices measured in dollars per million British thermal units



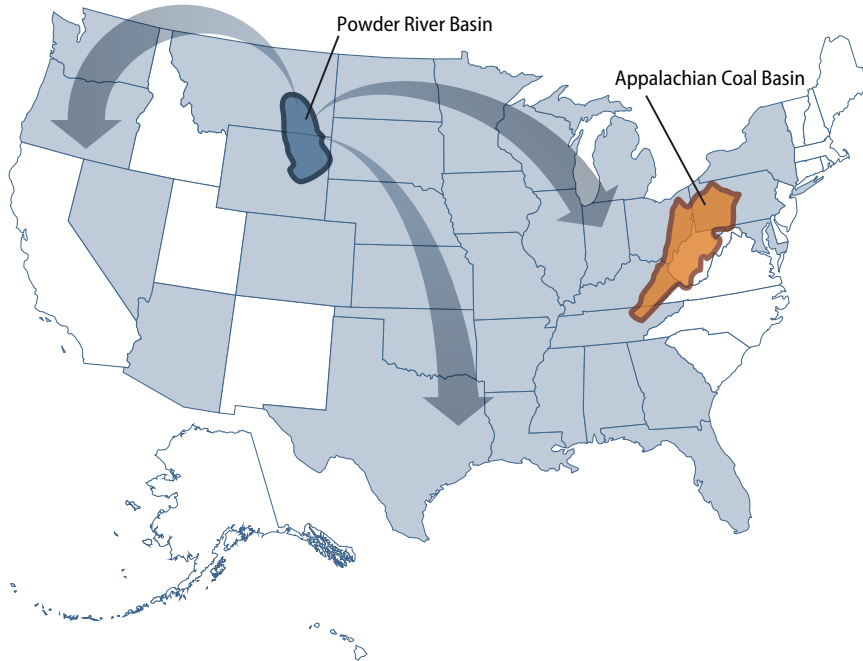
Source: Authors' calculations are based on U.S. Energy Information Administration, "Coal News and Markets, week ending December 12, 2014," available at http://www.eia.gov/coal/news_markets/ (last accessed December 2014).

In 1999, coal production west of the Mississippi River surpassed production in the eastern coal basins for the first time, a trend that is unlikely to reverse given the declining yields in the Appalachian coal fields.¹³ Between 2001 and 2012, coal production from the PRB grew from 35 percent of total U.S. production to 41 percent; during the same time period, Appalachia's share of U.S. coal production fell from 38 percent to 29 percent.¹⁴

PRB coal also is relatively low in sulfur and therefore releases less soot- and smog-forming pollutants than Appalachian coal when it is burned. Energy industry analysts have concluded that "PRB producers, with their low-cost, low-sulfur coal and high-capacity mines, create a monopoly that makes it increasingly difficult for Eastern and Midwestern coal producers to compete."¹⁵ During the first nine months of 2014, more than 150 power plants in more than 30 states burned PRB coal, including Appalachian states such as Kentucky, Ohio, Pennsylvania, and Tennessee.¹⁶ (see Figure 2)

FIGURE 2

States with at least one power plant burning Powder River Basin coal, first nine months of 2014



Source: U.S. Energy Information Administration, "Form EIA-923 detailed data, January to September 2014," available at <http://www.eia.gov/electricity/data/eia923/> (last accessed December 2014).

The outdated federal coal program distorts the coal market

The federal coal-leasing program provides an unfair advantage to PRB coal

The PRB consists almost entirely of federal lands, and production in it accounts for nearly 90 percent of all coal mined on federal lands.¹⁷ As a result, the federal coal-leasing program plays a pivotal role in the extraction and pricing of PRB coal. In contrast, the Appalachian region's coal is produced primarily on privately owned lands. Approximately one-tenth of 1 percent of Appalachian coal production occurs on federal lands.¹⁸

High labor productivity and economies of scale help make PRB coal lower cost than coal from other parts of the country. But PRB coal also enjoys a significant advantage that has little to do with labor costs or mining techniques: The federal coal-leasing program subsidizes PRB coal and distorts the domestic coal market.

The Bureau of Land Management, or BLM, is responsible for the management of the federal coal program, which includes the leasing of federally owned coal in the PRB. The Mineral Leasing Act of 1920 requires that federal coal leases be offered competitively.¹⁹ However, the BLM has run a noncompetitive program that lacks transparency, undervalues and sells PRB coal at a loss to the American taxpayer, and serves to distort the domestic coal market.²⁰

Separate investigators have raised serious concerns about how federal coal is priced. The Government Accountability Office, or GAO, and the U.S. Department of the Interior's Office of Inspector General both released reports in 2013 that were deeply critical of the federal coal-leasing program. Both investigations identified flaws in the leasing program that artificially depress the price of coal mined on publicly owned lands. Since 40 percent of all U.S. coal—and almost all PRB coal—is produced on public lands,²¹ these flaws introduce significant price distortions into the U.S. coal market.

The GAO found that the BLM's lease sales have been noncompetitive for decades, with roughly 90 percent of all federal coal-lease sales since 1990 attracting only one bidder.²² In light of this inherent lack of competition, the GAO highlighted the BLM's critical responsibility to obtain fair-market value for federal coal leases and to ensure that the American taxpayer receives a fair return for a publicly owned resource.²³ The GAO concluded, however, that the BLM's process for assessing the fair-market value of federal coal "lacks sufficient rigor and oversight," making it likely that coal mined from federal lands is consistently undervalued.²⁴

A third-party review of the federal coal program found that the undervaluation of coal may have cost taxpayers upward of \$30 billion in lost revenue over the past 30 years.²⁵ Similarly, the Office of Inspector General "found weaknesses in the current coal sale process that could put the government at risk of not receiving the full, fair market value for the leases."²⁶ Both the GAO and the Office of Inspector General recommended that the BLM improve its processes for estimating the fair-market value of coal mined from federal lands to ensure truly fair bids on coal leases.

Coal companies pay a royalty rate that has not changed in almost 40 years

Coal companies mining on federal lands are not paying their fair share for the resources they extract. The BLM receives revenue for federal coal through three avenues: payments, called a bonus bid, made by coal companies for the right to mine for coal on federal lands; royalties paid on the value of any coal mined; and annual rental payments of \$3.00 per acre. Royalties account for two-thirds of the total revenue from federal coal leases. Bonus bids account for about one-third of the total revenue from federal coal leases.²⁷

In 1976, the Federal Coal Leasing Amendments Act set a minimum royalty rate of 12.5 percent for surface-mined coal.²⁸ That rate still applies today, even though the Department of the Interior has the discretion to raise it. The rate for surface-mined coal is significantly lower than the royalty rate collected for other taxpayer-owned natural resources, such as offshore oil and gas, both of which generate royalties of 18.75 percent.²⁹ Onshore oil and gas royalty rates are also 12.5 percent, but both the GAO and the Department of the Interior have acknowledged the need to revisit these rates.³⁰ The Department of the Interior began to raise the royalty rate for offshore oil and gas incrementally in 2007 due to a number of factors, including increased oil and gas prices, improvements in exploration and production for offshore oil and gas, and the competitive market for offshore

leases.³¹ Most importantly, former Secretary of the Interior Ken Salazar said increasing the offshore rate was necessary to ensure that “the American taxpayer is getting a fair return for the oil and gas that the American people own.”³²

Coal royalties are collected based on the wrong coal price

Under current law, coal companies pay royalties on the price obtained for federal coal sold in the first arm’s-length transaction, which is equivalent to the first sale to a nonaffiliated third party.³³ But the price obtained at the first arm’s-length transaction does not reflect the true market value of the coal for three primary reasons.³⁴

First, recent evidence suggests that coal companies are manipulating the royalty process to avoid paying the full amount of royalties due on federal coal. Companies are engaging in captive transactions, by which they sell coal to their own affiliates at lower prices than they would get on an open market. This means that they pay the 12.5 percent royalty rate on a depressed price, lowering the amount of royalties they owe to the federal government. These companies then resell the coal on the market at higher prices, dodging a larger royalty payment.³⁵

Second, the BLM’s minimum bonus bid requirement is inadequate. Current federal regulations, which have not been updated in decades, require that companies that want to obtain the rights to mine for coal on federal lands must submit a minimum bonus bid of “\$100 per acre or its equivalent in cents-per-ton.”³⁶ But recent auctions of federal coal show that the current, minimum bid requirement is grossly deficient because federal coal is being sold at prices that do not reflect the coal’s true fair-market value. At the July 2014 Spruce Stomp lease sale in western Colorado—the most recent federal coal sale—federal coal was auctioned off to only one bidder at a mere \$0.36 per ton.³⁷ This sale illustrates the deflationary price impact of the BLM’s noncompetitive leasing process.

Third, the process the BLM uses to determine the fair-market value of coal often does not capture the coal’s true value. Most often, the BLM determines the fair-market value of the coal based on previous noncompetitive lease sales within the same region rather than on the market prices for where the coal is shipped and utilized.³⁸ In the case of PRB coal, the delivery price for the point of end use is commonly much higher than the mine-mouth price of the coal, or the market price for the coal at its point of origin. As a result, companies frequently win single-bid auctions with bottom-of-the-barrel bids and proceed to sell the same

coal at much higher prices, in turn reaping huge profits. For example, the average mine-mouth price of PRB coal is \$11.55 per ton, but it is sold for more than triple that price—roughly \$37 per ton—when it ultimately reaches market downstream in the Midwest.³⁹

By collecting federal coal royalties on these artificially low mine-mouth prices rather than the delivery price at the final point of sale, the federal government is losing out on significant revenue. For example, a 12.5 percent royalty rate for a ton of coal priced at \$60 per ton yields a royalty of as much as \$7.50 per ton, assuming that the coal company does not receive additional transportation and processing subsidies. In contrast, a ton of coal sold at \$13 per ton yields a royalty of only \$1.63 per ton. These royalty losses are magnified when applied to the millions of tons of federal coal sold annually.

Policy recommendations

Correct distortions in the coal market to generate new revenue for coal communities

Although separated by thousands of miles, the Appalachian and Powder River Basin coal regions are inextricably linked. The rise of the PRB coal industry coincided with—and even expedited—the decline of the Appalachian coal industry. A broken and outdated federal coal-leasing program has led to an abundance of cheap PRB coal that has undercut coal economies in Appalachia and other regions. This misguided federal policy exacerbates the market challenges that Appalachia’s coal fields already face.

Federal policymakers cannot change many of the market forces confronting the Appalachian coal industry, but they can take action to eliminate market distortions created by federal policy that provides a government-subsidized advantage to PRB coal. Secretary of the Interior Sally Jewell has the authority to implement needed reforms to the federal coal-leasing program. These reforms will generate new revenue not only for the federal government but also for the states where mining takes place, which receive approximately half of the royalties collected.⁴⁰ But the secretary does not have the authority to direct the new revenue to where it is most needed: Appalachian communities that have been hardest hit by the fluctuations of the coal market.

CAP recommends that Congress take on the responsibility of fixing the current flaws in the federal coal-leasing program that give an unfair advantage to PRB coal at the expense of Appalachia. In order to accomplish this, CAP offers two policy options. Congress could increase the long-stagnant royalty rate for surface-mined coal. This would apply only to coal mined from new leases; the royalty rate assessed on coal from existing leases would not change. A more comprehensive approach would be to change the application point of the existing royalty rate to the final point of sale, generating royalty payments on the true market value of federal coal rather than on below-market prices closer to the mine-mouth. If Congress fails to act, Secretary Jewell should use her authority to modernize the royalty system.⁴¹

In either case, Congress should direct the new revenue generated from these reforms toward economic development, job training, and employment assistance programs in Appalachia. The goal of this proposal is to provide relief for struggling Appalachian coal communities. With this objective in mind, Congress may wish to exempt the very small amount of coal production that occurs on federal lands in Appalachia from any revenue-related policy changes.

Option 1: Increase the royalty rate, minimum bids, and rental rates for federal coal sales

Royalty rates for the federal coal program have remained stagnant for decades. Congress could act to raise the royalty rate for surface-mined federal coal to align it more closely with the royalty rate for other publicly owned resources, such as oil and gas on the Outer Continental Shelf. Notably, the new royalty rate for surface-mined coal would only apply to new leases or leases renewed in the future, not to existing leases.

In addition, Congress could raise the minimum bid and rental rate for federal coal sales, which have not been updated in decades, to better reflect inflation and movements in the coal market.⁴² These changes would be unlikely to generate significant revenue relative to an increased royalty rate, but they would help ensure that federal leases better reflect the coal's true value.

Option 2: Assess royalties based on the true market value of federal coal

To deliver a fairer royalty system on both new and existing coal leases, Congress could require the Department of the Interior to change how existing royalties are assessed. Because it would apply to both existing and new leases, this option is likely to generate more near-term revenue than increasing the royalty rate on coal sales from future leases alone.

The Bureau of Land Management currently assesses royalties on federal coal at the first sale to a nonaffiliated third party, with the majority of these sales generally taking place at the mine mouth. This method undervalues the coal because it does not account for the price paid at the final point of sale to the end user, such as a coal-fired power plant. To correct this problem, Congress could change the point of application for the existing 12.5 percent royalty rate to require mining companies to pay royalties on the true market value of federal coal—a value determined by the final sale price to the end user.

Stakeholders are already crafting programs to help Appalachian coal communities

In light of the linked fates of the Appalachian and Powder River basins, it is appropriate for policymakers to consider how reforming the policies that unfairly benefit one basin could help alleviate the problems facing the other. Policymakers can dedicate revenue generated by reforming distortionary policies in the federal coal program to programs that provide assistance to struggling coal communities in Appalachia.

An effective coal-community transition program could take several forms, but it should provide incentive for long-term economic development while providing short-term relief to unemployed coal miners and affected communities. Some state and federal policymakers and key stakeholders already have begun to develop and implement programs designed to help coal communities in Appalachia. For example:

- In Kentucky, Gov. Steve Beshear (D) and Rep. Hal Rogers (R) launched the Shaping Our Appalachian Region, or SOAR, initiative in late 2013. This initiative has the goal of revitalizing and diversifying the region's economy. The Mountain Association for Community Economic Development—a nonprofit organization dedicated to promoting sustainable economic development in eastern Kentucky and Central Appalachia—is urging SOAR and state policymakers to pursue a five-pronged strategy focused on entrepreneurship, energy efficiency, local foods, forestry, and targeted public and private investment.⁴³
- In December 2013, the White House designated an eight-county region in eastern Kentucky as a federal Promise Zone. The goal of the Promise Zones initiative is to partner with local communities and businesses “to create jobs, increase economic security, expand educational opportunities, increase access to quality, affordable housing, and improve public safety.”⁴⁴ The Kentucky Highlands Investment Corporation is leading the process to develop a strategic plan for the region, focusing on economic diversification, small-business development, worker training, and career-readiness programs.⁴⁵
- Rep. Peter Welch (D-VT) and Rep. David McKinley (R-WV) introduced legislation in the 113th Congress called the Healthy Employee Loss Prevention Act of 2014, or HELP Act.⁴⁶ The bill, modeled after the Trade Adjusted Assistance Act that offered support to workers affected by trade liberalization, sets up a commission to direct assistance to coal industry workers who have lost their jobs. Eligible workers would receive monetary benefits for up to two years, as well as worker training and other employment support services.

Policymakers can also look to models from the past in order to craft a strong coal-community redevelopment and assistance program. For example, the U.S. Department of Energy, or DOE, operated a worker transition program from 1994 to 2004 with the goal of “minimiz[ing] the social and economic impacts of changes in the Department’s activities.”⁴⁷ This included supporting communities where employment was harmed by discontinued DOE activity, such as the decommissioning of nuclear facilities.⁴⁸ The program helped laid-off workers find new jobs and provided transition allowances for a certain period of time. The DOE program also worked with economic development organizations in the affected communities to identify public and private investment opportunities and to spur new, local job creation.⁴⁹

Conclusion

Appalachian coal communities have faced decades of job losses. Too often, politicians have resorted to blaming health and environmental protections for the coal industry's struggles rather than recognizing the pervasive and intractable market forces that have been building for decades. Continuing this dead-end political debate will not help struggling communities. Instead, policymakers should focus on finding ways to revitalize and diversify Appalachian coal communities in order to make them less vulnerable to fluctuations in the coal market.

State and federal policymakers and stakeholders are developing programs to renew Appalachian coal communities, but dedicated funding for these programs remains a challenge. Congress has a unique opportunity to help. By fixing flaws in the federal coal-leasing program, Congress can correct market distortions that have given Powder River Basin coal an unfair advantage over Appalachian coal for decades. This would generate new revenue, which Congress could invest in economic development, job training, and employment assistance programs in Appalachia.

Notably, Secretary of the Interior Jewell could use her existing authority to reform the royalty system if Congress fails to act. But only Congress has the authority to decide where to direct the new revenue. As such, Congress has both the power and the responsibility to fix the flawed federal policies that have disadvantaged Appalachian coal communities and to create new opportunities for economic growth across the region.

About the authors

Gov. Ted Strickland is Counselor to the Center for American Progress. He served six terms in Congress and became Ohio's 68th governor in 2006.

Greg Dotson is the Vice President of Energy Policy at the Center. Prior to his current position, Dotson was the Democratic energy and environment staff director for the House Energy and Commerce Committee.

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Endnotes

- 1 Federal Reserve Bank of St. Louis, "All Employees: Mining and Logging: Coal Mining," available at <http://research.stlouisfed.org/fred2/series/CES1021210001> (last accessed January 2015); Energy Information Administration, *Annual Energy Review 2011* (U.S. Department of Energy, 2012), p. 201, table 7.2, available at http://www.eia.gov/totalenergy/data/annual/pdf/sec7_7.pdf.
- 2 Energy Information Administration, "Coal Data Browser," available at <http://www.eia.gov/coal/data.cfm> (last accessed January 2015); Energy Information Administration, *Coal Industry Annual 1994* (U.S. Department of Energy, 1994), p. 60, available at <http://www.eia.gov/coal/annual/archive/05841994.pdf>.
- 3 Energy Information Administration, *Annual Energy Outlook 2014* (U.S. Department of Energy, 2014), p. MT-31, available at [http://www.eia.gov/forecasts/aeo/pdf/0383\(2014\).pdf](http://www.eia.gov/forecasts/aeo/pdf/0383(2014).pdf).
- 4 Wendy Koch, "U.S. coal imports surge while exports plummet," *USA Today*, August 2, 2014, available at <http://www.usatoday.com/story/money/business/2014/08/02/us-coal-imports-up-but-exports-down/13368199/>.
- 5 Energy Information Administration, *Short-Term Energy Outlook (STEO)* (U.S. Department of Energy, 2014), table 6, available at <http://www.eia.gov/forecasts/steo/archives/Dec14.pdf>.
- 6 Ibid.
- 7 Energy Information Administration, *Annual Coal Distribution Report 2012* (U.S. Department of Energy, 2013), "Domestic and Foreign Distribution of U.S. Coal by State of Origin, 2012," available at http://www.eia.gov/coal/distribution/annual/pdf/o_12foreign.pdf; Energy Information Administration, *Annual Coal Distribution Report 2010* (U.S. Department of Energy, 2011), "Domestic and foreign distribution of U.S. Coal by State of origin, 2010," available at http://www.eia.gov/coal/distribution/annual/archive/2010/o_10foreign.pdf.
- 8 Energy Information Administration, "Natural Gas Gross Withdrawals and Production," available at http://www.eia.gov/dnav/ng/NG_PROD_SUM_DCUS_A.htm (last accessed December 2014).
- 9 Prices fell from a 10-year high of \$8.86 per million British thermal units, or BTUs, in 2008 to an average of \$2.75 per million BTUs in 2012 and to \$3.73 per million BTUs in 2013. See Energy Information Administration, "Henry Hub Natural Gas Spot Price," available at <http://www.eia.gov/dnav/ng/hist/rngwhhdA.htm> (last accessed December 2014).
- 10 Coal accounted for half of the country's net generation of electricity in 2004, compared with the 18 percent provided by natural gas. Coal's share dropped to 39 percent by 2013, with natural gas accounting for 27 percent of the nation's electricity generation. See Energy Information Administration, *Electric Power Monthly* (U.S. Department of Energy, 2014), table 1.1, available at http://www.eia.gov/electricity/monthly/current_year/november2014.pdf.
- 11 Energy Information Administration, *Annual Coal Report 2012* (U.S. Department of Energy, 2013), table 21, available at <http://www.eia.gov/coal/annual/pdf/table21.pdf>.
- 12 Energy Information Administration, "Coal News and Markets, week ending December 12, 2014," available at http://www.eia.gov/coal/news_markets/ (last accessed December 2014).
- 13 Energy Information Administration, *Annual Energy Review 2011*, table 7.2.
- 14 Energy Information Administration, "Coal Data Browser: Aggregate coal mine production: 2001–2012," available at <http://www.eia.gov/beta/coal/data/browser/> (last accessed December 2014).
- 15 Clyde Bergemann Power Group, "Benefits of Burning PRB Coal," available at <http://www.cba-ssd.com/Applications/knowledgeBase/PRBcoal/BenefitPRB.htm> (last accessed December 2014).
- 16 Energy Information Administration, "Form EIA-923 detailed data: 2014M: EIA-923 through October," available at <http://www.eia.gov/electricity/data/eia923/> (last accessed December 2014).
- 17 Authors' calculations are based on 2012 data from the Energy Information Administration and the U.S. Department of the Interior's Office of Natural Resources Revenue. For data on production in the Powder River Basin, see Energy Information Administration, "Coal Data Browser." For data on coal production on all federal lands, see Office of Natural Resources Revenue, "Statistical Information," available at <http://statistics.onrr.gov/ReportTool.aspx> (last accessed January 2015). The author filtered this data by "Reported Revenues - Sales Volumes, Sales Year, FY2012, All Land Categories, All States and Offshore Regions."
- 18 Between 2003 and 2013, 0.06 percent of Appalachian coal production occurred on federal lands. Authors' calculations are based on data from the Energy Information Administration and the U.S. Department of the Interior's Office of Natural Resources Revenue. For data on production in the Appalachian coal basin, see Energy Information Administration, "Coal Data Browser." For data on coal production on federal land in Kentucky, the only Appalachian state to report federal coal production, see Office of Natural Resources Revenue, "Statistical Information." The author filtered this data by "Reported Revenues - Sales Volumes, Sales Year, FY2003 to FY2013, All Land Categories, Kentucky."
- 19 Bureau of Land Management, "Coal Operations," available at http://www.blm.gov/wo/st/en/prog/energy/coal_and_non-energy.print.html (last accessed January 2015).
- 20 For a history of the federal coal-leasing program, see Nidhi Thakar, "Modernizing the Federal Coal Program" (Washington: Center for American Progress, 2014), available at <https://www.americanprogress.org/issues/green/report/2014/12/09/102699/modernizing-the-federal-coal-program/>.
- 21 Office of Inspector General, *Coal Management Program, U.S. Department of the Interior: Report No.: CR-EV-BLM-0001-2012* (U.S. Department of the Interior, 2013), p. 3, available at <http://www.doi.gov/oig/reports/upload/CR-EV-BLM-0001-2012Public.pdf>.
- 22 Government Accountability Office, "Coal Leasing: BLM Could Enhance Appraisal Process, More Explicitly Consider Coal Exports, and Provide More Public Information," GAO-14-140, Report to Congressional Requestor, December 2013, p. 16, available at <http://www.gao.gov/assets/660/659801.pdf>.

- 23 Ibid., p. 46.
- 24 Ibid., p. 28.
- 25 Tom Sanzillo, "The Great Giveaway: An Analysis of the Costly Failure of Federal Coal Leasing in the Powder River Basin" (Washington: Institute for Energy Economics and Financial Analysis, 2012), p. 3, available at http://www.worc.org/userfiles/file/Coal/062512_IEEFA_PRB_coal_report_FINAL2.pdf.
- 26 Office of Inspector General, *Coal Management Program*, p. 1.
- 27 Government Accountability Office, "Coal Leasing: BLM Could Enhance Appraisal Process, More Explicitly Consider Coal Exports, and Provide More Public Information," pp. 23, 25.
- 28 See 30 U.S.C. § 207(a); 43 C.F.R. § 3473.3-2(a)(1)-(2). The Federal Coal Leasing Amendments Act specifically provides that surface-mine leases will be charged a minimum royalty rate of 12.5 percent and that the secretary of the Interior sets by regulation the royalty rate for underground mine leases: "A lease shall require payment of a royalty in such amount as the Secretary shall determine of not less than 12 1/2 per centum of the value of coal as defined by regulation, except the Secretary may determine a lesser amount in the case of coal recovered by underground mining operations." See 30 U.S.C. § 207(a).
- 29 Bureau of Ocean Energy Management, *Gulf of Mexico Lease Terms and Royalty Relief Summary* (U.S. Department of the Interior, 2012), available at http://www.boem.gov/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Energy_Economics/Fair_Market_Value/GOMLease-TermsRRSummary.pdf.
- 30 Ben Geman, "Are Taxpayers Getting Their Fair Share of Oil Royalties?", *National Journal*, December 17, 2013, available at <http://www.nationaljournal.com/energy/are-taxpayers-getting-their-fair-share-of-oil-royalties-20131217>.
- 31 Government Accountability Office, "Oil and Gas Resources: Actions Needed for Interior to Better Ensure a Fair Return," GAO-14-50, Report to the Chairman, Committee on Energy and Natural Resources, U.S. Senate, December 2013, pp. 13–14, available at <http://www.gao.gov/assets/660/659515.pdf>.
- 32 Ken Salazar, "Interior, Environment, and Related Agencies Appropriations for 2013," Testimony before the House Committee on Appropriations, Subcommittee on Interior, Environment, and Related Agencies, February 16, 2012, pp. 46–47, available at <http://www.gpo.gov/fdsys/pkg/CHRG-112hhrg74739/pdf/CHRG-112hhrg74739.pdf>.
- 33 30 C.F.R. § 1206.257.
- 34 Thakar, "Modernizing the Federal Coal Program."
- 35 Matt Lee-Ashley and Nidhi Thakar, "Cutting Subsidies and Closing Loopholes in the U.S. Department of the Interior's Coal Program" (Washington: Center for American Progress, 2015), available at <https://cdn.americanprogress.org/wp-content/uploads/2015/01/CoalSubsidies-brief.pdf>.
- 36 43 C.F.R. § 3422.1(c)(2).
- 37 Bureau of Land Management, "BLM competitive coal lease sale in Delta County nets \$2.9 million," Press release, July 30, 2014, available at http://www.blm.gov/co/st/en/BLM_Information/newsroom/2014/blm_competitive_coal.html.
- 38 Thakar, "Modernizing the Federal Coal Program."
- 39 Energy Information Administration, "Coal News and Markets, week ending December 12, 2014." Average Midwest market price is based on authors' analysis of data obtained from Energy Information Administration, "Form EIA-923 detailed data."
- 40 Bureau of Land Management, "Coal Operations," available at http://www.blm.gov/wo/st/en/prog/energy/coal_and_non-energy.html (last accessed January 2015).
- 41 Thakar, "Modernizing the Federal Coal Program."
- 42 The minimum bid of \$100 per acre or the equivalent in cents per ton was set by regulation in 1982. See 43 § 3422.1 (c)(2). The rental rate of \$3 per acre was set in 1979. See 43 § 3473.3-1 (a).
- 43 Mountain Association for Community Economic Development, "Strategies for Appalachian Transition" (2014), available at <http://www.maced.org/files/Strategy%20Briefs%20Report%20web.pdf>.
- 44 The White House, "Fact Sheet: President Obama's Promise Zones Initiative," Press release, January 8, 2014, available at <http://www.whitehouse.gov/the-press-office/2014/01/08/fact-sheet-president-obama-s-promise-zones-initiative>.
- 45 Ibid.
- 46 *Healthy Employee Loss Prevention Act*, H.R. 5529, 113 Cong., 2 sess. (Government Printing Office, 2014), available at <https://www.congress.gov/113/bills/hr5529/BILLS-113hr5529ih.pdf>.
- 47 Office of Strategic Planning and Program Evaluation, *Annual Performance Plan for Fiscal Year 2002* (U.S. Department of Energy, 2003), p. 81, available at <http://www.paducaheic.com/media/39813/lb09900-0167-grc01.pdf>.
- 48 Ibid.
- 49 Robert Pollin and others, "Green Growth" (Washington and Amherst, MA: Center for American Progress and Political Economy Research Institute, 2014), p. 309, available at <http://cdn.americanprogress.org/wp-content/uploads/2014/09/PERI.pdf>.

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