

# The Clean Power Plan

Opportunities for an Equitable Energy  
Transition in Rural America

By Tara Ritter

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Rural America has long produced much of the nation's energy. Most power plants, mines, gas drilling sites, wind turbines and dams are in rural areas, as are the farms and forests that provide the materials for biomass production. In many cases, these industries contribute greatly to rural economies. However, a majority of the nation's energy is consumed in urban areas, where most of the nation's people and infrastructure are located. This gap between energy production and consumption means that energy policy has very different implications for rural and urban communities.

These differences are one reason why the Environmental Protection Agency's Clean Power Plan is garnering vastly different receptions in different regions. It is the first regulation to limit carbon emissions from existing power plants in the U.S. and it does so ambitiously, aiming to reduce electricity sector emissions to 32 percent below 2005 levels by 2030. Finalized and released in August 2015, the Clean Power Plan assigns each state a unique emissions reduction goal, based on past emissions and capacity for future emissions reductions. Each state has until 2018 to create a State Implementation Plan (see box 1) that outlines how it will meet its goal. This flexibility will result in very different plans from state to state, each with its own repercussions for rural communities.

Approximately 15 percent of U.S. residents live in nonmetropolitan counties, but these counties account for 72 percent of the nation's land area, and, by extension, represent most of the nation's energy production.<sup>1</sup> The flexibility of the Clean Power Plan creates an opportunity to impact rural communities positively by setting up a clean energy economy that emphasizes local ownership and economic development. For this opportunity to be realized, the State Implementation Plans will need to integrate feedback from rural communities. Securing an energy future that is not only less polluting but also benefits all of our nation's communities will depend heavily on what happens in rural America.

## How Climate Change Impacts Rural Communities

Climate change is a threat without boundaries, and it impacts rural and urban communities alike. However, rural communities are particularly susceptible to climate change impacts on many levels, including:

- **THE ECONOMY** — Rural communities are more likely to have natural resource-based economies than urban communities. These industries, including agriculture, forestry and fishing, will become less predictable in the face of more frequent extreme weather events; temperature changes; droughts and floods; wildfires and an increase in weeds, diseases and pests that thrive

in warmer weather. As a result, rural economies based on these industries will become less stable as climate change worsens.

- **ENERGY COSTS** — Many rural communities across the country struggle with poverty. In 2014, the rural poverty rate was just over 18 percent, compared to the national average of 15 percent.<sup>2</sup> Rural households have lower incomes and older housing stock on average as compared to urban households.<sup>3</sup> This means that most rural residents spend a larger percentage of their income on energy costs and often use more energy to heat and cool energy-inefficient spaces. Therefore, rural residents will be disproportionately impacted by energy costs as heating and cooling needs increase in the face of more extreme temperatures.
- **TRANSPORTATION** — Homes and businesses are spread further apart in rural communities, and public transportation systems are lacking. When extreme weather causes roads to become impassible, or roads experience more wear and tear due to weather fluctuations, rural residents will be among those most heavily affected.

Regardless of these challenges, rural communities will create much of our clean energy future. The rural landscape is comprised of forests, farms and rangelands that can capture carbon when managed appropriately; land and resources for wind, solar and other renewable installations; and most importantly, people and ingenuity to implement the transition to a low carbon economy. All communities, rural and urban, will benefit from supporting rural people and landscapes in the transition to clean energy.

## Creating Jobs in Rural Communities

The Clean Power Plan is expected to create a net increase of stable, long-term jobs. According to an analysis from the Economic Policy Institute, the Clean Power Plan will create 120,000 jobs in 2020—the first year of implementation—from energy efficiency projects and construction of new generating capacity. In the same year, about 24,000 jobs will be lost from a reduction in coal-fired electricity generation. This equals a net job gain of about 96,000 jobs.<sup>4</sup>

Despite an overall increase in jobs, some communities will experience more job losses than others. This is especially true for towns with a coal-fired power plant or those that are otherwise economically dependent on fossil fuel. A net increase in jobs from the Clean Power Plan does not mean that every displaced worker will be neatly provided with a new job. This reality is not a reason to delay the transition to a clean

## Box 1: State Implementation Plans

Under the Clean Power Plan, each state will create a State Implementation Plan (SIP) outlining how it will meet its mandated emissions reductions goal. These goals were calculated using each state's power generation in 2012 as a baseline and then by considering each state's mix of electricity generation resources, potential for energy efficiency and renewables deployment, and technological costs and feasibilities. SIPs are due in September 2018. Implementation begins in 2020, and states must meet their final CO<sub>2</sub> reduction goals in 2030.

Each state has two types of goals it can choose from: a rate-based goal or a mass-based goal. Put simply, a rate-based goal sets how many pounds of CO<sub>2</sub> per megawatt hour of energy generation each power plant can emit. It does not explicitly limit overall emissions, but it limits the rate at which a power plant can emit. A mass-based goal sets the maximum number of tons of CO<sub>2</sub> that can be emitted by all power plants in the state over a specific time period. This means that some power plants could still be big emitters, but they would have to be balanced out by other power plants in the state that emitted far less to meet the overall emissions cap. States can choose which-ever goal is most easily achieved and best meets its needs.

States also have the option of joining together in multi-state or regional trading programs. This option would allow states to trade credits with other states, thereby potentially lowering costs by creating economies of scale. In order to trade with each other, states must have the same type of goal; mass-based states can only trade with other mass-based states, and rate-based states can only trade with other rate-based states. While trading could possibly reduce costs, it could also reduce the impact of the Clean Power Plan. If power plants purchase credits from another state to keep running as usual rather than investing in energy efficiency or lower-emitting technologies, it lessens the need for that power plant to reduce greenhouse gases and other pollutants. This has a direct impact on community members near the plants, which tend to be sited in communities of color and low income communities. States must weigh these considerations as they decide whether or not to create plans focused on multi-state and regional trading systems.

In the case that a state chooses not to create a SIP on its own, the EPA is creating a Federal Implementation Plan (FIP) to be enforced. The FIP may not be as locally beneficial for each state as what that state could create for itself, so creating a SIP is in each state's best interests.

energy economy; rather, it is a call to provide as much job retraining and financial support as possible for the communities most affected by the transition.

Regardless of the Clean Power Plan, many coal-fired plants are already on the road to closing. Coal currently accounts for about 39 percent of the country's power, down from about 50 percent at its peak. The U.S. Energy Information Agency

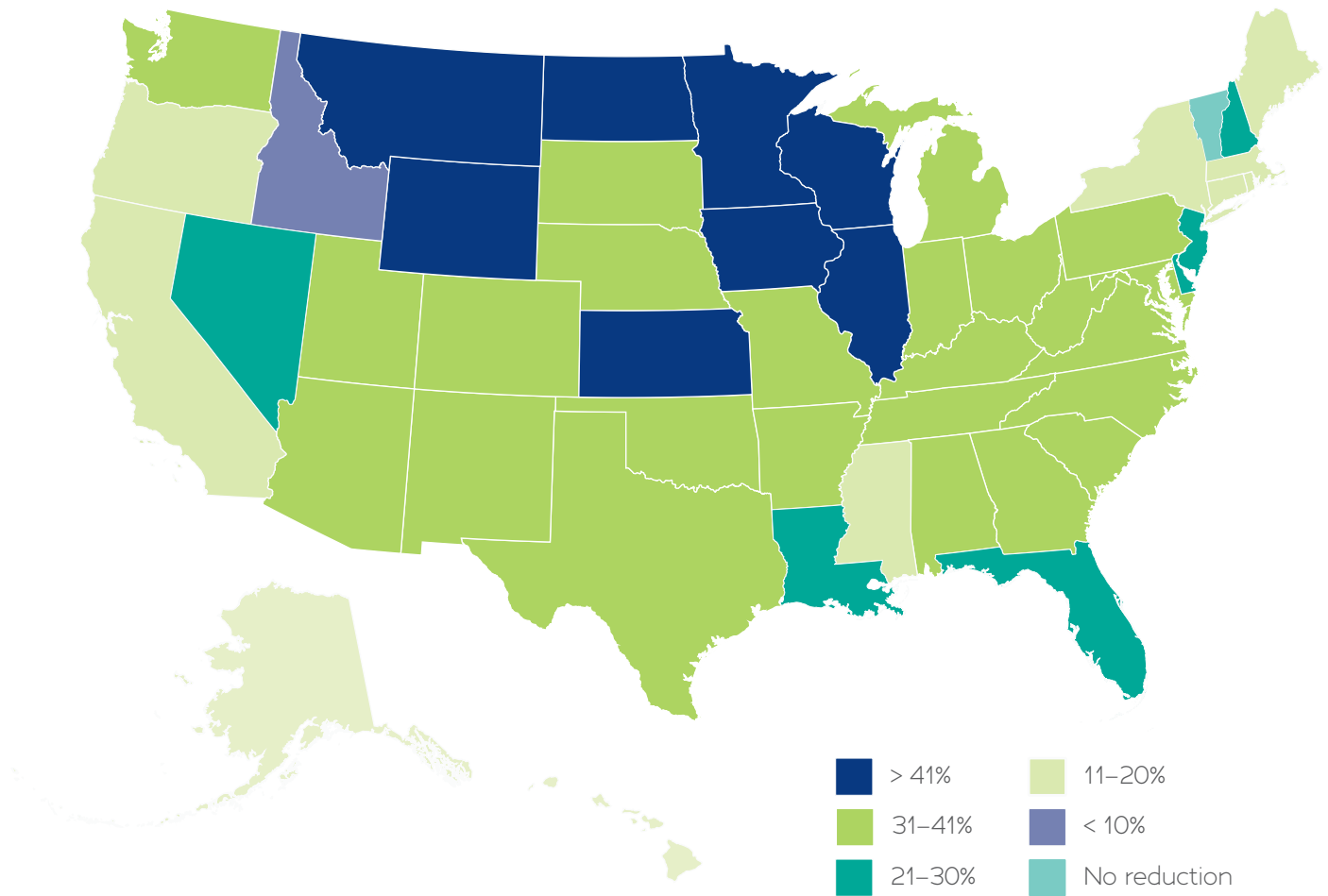
predicts that this percentage would continue to decline to about 34 percent in 2040, not accounting for the Clean Power Plan's impacts.<sup>5</sup> This means that support for coal-dependent communities must come from a broad range of sources, including but not limited to the Clean Power Plan. SIPs should integrate support mechanisms to ease the transition to clean energy for rural communities, but support must also come from other state and federal policies.

There are many reasons for the coal industry's troubles. Profits have declined in recent years due to a glut of cheap natural gas from the fracking boom. In addition, the mounting risks of climate change and the rapidly falling costs of renewable energy technologies have prompted a shift towards renewable power sources. A 2015 report by the International Renewable Energy Agency concluded that biomass, hydro-power, geothermal, solar photovoltaic and onshore wind are all economically competitive with (or cheaper than) fossil fuels. Solar photovoltaic is dropping in price the quickest, with module costs falling 75 percent since 2009 and the cost of electricity from utility-scale solar photovoltaic falling 50 percent since 2010.<sup>6</sup> A separate 2015 analysis by Deutsche Bank predicts that solar module costs will fall an additional 40 percent over the next five years.<sup>7</sup>

Though the Clean Power Plan puts the transition away from fossil fuels on a timeline, it is not the primary driver of the shift. Minnesota-based Xcel Energy recently announced that it will retire two units at the Sherburne County Generating Station (Sherco) coal-fired power plant, the largest carbon polluter in Minnesota. Though this decision has been largely attributed to the Clean Power Plan, an independent analysis of Xcel Energy's data displayed that closing the units would cost the company \$7.5 million less over 15 years than keeping the units open, while reducing the company's carbon emissions by 11 to 12 million tons over the same time period.<sup>8</sup>

These developments demonstrate the inevitability of a transition to clean energy, and as the energy landscape continues to shift, energy-based jobs will also shift. One potential avenue for job creation in targeted rural communities is the Clean Energy Incentive Plan (CEIP), an optional matching fund program in the Clean Power Plan that grants states credit for early action on renewables installations and energy efficiency projects. The credits that states earn through the CEIP can be sold to affected energy generators (such as power plants), who may use them to comply with the Clean Power Plan. The CEIP grants states credit for projects that take place in the two years between plan submission (due in 2018) and implementation (planned for 2020). In order to participate, states must provide the EPA with a non-binding expression of their intent to participate by September 6, 2016. This

## Total Emission Reductions Percentage by 2030 Under the Clean Power Plan (from 2012 levels)



Source: National Conference of State Legislatures. <http://www.ncsl.org/research/energy/states-reactions-to-proposed-epa-greenhouse-gas-emissions-standards635333237.aspx>

date could be changed due to the Supreme Court's ruling to halt implementation of the Clean Power Plan until a federal appeals court can rule on its legality in June 2016 (see box 2).

The two types of projects eligible for CEIP credit are wind and solar projects done anywhere, or energy efficiency projects done in low income communities. The EPA has not yet created a definition of low income communities, but it is likely that it will do so in order to ensure consistency among states. Not every rural community will qualify as low income, but those that do, and especially those directly impacted by coal-fired power plant closings or capacity reductions, should be considered as prime candidates for energy efficiency projects.

The communities chosen for the renewables and energy efficiency projects through the CEIP will need people to carry out the projects, and displaced workers can receive the subsidized training necessary to perform those jobs. The Clean Power

Plan itself does not contain mechanisms to provide such training, but support outside the Clean Power Plan exists to assist displaced workers. One such funding source is the POWER+ Plan, which was part of the President's proposed 2016 budget. Although the full POWER+ Plan is not included in the final budget passed by Congress, parts of it are included. One of these parts is a \$90 million pilot project for economic development on reclaimed mines. This funding will be used over a one year time period, but if this pilot project goes well, it will lay the foundation for further funding of projects on a larger scale. The budget also provides \$50 million to the Appalachian Regional Commission and \$15 million to the Economic Development Administration for projects proposed by the POWER+ Plan, which focus on economic development and workforce retraining in coal communities.

## Box 2: Legal Challenges to the Clean Power Plan

In the time between the Clean Power Plan's release in August 2015 and January 2016, 27 states filed lawsuits against the Clean Power Plan. These states questioned the EPA's authority to impose the Clean Power Plan under the Clean Air Act. In the face of these lawsuits, EPA Administrator Gina McCarthy said, "The Clean Power Plan has strong scientific and legal foundations, provides states with broad flexibilities to design and implement plans, and is clearly within EPA's authority under the Clean Air Act." Despite the lawsuits, many of the states suing the EPA were concurrently moving ahead with creating a SIP.

On February 9, 2016, the Supreme Court voted 5 to 4 to pause implementation of the Clean Power Plan. The rules will remain suspended until at least June 2, 2016 when a federal appeals court will rule on the challenge. The Obama Administration remains confident that the Clean Power Plan has strong legal standing and will continue as planned after it has moved through the courts.

Regardless of what decision the courts make in June, the Clean Power Plan cannot be implemented or enforced until then. However, many states have pledged to support the Clean Power Plan in the interim and continue expanding clean energy regardless of the court's ruling.

In February 2016, a bipartisan bill in the House of Representatives was introduced to allocate an additional \$1 billion to revitalize coal-dependent communities. With support from both Democrats and Republicans, this funding is likely to go through and pave the way for even more funding in the future.

More assistance for displaced workers and communities with extraction-based economies is greatly needed, and some states are taking the lead (see box 3). Climate change and energy have become polarized topics, with one side often pushing for clean energy at all costs and the other side holding tight to fossil fuels as an economic lifeline. In truth, a clean energy transition can benefit everyone, but proper supports must be implemented to assist the communities that will experience the most disruption. Aside from additional federal support, cities and states must build their own additional assistance programs for displaced workers and heavily impacted communities, both through financial supports and job retraining programs.

## Keeping Energy Affordable

In addition to job creation, the Clean Power Plan is an important tool to keep energy affordable. If states include energy efficiency as a substantial portion of their plans, the EPA estimates that household electricity bills will decrease by an average of \$8 per month by 2030.<sup>9</sup> Even if energy prices per kilowatt hour rise slightly at first, a decreased demand for energy as a result

of energy efficiency improvements results in net savings for the consumer. When paired with the swiftly falling costs of renewable energy<sup>10</sup>, household energy bills are likely to remain stable or even slightly decrease as time goes on.

Energy costs are particularly relevant for rural residents, who tend to be hit harder by fluctuations in energy prices. According to the USDA's Economic Research Service, rural areas have lower housing quality with lower energy efficiency on average. For instance, mobile homes, which are poorly insulated and notoriously energy inefficient, represent over 15 percent of rural housing.<sup>11</sup> On top of this, mobile home owners often cannot access energy efficiency programs due to restrictions on land leased communities, limited funding, and the overall difficulty of weatherizing mobile homes. Rural households also have lower average incomes than their urban counterparts, causing rural households to spend larger percentages of their incomes on energy. The Clean Power Plan is a critical opportunity to close this gap.

Building infrastructure for a new and cleaner energy system is costly, but so are upgrades to power plants, power lines, and other energy infrastructure. The difference is that investing in clean energy infrastructure comes with the co-benefits of cleaner air and better public health. One study predicts that when accounting for pollution costs, coal costs an additional 24 cents per kilowatt hour and natural gas an additional 11 cents per kilowatt-hour.<sup>12</sup> The EPA estimates the Clean Power Plan's public health benefits to be between \$55 and \$93 billion per year in 2030, outweighing its costs of between \$7.3 and \$8.8 billion.<sup>13</sup>

One way to smooth the transition through Clean Power Plan implementation in relation to energy costs is for states to participate in the Clean Energy Incentive Program. As outlined above, the CEIP funds renewable energy and energy efficiency projects, with priority given to projects done in low income communities. Policymakers involved in SIP creation must advocate for low income rural communities, especially those with impacted mines and power plants, to be prioritized for CEIP projects. CEIP projects in rural communities would lower the average energy demand through energy efficiency improvements, thereby lowering the average energy bill. This would help make the transition to a clean energy economy affordable for rural residents.

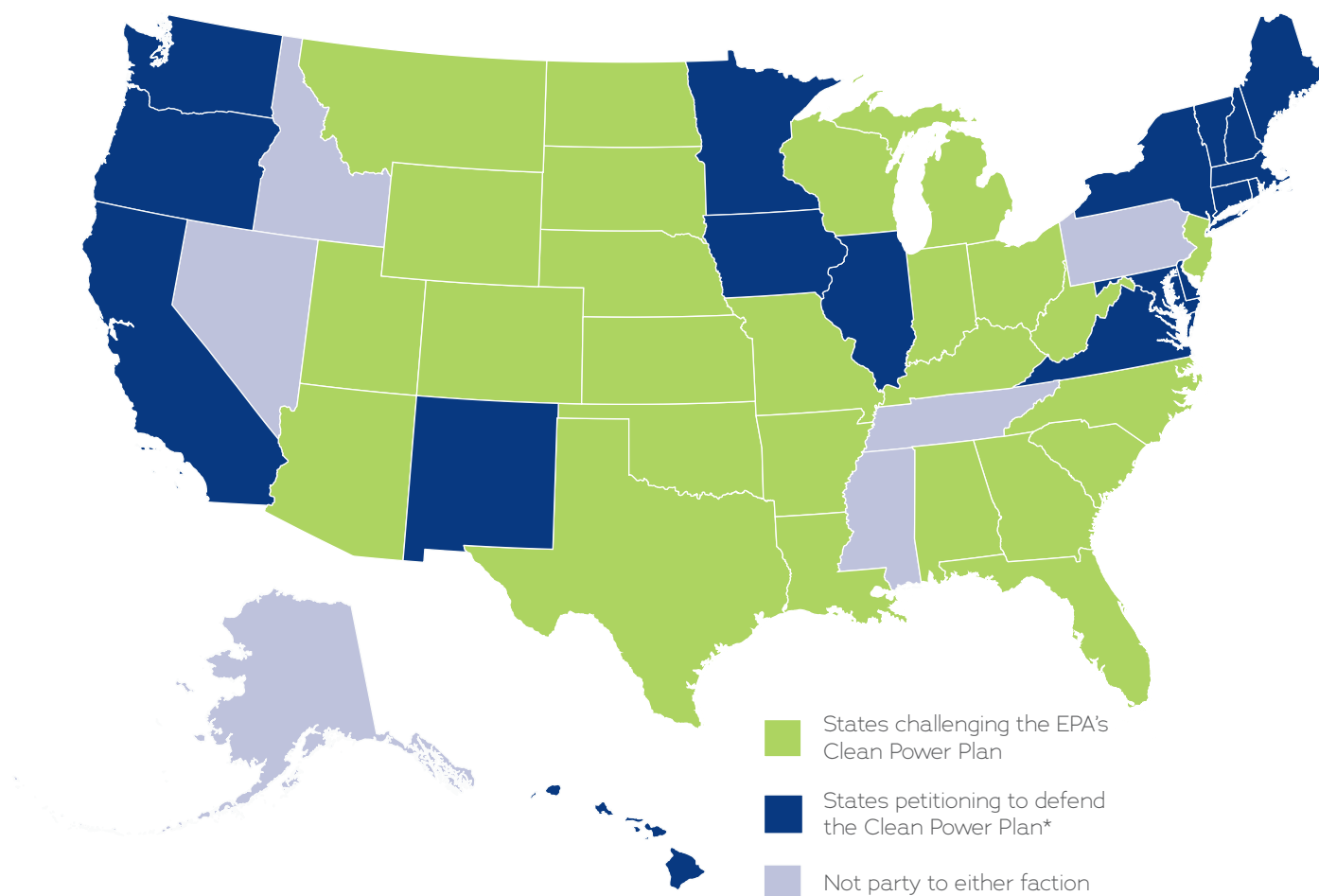
## Preserving Our Common Natural Resources

Aside from economics, the Clean Power Plan is an opportunity to move away from current energy drivers that damage our rural natural resource base. Coal, though the predominant energy source in the U.S. for years, is particularly polluting. In addition to being the largest source of carbon dioxide



## States Choose Sides on Carbon

One side claims the EPA's new carbon rules are an illegal powergrab that will drive up costs and threaten power grid reliability. The other says they're vital for combating climate change and can boost the economy as well.



\*Cities of Boulder, Chicago, New York, Philadelphia, and South Miami, and Broward County, Florida are also parties supporting the Clean Power Plan.

Source: *Bloomberg*. <http://www.bloomberg.com/news/articles/2015-11-04/new-york-california-lead-18-state-defense-of-clean-power-plan>

emissions in the country, coal plants are also leading sources of sulfur dioxide, which causes acid rain; nitrogen oxide (another GHG), which causes ozone and smog; particulate matter, which causes respiratory illness; and mercury, which is a toxic heavy metal. Coal plants are also a leading contributor to water pollution. In short, coal is extremely hazardous to our health.

The air and water pollution caused by coal-burning power plants affects all people and communities, but rural communities face the most hazards from coal mining. Over half of U.S. coal comes from surface mines, which dramatically alter the landscape. Some surface mines remove mountaintops to access the coal and release the waste into surrounding

waterways. Surface coal mining also drives deforestation, particularly of the hardwood forests found throughout Appalachia. Underground coal mining changes the flow of groundwater and is also one of the world's most hazardous occupations. Coal mining has provided critical economic opportunities for many rural residents, but rural communities also deserve safer, less polluting economies and an improved quality of life. The Clean Power Plan can help make this possible, but only if SIPs adequately include rural concerns.

The Clean Power Plan may lead states to replace some coal with natural gas, which has lower carbon dioxide emissions. Fracking has led to an abundance of natural gas and the

technology has gotten cheaper in recent years. But even though natural gas is cheap and burns cleaner than coal, fracking also has a long list of negative impacts for the rural communities that host the operations. These impacts include water contamination, earthquakes, land grabbing and methane pollution.<sup>14,15</sup>

Both coal and natural gas are extractive industries, often controlled by outside investors, which hold little long-term benefit for rural communities. Not only do extractive industries impact the landscape and natural resource base, they also drive a boom-and-bust cycle that leaves rural communities with little once the extraction is complete. A 2011 study by Headwaters Economics found that though fossil fuel extraction creates enormous wealth, most of that wealth leaves the region where the extraction occurs.<sup>16</sup> In addition, global commodity prices drive the number of jobs available in fossil fuel extraction, and fossil fuel commodity prices are extremely volatile. In the 2008 recession, mining wages shrank by the largest percent of any economic sector. The Clean Power Plan aims to establish a cleaner, renewable energy system that will not only protect natural resources, but could also avoid the boom-and-bust cycle that has historically hurt rural communities.

U.S. coal production, 2005–15



Source: U.S. Energy Information Administration. <http://www.eia.gov/todayinenergy/detail.cfm?id=24472>.

### BOX 3: State-Based Assistance for the Energy Transition in West Virginia

One of the most critical components for an equitable transition to clean energy is making sure that workers displaced by coal mine closings and power plant capacity reductions are able to transition to new jobs. Programs to assist displaced workers—either in the form of financial assistance or job retraining—are not plentiful yet, but some programs exist and can serve as examples.

One such example is the coal severance fund in West Virginia, which was established in 1987. This program is administered by the state of West Virginia and was developed in recognition that coal production would continue to decline in the area. Although not every county in West Virginia produces coal, all counties receive a severance tax paid by the coal industry. Seventy-five percent of the tax is distributed to coal-producing counties and the remaining twenty-five percent is distributed to the rest of the counties in the state based on population.

Having a severance fund in place is a step in the right direction, but using the money to invest in locally owned and controlled ventures increases the likelihood of creating real economic benefit for the county. In West Virginia, local governments currently use most of the revenue from the severance tax to provide basic services. However, this revenue could be used to invest in local economic diversification and growth rather than using the money to fill local budgets.

A new energy economy offers the opportunity for greater community ownership within decentralized systems. State-based coal severance funds offer a funding source to invest in such systems, but they are only one example. States will need to innovate additional assistance programs for coal and other fossil fuel-dependent regions in order to create an equitable transition to clean energy.

### Finding Solutions

As the country and the world transition to a clean energy economy, rural realities and challenges must be recognized in order to ensure equitable distribution of costs and benefits across geographies. Rural communities are often viewed as opposing climate policy, but many rural groups and leaders across the country are taking on climate challenges and creating effective and localized solutions. The key is creating climate solutions that incorporate the challenges rural communities face in order to create long-term and well-paying jobs, stable and affordable energy prices and natural resource stewardship. Last year, over 20 organizations outlined policy priorities for climate change from a rural perspective, demonstrating that climate policy can



sustain—and increase—the vitality of rural communities. The Rural Climate Policy Priorities are available online at [www.ruralclimatenetwork.org/policy-priorities](http://www.ruralclimatenetwork.org/policy-priorities).

With the Clean Power Plan, there is time to shape SIPs to represent rural perspectives. Policymakers should consider these priorities in SIP creation:

- Rural areas will generate much of our clean energy future, and rural input must heavily inform every state’s planning process. As an example, Minnesota is holding listening sessions in rural communities around the state.
- States should prioritize investments in renewables and energy efficiency measures rather than replacing coal with natural gas.
- States should notify the EPA that they will participate in the Clean Energy Incentive Program as an effective mechanism to keep energy prices affordable for all consumers and to weatherize much of the aging rural building stock.
- The definition of “low income communities” used in the CEIP must include the rural communities that are impacted by power plant closings or capacity reductions.
- States should create their own assistance programs for workers and communities most directly impacted by the transition to clean energy, including financial support and job retraining.

Climate change will continue to have a devastating impact on rural people, resources, and economies as long as it continues to worsen. The Clean Power Plan takes a step towards slowing climate change. The promises of the Clean Power Plan – cleaner air, more jobs, and stable and affordable energy –cannot be reached without meaningfully including rural communities.

## State Agencies Coordinating State Implementation Plan Development

This chart shows the agencies in each state that have been tasked with coordinating State Implementation Plans. Questions and comments about state’s progress on the Clean Power Plan can be directed to these agencies, which have been directed by the EPA to conduct robust outreach efforts to inform State Implementation Plans.

Alabama	Department of Environmental Management; Air Division
Alaska	Alaska Department of Environmental Conservation
Arizona	Arizona Department of Environmental Quality; Air Quality Division
Arkansas	Arkansas Department of Environmental Quality
California	California Air Resources Board
Colorado	Colorado Department of Public Health and Environment, Air Pollution Control Division
Connecticut	Connecticut Department of Energy and Environmental Protection; Bureau of Air Management
Delaware	Delaware Department of Natural Resources & Environmental Control
Florida	Florida Department of Environmental Protection; Division of Air Resource Management
Georgia	Georgia Environmental Protection Division; Air Protection Branch
Hawaii	Hawaii Department of Health; Clean Air Branch
Idaho	Idaho Department of Environmental Quality
Illinois	Illinois Environmental Protection Agency; Bureau of Air
Indiana	Indiana Department of Environmental Management; Office of Air Quality
Iowa	Iowa Department of Natural Resources, Air Quality Bureau
Kansas	Kansas Department of Health and Environment, Bureau of Air and Radiation
Kentucky	Kentucky Department for Environmental Protection; Division for Air Quality
Louisiana	Louisiana Department of Environmental Quality
Maine	Maine Department of Environmental Protection; Bureau of Air Quality
Maryland	Maryland Department of the Environment
Massachusetts	Massachusetts Department of Environmental Protection; Air Quality and Climate Programs
Michigan	Michigan Department of Environmental Quality; Air Quality Division
Minnesota	Minnesota Pollution Control Agency

Mississippi	Mississippi Office of Pollution Control; Air Division
Missouri	Missouri Department of Natural Resources, Air Pollution Control Program
Montana	Montana Department of Environmental Quality, Air Resources Management Bureau
Nebraska	Nebraska Department of Environmental Quality, Air Quality Division
Nevada	Nevada Division of Environmental Protection; Bureau of Air Quality Planning
New Hampshire	New Hampshire Department of Environmental Services; Air Resources Division
New Jersey	New Jersey Department of Environmental Protection; Division of Air Quality
New Mexico	New Mexico Environment Department
New York	New York State Department of Environmental Conservation; Division of Air Resources
North Carolina	North Carolina Department of Environment and Natural Resources; Division of Air Quality
North Dakota	North Dakota Department of Health - Environmental Health, Air Quality Division
Ohio	Ohio Environmental Protection Agency; Division of Air Pollution
Oklahoma	Oklahoma Department of Environmental Quality
Oregon	Oregon Department of Environmental Quality
Pennsylvania	Pennsylvania Department of Environmental Protection
Puerto Rico	Puerto Rico Environmental Quality Board; Air Quality Area
Rhode Island	Rhode Island Department of Environmental Management; Office of Air Resources
South Carolina	South Carolina Department of Health and Environmental Control; Bureau of Air Quality
South Dakota	South Dakota Department of Environment & Natural Resources, Air Quality Program
Tennessee	Tennessee Department of Environment and Conservation; Division of Air Pollution Control
Texas	Texas Commission on Environmental Quality
Utah	Utah Department of Environmental Quality, Division of Air Quality
Vermont	Vermont Department of Environmental Conservation; Air Quality and Climate Division
Virginia	Virginia Department of Environmental Quality

Washington	Washington Department of Ecology
West Virginia	West Virginia Department of Environmental Protection
Wisconsin	Wisconsin Department of Natural Resources; Bureau of Air Management
Wyoming	Wyoming Department of Environmental Quality, Air Quality Division

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