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Federal Economic Development Support for Coal Communities: A Case Study of the Athens, Ohio Region

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Abbreviations

ARC	Appalachian Regional Commission
EDA	US Economic Development Administration
EPA	US Environmental Protection Agency
LDD	local development district
OhioSE	Ohio Southeast Economic Development
POWER	Partnerships for Opportunity and Workforce and Economic Revitalization
SEE	Social Enterprise Ecosystem

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This report is one in a series of reports prepared by Resources for the Future and the Environmental Defense Fund that examine policies and programs to promote fairness for workers and communities in a transition to a low-greenhouse gas emissions economy, often referred to as a just transition. The first series focuses on existing public policies and programs, grouped thematically as “tools in the toolbox” for policymakers seeking effective strategies to address economic challenges associated with the transition. This report is one of three US-based case studies that provide detailed information on how federal, state, and local actors can work together to support a successful transition. Please visit www.rff.org/fairness-for-workers or www.edf.org/ensuring-fairness-workers-clean-economy for more information, other reports in the series, blog posts, and more.

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Abstract

The federal government has a variety of policy tools available to support communities affected by the transition away from coal. This case study examines whether, and to what extent, federal economic development assistance has supported the region in and around Athens County, Ohio. This Appalachian region has a long-standing reliance on coal as an economic driver; however, recent decades have seen a large decline in regional coal mining, and several large coal-fired power plants have retired in the last several years. To assess the effectiveness of federal interventions, we reviewed data on recent discretionary grants and conducted 14 semi-structured interviews with economic development professionals representing 11 local, regional, and national organizations active in the region. Local experts report that federal grantmaking has been very important to support local economic development efforts. They emphasized that the most effective interventions are those that provide flexibility for grantees, minimize administrative burdens, and incorporate bottom-up community decisionmaking. These findings emphasize the need for future federal support for workers and communities in transition to align federal policies with local priorities by engaging deeply and consistently with local stakeholders.

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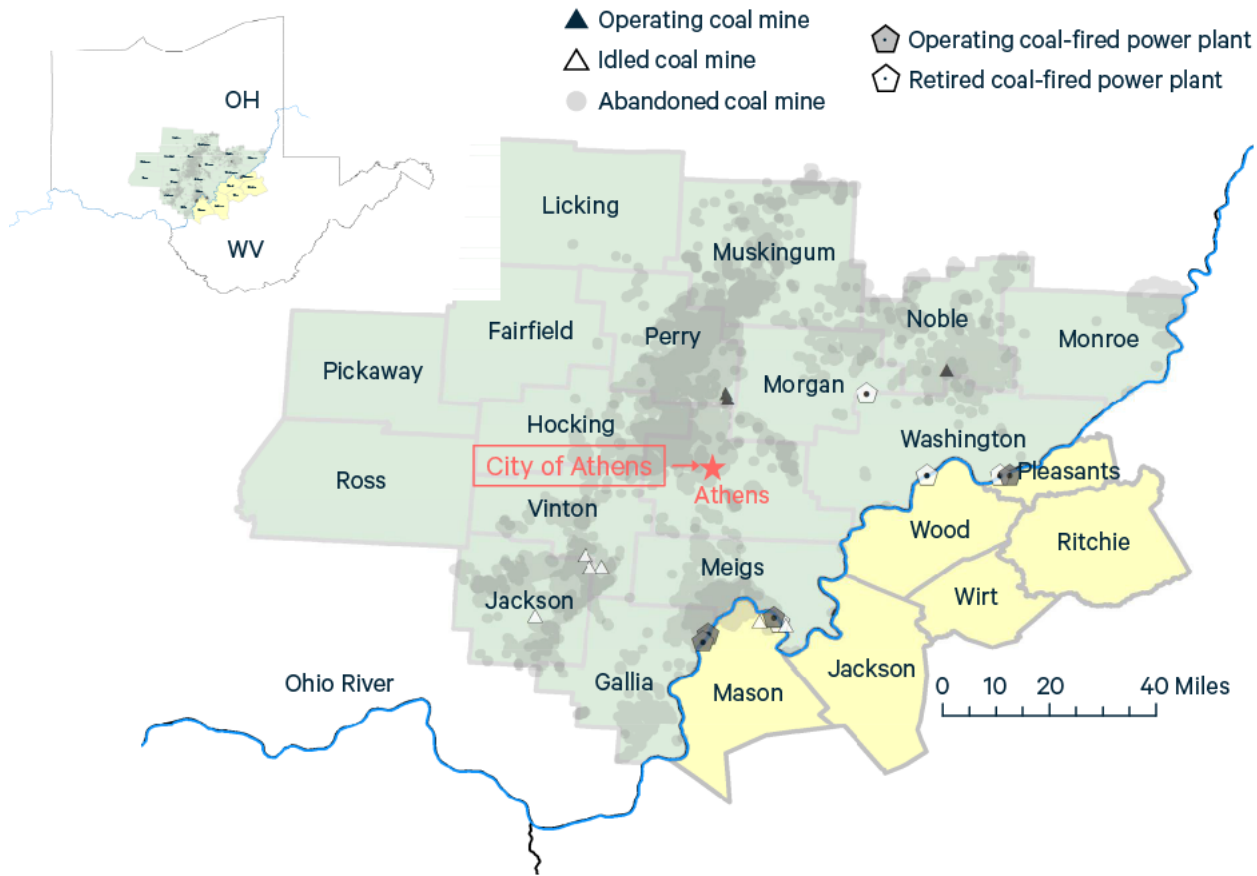
1. Introduction

Athens is a city of roughly 25,000 in Athens County, Ohio, part of a hilly region near the southeastern edge of the state, just west of the Appalachian Mountains. Like some other parts of Appalachia, Athens County and its surroundings have been closely tied to a history of natural resource extraction, including coal, timber, natural gas, and certain metal ores (Ohio History Central n.d.).

Coal mines have been producing in the region since the 1800s (Lasson 1972), but a variety of factors, led by market forces, have contributed to a sharp downturn in Appalachian coal production in recent decades (e.g., Gerking and Hamilton 2008; Aldy et al. 2020; Coglianese et al. 2020). Compounding the effects of these mine closures, four coal-fired power plants have been retired in the region in recent decades, and the outlook for coal-fired power generation is uncertain, at best. Across Ohio, nine plants, representing roughly 10 gigawatts of generation capacity, have retired since 2010. These changes have led to considerable economic challenges in and around Athens County, highlighted in recent news reports focused on employment losses, business closures, and a declining local tax base (Patterson 2019; Morris 2020a, 2020b, 2020c).

Figure 1 illustrates our region of interest, centered on Athens and Athens County, along with all counties within a two-county radius, or roughly 60 miles from the city of Athens. Figure 1 also illustrates the almost 400 abandoned mines, eight active and idled mines, and four active and four retired coal-fired power plants in the region.

Figure 1. Map of Study Area

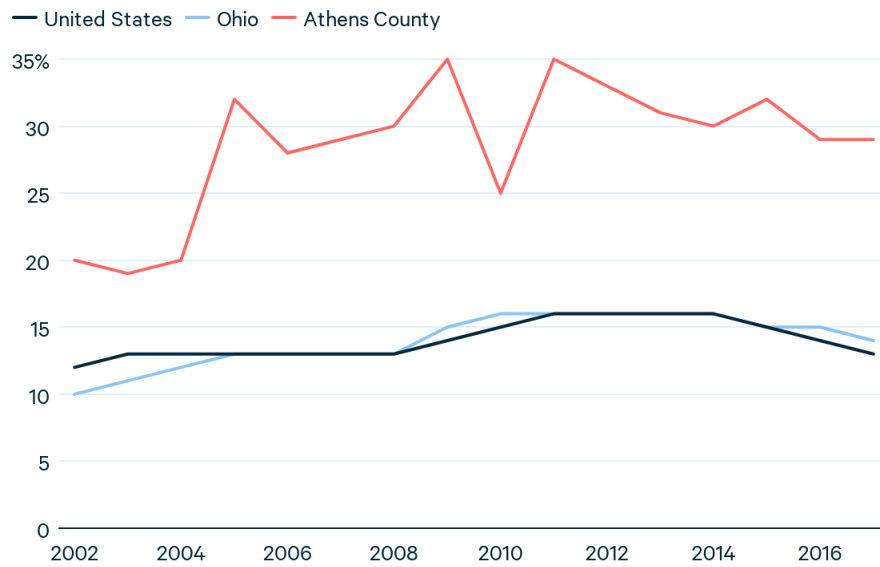


Sources: Figure by authors, with data from EIA (2020a), MSHA (2020), Ohio Department of Natural Resources (2020), and West Virginia Department of Environmental Protection (2020).

Athens County and its neighbors suffer from persistently high rates of poverty. In recent decades, service-sector employment has expanded, while manufacturing has declined sharply. From 2001 to 2010, manufacturing employment in the 22-county region declined from more than 63,000 to less than 40,000, and it has hovered near that level through 2018 (DOC 2020). In the city of Athens, the presence of Ohio University has helped support the local economy, although the county’s leading employment sectors are government and health care (ARC 2020).

Personal incomes in the region are also consistently lower than Ohio and the US average, while unemployment rates are consistently higher. The Appalachian Regional Commission (ARC) has ranked Athens County as economically “distressed” or “at risk” each year since the early 2000s (ARC 2020), indicating that it is often among the lowest 10 percent of economic performers. The share of Athens County residents in poverty has remained well above the state and national average (Figure 2) since the early 2000s.

Figure 2. Share of Residents in Poverty



Source: Ohio Development Services Agency (2019).

In this report, we describe the decline of the coal industry in Athens and the broader region (Section 2). Next, we examine and characterize recent discretionary federal grants to the region focused on economic development (Section 3). We then look to understand local perceptions of these grantmaking efforts through semi-structured interviews with local stakeholders, focused on economic development professionals (Section 4). The final sections of the report offer insights to inform federal policy making (Section 5) and conclusions (Section 6).

2. The Regional Decline of Coal

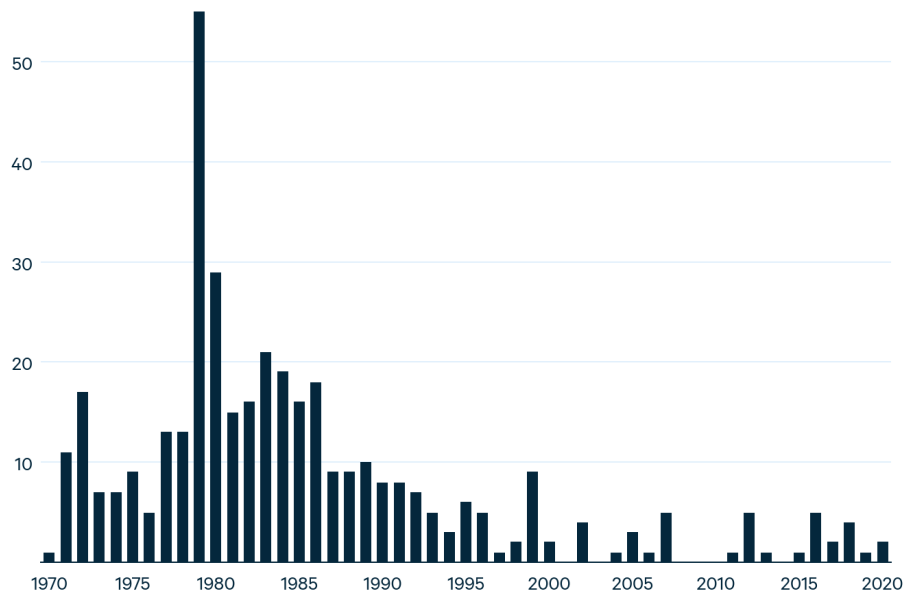
Prior to discussing the effects of coal's downturn in and around Athens County, it is important to note that the loss of coal jobs is not the only cause of economic distress in region. The opioid crisis has hit Appalachian Ohio particularly hard (National Institute on Drug Abuse 2020), and the full human and economic impacts of COVID-19 remain unknown. However, because our focus is on policies to support communities affected by changes in the energy system, this report centers on coal. In addition, because our focus is on federal policy, we do not focus on the various state and local economic development efforts which often complement or overlap with federal grantmaking.

2.1. Coal Mining

Commercial coal mining in Ohio began around 1850, growing to a peak of roughly 55 million tons per year in the early 1970s, with the estimated value of coal production peaking in the mid-1980s at more than \$1.2 billion annually (Ohio Department of Natural Resources 2005). Since that time, both the value and the volume of production have declined considerably, with 2018 production totaling less than 9 million tons statewide (EIA 2018).

Since 1970, nearly 400 mines have been abandoned (i.e., closed) in our counties of interest, with the bulk of closures occurring in the late 1970s and early 1980s (Figure 3). At the time of this writing, just two active mines (Buckingham and Orange Strip) were operating, and three were idled in early 2020 (Dundas Job, Sands Hill Strip, and Sands Hill Strip 2). A more detailed timeline of regional mine closures, power plant openings/closures, and other information is provided Appendix Figures A1 and A2.

Figure 3. Mine Abandonments by Year in the Athens Region



Source: MSHA (2020).

Unsurprisingly, coal mining employment in the region has followed suit, falling from more than 2,000 in the early 2000s to roughly 500 by 2017 (earlier employment data are not available). Compounding this challenge, earnings for coal workers are consistently lower in our counties of interest than coal mine workers in the United States more broadly. In 2018, the average miner in the Athens region made \$69,617, compared with \$80,340 on average for the United States (DOC 2019a, 2019b, 2019c).

2.2. Coal-Fired Power Plants

While the largest employment effects of coal mining occurred in previous decades, more recent impacts have been driven by the retirement of four coal-fired power plants in the region since 2010. As previously noted, coal plant closures nationally have been caused primarily by market forces, although one of the four closures in the region (the Richard Gorsuch plant) was driven by a legal settlement over Clean Air Act violations (EPA 2010). The loss of these plants not only reduces employment directly but also has indirect effects through job losses in related businesses (Jolley et al. 2019), along with lost tax revenue that supported local governments and school systems (Patterson 2019).

Four large coal-fired power plants continue to operate in the region. Table 1 lists these plants, along with the four that have closed since 2010.

Table 1. Active and Retired Coal Power Plants in the Athens, Ohio Region

Plant Name	County	Status	Nameplate Capacity (Megawatts)
First Energy Pleasants Power Station	Pleasants County, WV	Active	2,600
Mountaineer	Mason County, WV	Active	1,368
Gavin Power	Gallia County, OH	Active	1,300
Kyger Creek	Gallia County, OH	Active	1,086
Muskingum River Plant	Washington County, OH	Closed 2015	1,375
Philip Sporn Station	Mason County, OH	Closed 2014	1,020
First Energy Willow Island	Pleasants County, WV	Closed 2012	235
Richard Gorsuch Power Plant	Washington County, OH	Closed 2010	200

Source: EIA (2015, 2020b).

3. Federal Economic Development Efforts

As coal-related economic activity has declined, and as the remaining plants face considerable uncertainty over their future, a network of local, state, and federal stakeholders has worked to increase community resilience and support local economic development. In this section, we examine discretionary federal economic development grants made to the region over the last two decades.

To understand how the federal government¹ has looked to support local economic development in the region, we examined federal grants with an explicit focus on economic development, accessing data through multiple sources (e.g., EDA 2019; USAspending 2020). Since our primary interest is in how federal support can be selectively targeted to support local economic development in struggling regions, we focused on grants that are awarded on a discretionary basis.

Following these criteria, we include grants from the US Department of Agriculture, the US Economic Development Administration (EDA), the ARC, the POWER (Partnerships for Opportunity and Workforce and Economic Revitalization) Initiative, and several others. For a review of major federal economic development programs and how they may play a role in supporting fossil energy communities, see Raimi et al. (2020).

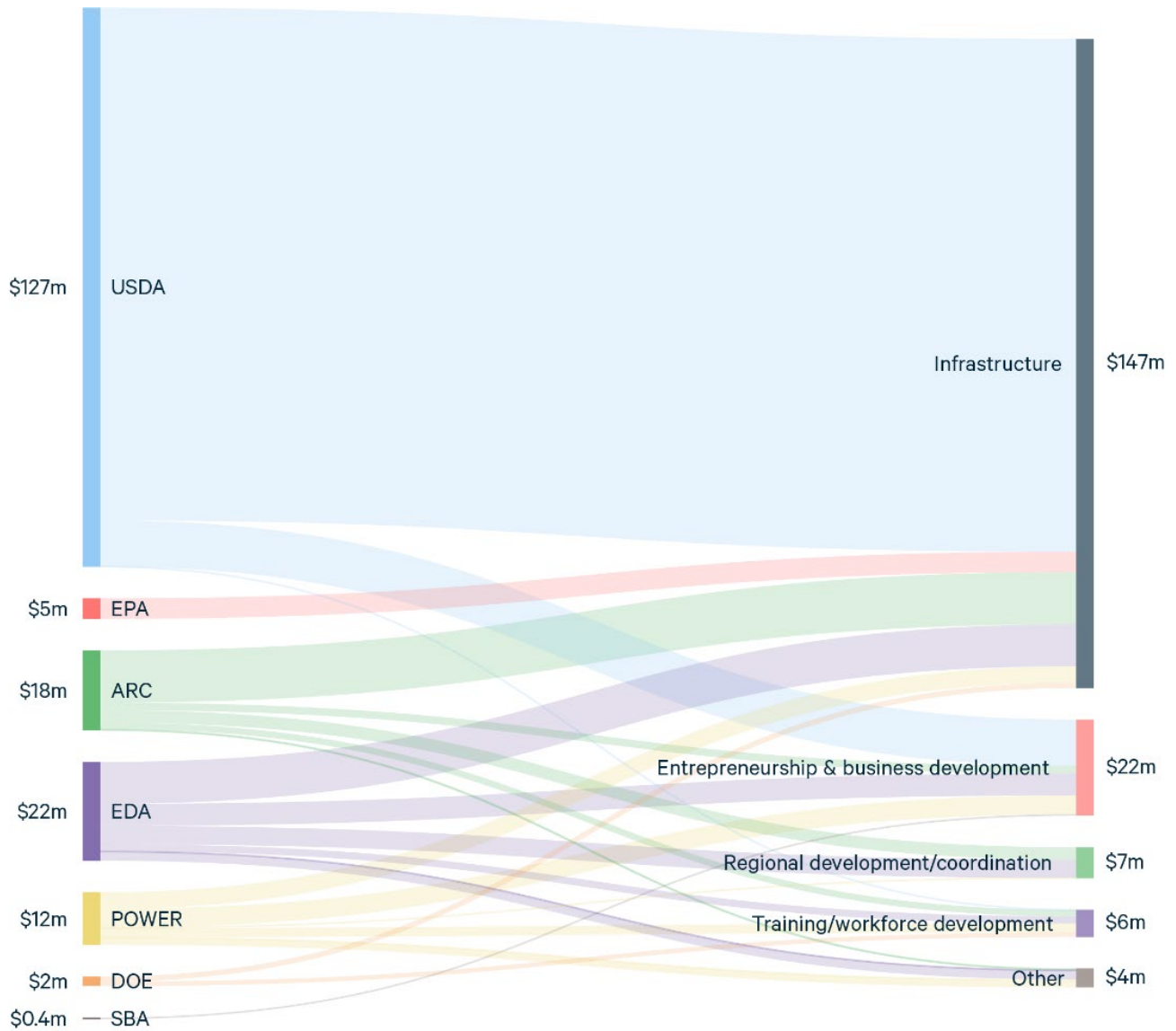
As shown in Figure 4, the large majority of grant dollars have flowed from the US Department of Agriculture (particularly its Rural Utilities and Rural Cooperative services) to support infrastructure development such as solid waste management, sewer, water, and others. Though not directly providing economic development programming, these grants for essential infrastructure can help establish the basic conditions for local economies to grow.

The EDA, ARC, and POWER Initiative have, respectively, granted \$22 million, \$18 million, and \$12 million to the region since 2002. The majority of the funding from the EDA and ARC has gone to infrastructure planning and development, with smaller shares supporting regional economic development planning, entrepreneurship, and workforce development. The EDA's regional economic development efforts have focused on developing a comprehensive economic development strategy, led by the

¹ As noted above, we recognize that a variety of local, state, and other actors play a role in supporting economic development. However, we choose to keep a narrow focus on federal efforts to better inform federal policymaking.

Buckeye Hills Regional Council. The POWER Initiative, which began making grants in 2015, has focused more on entrepreneurship and workforce development, with just 32 percent of grant awards supporting infrastructure.

Figure 4. Federal Economic Development Grants, 2002-2020 (Millions)



One of the leading recipients of non-infrastructure grants has been Ohio University, which often acts as a routing point for federal funds, collaborating with numerous regional organizations to implement projects. Larger institutions such as Ohio University are well positioned to administer federal grants, which often include substantial reporting and financial requirements. For smaller organizations, including some of the local economic development entities represented in our interviews (see Section 4), these administrative requirements can pose a barrier to entry for some federal grants.

Brownfield remediation grants, administered by the US Environmental Protection Agency (EPA) and awarded to local port authorities or city governments, can also help support local economies by remediating polluted sites and allowing for future development (Raimi 2020). From 2002 to 2017, EPA awarded the region \$2.9 million for various brownfield assessment and cleanup cooperative agreements.

4. Key Stakeholder Interviews

To better understand how the decline of coal and subsequent federal efforts to support regional development have affected economic conditions in the Athens region, we conducted 14 semi-structured interviews with professionals from 11 different organizations working on local economic development. These included experts from local development districts (LDDs), nonprofits with a focus on regional development, elected officials, business leaders, university researchers focused on local economic development, and federal grantmaking institutions.

The objective of these interviews was to assess the effects of the regional downturn of coal, along with the effects of federal grantmaking to support regional economic development. Each interview began with uniform questions about economic development challenges in the region, followed by questions about the effectiveness of different federal grantmaking processes, with specific questions tailored to the expertise of the individual and their organization.

In this section, we distill key insights from these interviews, focused on three key topics: characterizing local economic development challenges (4.1), describing grantmaking strategies that interviewees found most effective (4.2), and assessing the local role of federal grantmaking for economic development (4.3).

4.1. Economic Development Challenges

The Athens region currently faces multiple challenges regarding sustainable economic development. Here, we describe two key themes highlighted by our interviewees: (1) limited access to building sites and quality infrastructure, and (2) administrative capacity to solicit and administer major federal grants.

4.1.1. Lack of Building Sites with Ready Infrastructure

According to our interviewees, numerous factors have made it difficult for new businesses to locate in the Athens region despite federal, state, and local efforts. First, the hills and mountains that characterize the region make building more expensive than it might be on flatter land. Second, many possible building sites lack access to key infrastructure such as water and sewer lines, broadband internet, and transportation networks. Third, many suitable sites were previously developed and were left as brownfields that would require costly remediation before future use.

Along with the general challenge of a struggling regional economy, access to modern infrastructure was cited as the most significant challenge in attracting new businesses to the region. In some cases, federal grants have helped support the extension of sewer lines or broadband internet, but our interviewees indicated that considerable gaps remain in access to these networks.

The lack of broadband in rural areas was cited by nearly all interviewees as one of the key barriers to attracting investment. A recent report from the Buckeye Hills Regional Council found that 75 percent of its eight-county region lacked access to broadband. Despite this lack of access, the report states, many areas are ineligible for federal grants that would help expand broadband because maps developed by the Federal Communications Commission overstate the degree of existing broadband coverage (Buckeye Hills Regional Council 2019). If federal data on broadband access and other issues are inaccurate, it could indicate a broader challenge to deploying resources where they are most needed, whether in the Athens region and elsewhere.

4.1.2. Administrative Capacity

Interviewees described several challenges associated with successfully administering federal grants that can help support local economic development. Smaller organizations seeking small- to medium-size federal grants highlighted several key challenges. First, it was often difficult to find matching funds,² which are required for certain grant types. Second, navigating the grantmaking process was challenging during the grant-writing, implementation, and reporting stages. Third, federal grantmaking priorities did not always align with local priorities, sometimes steering potential grantees away from the projects that they believed would be most effective.

For larger organizations that have considerable administrative capacity and that have prior experience working with federal grantmaking agencies, these issues have been less of a challenge. In many cases, local businesses or economic development entities do not access federal funding directly, but instead receive financial support or technical training through a larger organization such as the Ohio University Innovation Center, which has been supported by discretionary federal grants. These local partnerships were cited by our interviewees as a strength of the regional

² “Matching funds” are funds that a grantee is required to raise *in addition* to the funds received through the primary grant. For example, a hypothetical grantee may be required to raise \$20,000 to receive a hypothetical grant of \$80,000.

economic development community, but did not obviate the barriers faced by smaller organizations when seeking to access federal grants directly.

Finally, some interviewees critiqued federal grantmaking organizations for a lack of internal consistency. For example, different agencies had different requirements in terms of timelines, matching funds, and reporting metrics. These varying requirements added to the administrative burden for local organizations and suggests that future federal efforts could better coordinate application processes and requirements across agencies.

4.2. Identifying Effective Grantmaking Strategies

Interviewees further identified several broad strategies that have been—and that they believe will be—most effective in supporting regional economic growth in and around Athens.

4.2.1. Tailoring to Local Needs and Strengths

Our interviewees emphasized the notion that economic development in southeastern Ohio will look very different from economic development in urban centers such as Cleveland or Columbus. They described it as unlikely that a large manufacturing facility would choose to locate in the region, and that promoting small businesses and entrepreneurs would likely be a more successful approach. Local organizations such as Rural Action and the Buckeye Hills Regional Council take this approach by catalyzing innovation hubs and supporting programs that can give local entrepreneurs the skills they need to build and sustain small businesses.

Similarly, interviewees repeatedly spoke of the need for a “bottom-up” approach to community revitalization. Federal efforts would be most successful if they work closely with local organizations to support appropriately sized and well-targeted grants. Along with the fact that local experts will have better knowledge of their specific circumstances, our interviewees repeated that there was considerable skepticism of the federal government across the region. This means that economic development efforts not only needed to be “bottom-up” in practice, but that they also needed to be *perceived* as being driven by local individuals and organizations. The ARC and the POWER Initiative were repeatedly mentioned as successfully embodying this approach.

One such example comes from Rural Action, an Ohio organization that uses federal funds to support locally tailored programs. Often, organizations like Rural Action are awarded federal funds and then deliver programming that recipients perceived to be

local. Additionally, small businesses applying for federal grants such as the Rural Energy for America Program often need help understanding the complex application process. Organizations like Rural Action step in with technical assistance to help businesses win these grants.

4.2.2. Building an Economic Development “Ecosystem”

Broadly speaking, the “ecosystem approach” to local economic development focuses on developing a community-based network of businesses and innovation by fostering education and empowerment. Unlike the more traditional form of economic development that focuses on attracting one large “anchor” business, the ecosystem approach involves building up a local networks and supply chains to create local industries that complement one another. This approach includes nonprofits helping businesses apply for grants, innovation hubs helping local citizens scale up their ideas, and an emphasis on building the full supply chain for an industry within the region.

A recent report from the ARC described the Athens region as an exemplar of the ecosystem approach (ARC 2018), highlighting the extensive collaboration among the network of economic development organizations around Athens. One prominent example is a regional wood-product cluster that attracts multiple businesses at different points in the supply chain. This includes forestry and logging companies, furniture manufacturers, pulp and paper producers, mills, and others.

Although the cluster offers employment opportunities and contributes billions of dollars to the local economy, a recent analysis suggested that wood-product wages in the region were lower than the statewide average. This difference reflects the fact that many of the companies involved in the Athens cluster sit lower on the value chain than other companies in Ohio (Michaud and Jolley 2019). Despite these shortcomings, the cluster is largely seen as a success due to its local employment and economic benefits.

Our interviewees pointed to several other examples of economic ecosystems that they viewed as successful, if more modest than the wood products cluster. One such effort, the Social Enterprise Ecosystem (SEE), is a partnership of local economic development organizations and experts led by Ohio University, and provides specialized consulting for social enterprises seeking technical assistance and access to funding (Voinovich School of Leadership and Public Affairs 2019). By making use of the innovation hub and local networks at Ohio University, SEE has helped launch dozens of start-ups with a local social focus.

4.2.3. The Importance of Local Planning

A theme that emerged frequently in our interviews was the need for communities to plan for economic development. Planning can help a community take advantage of an opportunity (e.g., attracting a new business interested in locating in the region) when it arises. Executing such a strategy requires dedicated and trained economic development officers, as well as a clear plan for community revitalization developed with a broad array of stakeholders.

Where they occur, plans are developed by LDDs and informed by extensive community input, often supported by federal planning grants administered by the EDA. Our interviewees from LDDs expressed the notion that projects based on a community-driven plan tended to be more successful than those that were not part of a considered planning process. For example, several counties in the region have implemented planning programs that identify and pre-develop sites that would be well-suited for new businesses. This planning enables local economic development officers to make it easier for businesses to locate in their jurisdictions by quickly directing them to suitable building sites.

4.3. The Role of Federal Grantmaking

Interviewees generally described federal grants as being very important for local economic development, while also suggesting several areas for improvement.

4.3.1. Federal Funds Play an Essential Role in Local Economic Development

Officials at local economic development organizations consistently described federal funds as being essential to support their work.³ Although several noted that it would be useful to have additional resources, one local economic development professional said, “In most communities, if there isn’t a grant, there isn’t a project.”

At the same time, as noted in Section 4.1.2, many interviewees noted challenges associated with the federal grantmaking process, particularly burdensome administrative requirements. Interviewees also noted that they often needed to shape their project proposals to fit predefined federal priorities, rather than seeking funding that local stakeholders viewed as most promising.

³ Unfortunately, it was beyond the scope of this analysis to gather and analyze sufficient data to quantify the role of federal economic development grants relative to other public and private sources.

4.3.2. Effective Federal Efforts Adapt to Local Contexts

As noted above, some local economic development organizations have difficulty administering federal grants. In addition, some interviewees expressed concerns that the priorities of federal grantmaking agencies did not always match local priorities. For instance, projects to promote local tourism and support local small businesses are often ineligible for federal economic development grants, but these are important priorities for some local economic development organizations. Similarly, our interviewees stated that some federal grantmaking agencies focus on attracting “anchor” businesses such as manufacturers or similarly large projects, but that attracting these investments would not be the most effective strategy for the Athens region.

A more successful approach, many interviewees suggested, would be to tailor grant opportunities directly to local priorities and to support emerging local ecosystems. In addition, some voiced a preference for a broader definition of “economic development,” such that federal grants could support community needs such as childcare and public transportation.

Many of our interviewees credited the ARC for successfully tailoring its interventions to local needs, particularly its request for proposal process, which emphasizes local relationships and convening different groups to foster collaboration between local organizations. These programmatic elements reflect the ARC’s goals of being flexible and working with organizations beyond handing out funds. The POWER Initiative, administered in part by the ARC, was also praised for its consistent engagement with local stakeholders, leading to grants that were viewed by our interviewees as well-targeted and responsive to community needs.

Finally, some officials noted challenges with successfully delivering projects and services. One challenge has been finding providers to build broadband networks, even when subsidies are available. For example, no providers submitted bids to build these networks in Appalachian Ohio during a 2018 reverse auction held by the Federal Communications Commission despite considerable subsidies (Crosby and Reid 2019).

4.3.3. The Importance of Coordination and Local Networks

Interviewees repeatedly stressed the value of well-coordinated local networks, including public and nonprofit economic development organizations, business owners, private foundations, and representatives from federal grantmaking agencies. Some federal efforts, particularly those of the ARC, seek to foster these networks

through convenings and grants that require collaboration between multiple organizations.

The primary benefit of this coordination is that different organizations can leverage their particular areas of expertise to attract and retain small businesses, win federal grants, and develop ecosystems of complementary businesses. Federal grants have been instrumental in helping to build these networks in the Athens region and have enabled larger efforts that any individual organization could not have carried out alone. One such example is the Chesterhill Produce Auction, the passion project of a local couple. The auction matches local growers and food producers with local restaurants and stores. Based on similar models in the Amish and Mennonite communities, the Chesterhill auction was built in collaboration with the Amish community, Ohio University, Rural Action, and funding from state grants (The Voinovich School of Leadership and Public Affairs 2010).

5. Insights and Implications for Federal Policy

From our analysis of the Athens region’s economic history, its current conditions, and the input from our semi-structured interviews, here we distill several key insights that are relevant for can help inform federal economic development policymaking in the context of an energy transition.

- Athens County and many of its neighbors have struggled economically for decades, and recovery is unlikely to be swift. Nonetheless, federal efforts are viewed favorably by most of the local economic development professionals we interviewed, and **an expanded federal role would be welcomed.**
- However, our interviewees expressed the notion that federal efforts will be most successful if they **support local priorities** rather than take a “top-down” approach. Economic development programming not only needs to be “bottom-up” in practice, but also needs to be perceived as being driven by local individuals and organizations. Such perceptions are likely to increase uptake of federally-funded efforts.
- One approach to addressing the needs of more rural communities is by **“right-sizing” funding opportunities** to support small business development. In some cases, this can be accomplished through local partnerships between anchor institutions (in the Athens region, this role is often played by Ohio University) and potential grantees with less experience and administrative capacity.
- **Reducing the administrative burden** for grantees can reduce barriers to entry, particularly for small- to medium-sized organizations. Federal agencies could seek to simplifying and standardize application and reporting processes.
- Many grantees expressed a desire for the federal government to invest additional resources in **community development efforts**, which incorporate a broader set of activities than traditional economic development. These efforts include increasing access to affordable childcare or public transportation that can support local workers and entrepreneurs, regardless of their industry.
- **Accurate data are essential.** According to local analysis, efforts to expand broadband internet have been hampered by inaccurate federal maps that overstate the extent of local access. If this issue occurs in other regions and across multiple data types, it will not be possible to direct federal resources where they are most needed.

6. Conclusion

Over the last several decades, the Appalachian region around Athens, Ohio has experienced major economic challenges associated with the decline of coal, with high rates of poverty and unemployment. To provide new opportunities in the region, local economic development professionals, business leaders, and others have embraced an ecosystem approach, seeking to build a network of reinforcing organizations and supply chains to support economic clusters. Federal funding has helped support these efforts; however, semi-structured interviews with 14 local stakeholders revealed several areas for potential improvement.

The key message from these interviews is that grants could be improved by more closely aligning with local—rather than federal—priorities and by reducing administrative burdens. Interviewees highlighted the ARC and the POWER Initiative as two grantmaking programs that largely reflect this approach.

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Appendix: Regional Timelines

Figure A1 illustrates key points in the regional history of the coal industry and economic development since the middle of the twentieth century. The light blue circles at the center of the figure illustrate the opening of new coal-fired electric generating units, scaled by size. The Willow Island coal-fired power plant, the first of the modern coal plants to open in the Athens region, opened in 1949. Over the next decade, three more units opened at the plant. New plants continued to open in the area through the 1980s, eventually reaching 9,184 megawatts in operation. The gray circles at the bottom of the timeline indicate the number of mines that closed in a given year. The largest number (55) closed in 1979, followed by a large number of closures in the 1980s. Data on mine closings prior to 1970 are not available.

At the top of the figure are founding dates for regional organizations focused on economic development and citizen advocacy. These organizations, many of which were represented among those we interviewed for this case study, include the Appalachian Regional Commission (ARC, 1965), Hocking-Athens-Perry Community Action (HAPCAP, 1965), the Ohio Valley Regional Development Commission (OVRDC, 1967), the Corporation for Ohio Appalachian Development (COAD, 1971), the Ohio University (OU) Innovation Center (1983), the Appalachian Center for Economic Networks (ACENet, 1985), the Foundation for Appalachian Ohio (1988), Eastern Ohio Development Alliance (EODA, 1990), and Rural Action (1991).

In recent years, regional coal mine closures have continued, but the larger economic impact has come from the closure of coal-fired power plants. At the same time, federal grantmaking organizations have invested considerable funds into local infrastructure and other economic development efforts (Section 3). Figure A2 illustrates each of these trends. Federal grants are shown at the top of the figure, represented with green circles sized by the amount of funds awarded that year.

In the middle of the timeline, blue circles indicate coal-fired power plant retirements. The size of the circle reflects the capacity of the plant that was taken offline in a given year. At the bottom of the figure, the yellow circles indicate the number of coal mines that closed or were idled each year. Only a few mines closed or were idled each year, with a maximum of five. Finally, the figure notes the establishment of the Appalachian Partnership for Economic Growth (APEG, now known as Ohio Southeast Economic Development, or OhioSE). OhioSE is the local partner of JobsOhio, an organization created by the state government in 2011 to promote economic development and employment opportunities in Ohio.

Figure A1. Timeline of Coal-Fired Power Plant Openings, Coal Mine Closures, and Establishment of Regional Economic Development Organizations

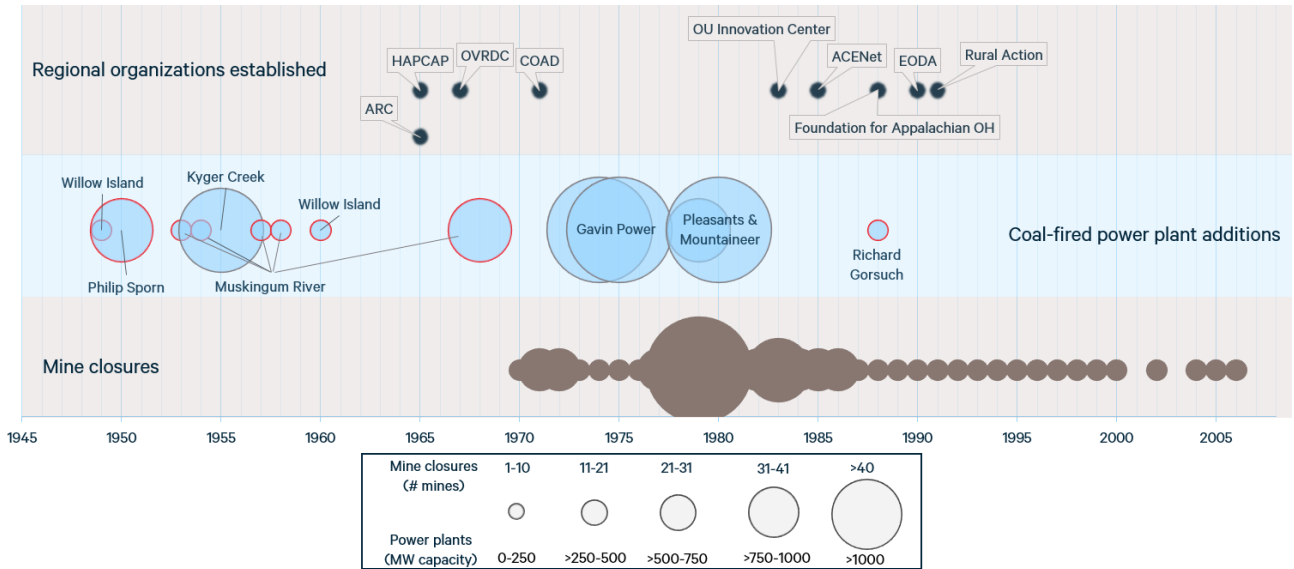


Figure A2. Recent History of Coal-Fired Power Plant Closures, Coal Mine Closures, Federal Grants, and Important Recent Events in the Athens Region

