

ReImagining the Shuttered Coal Plant:

The Handbook



With suitable investments, shuttered and shuttering coal plants can be redeveloped for new opportunities in the sustainable industries of the future.

Executive Summary

Some of the most significant assets in coal communities are shuttered coal-fired power plants, once serving as an important source of reliable employment and the foundation for the local tax base in the region. Coal plant closures devastate the workers and communities who depend on them. A critical component of any sustainable development strategy for coal communities includes redeveloping these properties for sustainable industries, taking advantage of their assets while providing new opportunities for the skilled workforce.

Coal plants connect to significant transportation networks, often including extensive rail and water networks (i.e., more efficient and environmentally friendly ways of transporting goods). They also contain heavily reinforced electrical grid infrastructure and energy-generating assets that can be repurposed for cleaner energy technologies. The places where shuttered coal power plants are located often have a highly experienced workforce with foundational skills in energy production that are transferable to the new energy economy.

Without focused effort and targeted resources, however, these sites are more likely than not to sit indefinitely as brownfields, blighting their communities as has been the fate of many key assets in the past, including former coal plants, former steel mills, and other manufacturing sites. Five decades later, too many former coal plants and steel facilities still scar our communities. Significant barriers may impede redevelopment:

1. Lack of community acceptance of closure or pending closure.
2. Lack of alternative vision for a site's highest and best use developed with broad stakeholder input and community buy-in.
3. In some cases, but not all, a reluctant property owner.
4. Environmental hazards on-site with unknown risks and remediation costs.
5. Information barriers: Who owns the site? What can be done with it? What regulations apply? What resources can we access? What laws apply? Do we need policy changes? Who do we need at the table? Are there best practices?
6. Lack of community resources in long-exploited, high-poverty areas.
7. Distrust among key stakeholders (developers, property owners, utility companies, elected officials, organized labor, racial justice groups, and environmental organizations).

Today's growing economy presents opportunities to redevelop shuttered coal plant sites. In some places, new technologies are transforming coal combustion waste remaining on site into products used in construction materials such as cement or eco bricks. Factories that implement this technology are appropriate tenants for a shuttered coal plant being redeveloped into an industrial park. Growing sectors like artificial intelligence and data centers could locate new facilities at former coal plant sites. Overseas factories are moving back, "reshoring", and looking for sites for heavy industrial production. These operations need the heavily reinforced electric power connections, acres of industrial-use land, water, sewer, fiber optic, and other infrastructure elements essential to industrial sites; multiple forms of transportation access for shipping purposes; and the skilled workforce of nearby communities. Substantial federal and state funds have been made available to redevelop these sites from the federal Bipartisan Infrastructure Law, the Inflation Reduction Act, and the CHIPS and Science Act, as well as from state programs.

This document - along with the on-line toolkit - serves as a resource for redeveloping shuttered coal plants. It is designed to empower community stakeholders with the information they need to have a meaningful say in what these critical assets in their communities could and should become. A community can plan for the "highest and best use" of the site, build on existing assets and skills of the workforce to create jobs equivalent to those of the coal industry, generate an equivalent tax base for the communities housing these sites, and promote sustainable, climate-friendly options that are healthy for neighboring residents. These chapters will provide resources that can help get communities started.

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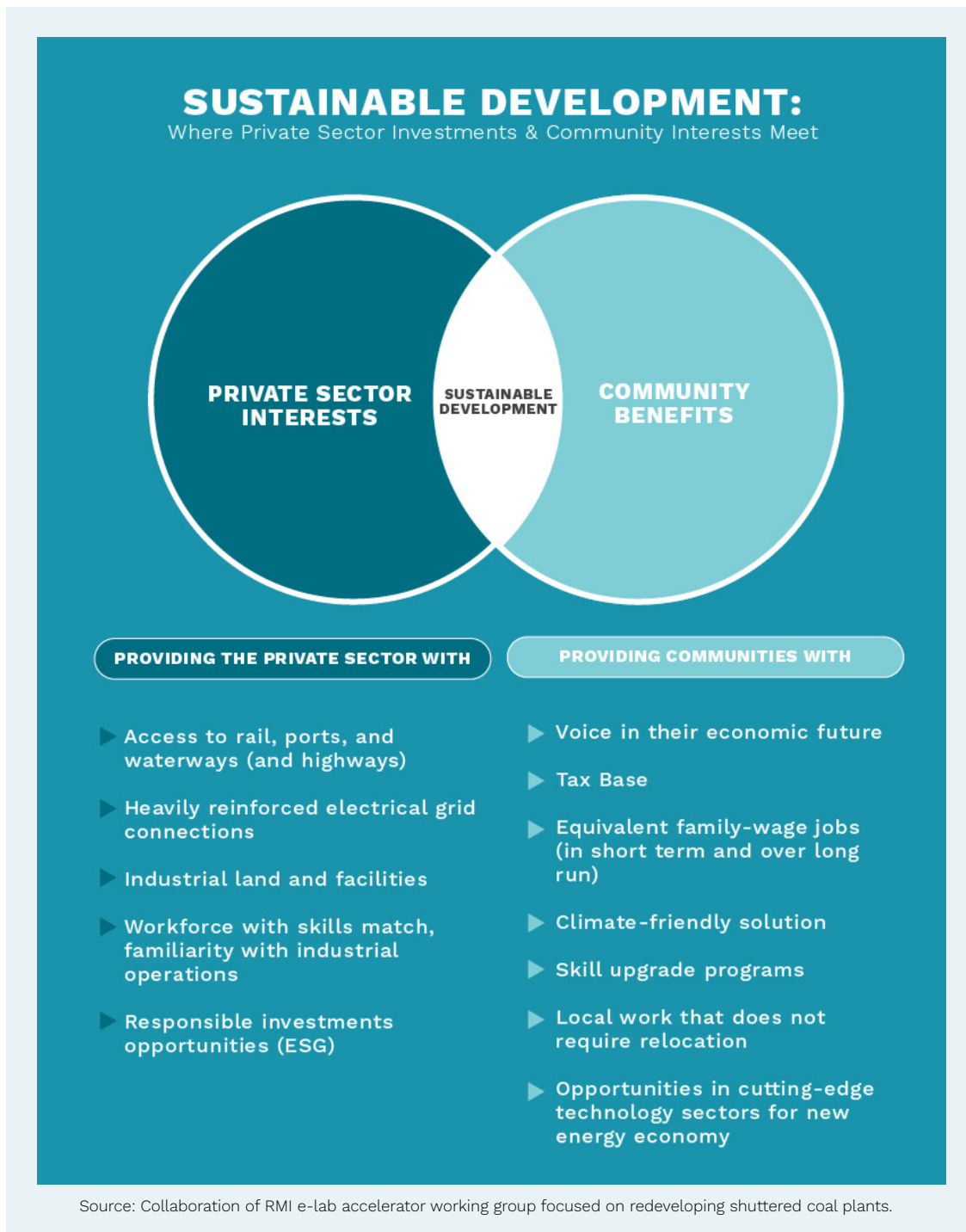
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Chapter 1: “Highest And Best Use”

The Guiding Principle in Community Planning for Redevelopment

There is no singular “best way” to redevelop a coal plant. However, some approaches are more effective than others. This chart shows the sweet spot for redevelopment – where private sector interests coincide with community desires. That is where sustainable development can happen.

Figure 1



Highest and best use is a concept used in appraising properties for value. The Appraisal Institute defines highest and best use as “The reasonably probable and legal use of vacant land or an improved property that is physically possible, appropriately supported, financially feasible, and that results in the highest value.”

There are four key tests for determining highest and best use, which is the basis for a property appraisal¹. A developer must, at the minimum, determine, if the proposed use is:

1. Physically possible,
2. Legally permissible,
3. Financially feasible, and
4. Maximally productive.

While all proposed uses must be physically possible, legally permissible, and financially feasible, there can be differences of opinion on “maximally productive.” What may meet the standard of one community’s definition of maximal productive use for a business may not for another community, whether it be for reasons of job quality, stability, environment, or other concerns.

For example, a community may value manufacturing or warehousing use, which creates stable jobs with living wages while replacing lost revenues to the local tax base. An artificial intelligence use, on the other hand, may provide higher remuneration to the owner (in other words, the buyer may be willing to pay more because of valuable electric connections) but create far fewer jobs than other uses. Neighborhood groups might appreciate access to living wage jobs but want assurances the new use will not pollute the air, land or local waterways. A community can express its version of the highest and best use in a community plan derived via a bottom-up community visioning process with leaders representing each of the key stakeholder groups (See our [ReImagine Your Community Visioning Process](#))². Many federal incentives require community support.

Factors to be considered when envisioning what a community wants and needs – and/or does not want — may include:

- Will the use be sustainable (or, will it depend on resource extraction, which, like coal, ends when the resource is exhausted)?
- Will the use be a factory whose headquarters could quickly move production to a different location or nation?
- Will the use create good union jobs, accessible to local residents, equivalent to those lost at the coal power plant?
- Will the use rely on materials and production inputs that are sustainable over time and appropriate for the region in that they are not likely to run out? Are materials suitable for circular manufacturing?
- Is the use climate-friendly and likely to contribute to the new clean economy?
- Will the use receive substantial federal support?
- Is the use likely to serve local businesses or purchase products and services from them?
- Are there safety or environmental concerns with the proposed use?
- The next chapter describes how communities can come together to discuss what they want to see in redevelopment of a shuttered coal plant site.

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Chapter 2: From Community Visioning to Community Benefits

The Community Benefit Plan is the Foundation for a Community Benefit Agreement

2.1 Community Benefit Agreement

2.2 Community Benefits Plan

2.3 Technical Notes and Resources

Appalachia is at an unprecedented crossroads. How do we harness the power of federal infrastructure investments? Ensure that new jobs are local with family wages, retirement, and health care benefits? Create career pathways for all workers, regardless of race, class, and gender? Ensure good jobs where the money stays in our community?

The answer to these questions will depend on how successfully we advocate for community benefits from these new federal investments. We can and must push for more, because our communities are at stake.

Getting started is one of the most significant barriers to redevelopment: getting people together, finding the correct information, and making joint decisions. This chapter includes information on the tools of community planning: community benefits agreements, community benefit plans and coalition building.

2.1 Community Benefit Agreement

A Community Benefit Agreement (CBA) is an agreement signed by a coalition of key stakeholders from the community those in the community who should be part of the community planning process — and a developer. Based on an ongoing community benefit plan developed for a specific project, a CBA identifies a range of community benefits the developer of a project agrees to provide in return for community support. In a CBA, the local coalition — often consisting of civic leaders including labor organizations, business and trade associations, racial justice groups, environmental entities, faith communities, government agencies, universities/educational institutions — aims to gain legally promised benefits to the community from the developer. The benefits have been identified in the course of the community planning process and may include commitments from contractors and developers to pay family-supporting wages, to permit labor organizing, hire directly from the local community, support paid on-the-job training opportunities for apprentices and pre-apprentices, and make contributions to a trust funds for community needs, which may range from small business development, reducing barriers to employment for disadvantaged workers such as making provisions for child care and transportation, and more.³

2.2 Community Benefits Plan

A community benefits plan is developed early in the project process as the foundation for specific, negotiated community benefit agreements. A redevelopment project as big as a shuttered coal plant site may involve many phases, several developers, and a number of tenants. The community benefit plan can be the basis for one, or for a series, of CBAs.

It is important because it establishes consensus and community buy-in on complicated decisions before a developer invests significant resources. What kind of employment should the site bring to the community?

What are the site's key assets? What kind of infrastructure may be needed for redevelopment, and how might that affect community residents? What is the nature of environmental hazards on the site? How might development remediate that? The community planning process disseminates general information about redevelopment and establishes a way in which people can come together to learn, discuss and become active in the decision-making process.

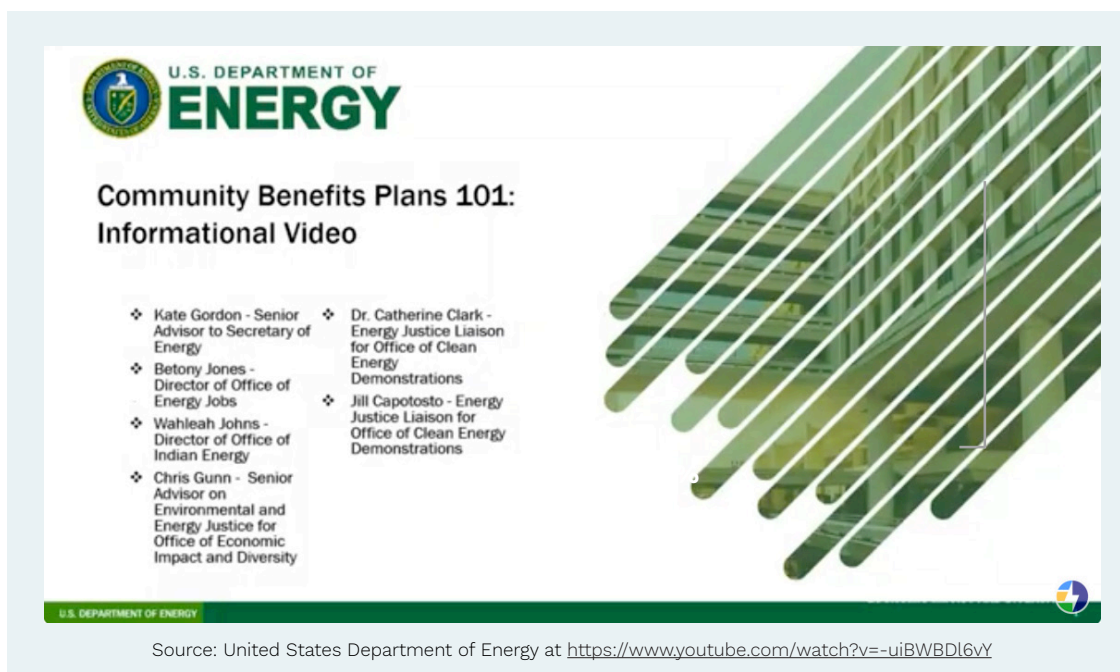
There can be financial benefits to undertaking community planning around the redevelopment of a shuttered coal plant. Under the Biden Administration, the federal Department of Energy (DOE) provided extra points in scoring applications for financial subsidies that have community benefits plans. Other entities, including states, local governments, and banks are considering similar measures. The creation of a community benefit plan can influence the size of tax credits, grants, loans, and loan guarantees. In some DOE programs under the Biden Administration, inclusion of a Community Benefits Plan accounted for 20% of the technical merit review of proposals. This 20% was made up of four elements that worked together to ensure project success, the efficient and effective use of taxpayer funds, timely project implementation, and the acceleration of private sector uptake in projects funded by the Bipartisan Infrastructure Law of 2021. The four elements include:

Engaging communities and labor;

1. Investing in America's workers through quality jobs;
2. Advancing diversity, equity, inclusion, and accessibility through recruitment and training; and
3. Implementing the EPA program called "Justice40," which directed 40% of the overall benefits of certain Federal investments to flow to disadvantaged communities.

The community planning process —Pulling people together, scheduling meetings, developing informational materials — requires resources. To plan for community input into redevelopment, the community must understand the physical characteristics of the site itself but such evaluations are expensive. At present, the federal government is providing resources for this kind of planning. The Department of Energy provides an excellent [YouTube video](#) on the community benefit planning process.⁴

Figure 2



Steps to Community Planning

You may be a concerned citizen talking to neighbors. Perhaps you are a pastor of a church with activist members, or you are a city councilperson or a union leader. You want to jumpstart a community planning effort to redevelop a decommissioned coal plant site to help ensure it doesn't sit indefinitely as a blight on the community. Think through possible steps it will take to draw interested members of the community together to discuss the highest and best uses of the site and to make decisions about the kind of development that makes sense for your community.

Establish The Planning Committee

You will likely want to start your redevelopment initiative by forming a planning committee of key stakeholders in the community. Holding an initial community meeting is an essential first step. You should start planning for that meeting at least two months before your proposed event date – three months is better (and longer than that, even better still). When forming the planning committee, you should aim for broad inclusion. You will want well-established allies in the development business with connections as well as established partners within the community, but take care to also reach out to include new voices who hold previously untapped partnerships and connections. This is particularly important in planning for development that can lead to good jobs represented by labor unions, with benefits and a living wage, and protections – like environmental protections – for the community.

You need everyone at the table because the redevelopment process is so complex. You need activists, experts, racial justice organizations, neighborhood groups, laypeople, union leaders, community and economic development folks, and local electeds. The more people you have on board with a collective vision, the more people you have on the team to overcome redevelopment challenges. Our [ReImagine your Community Toolkit](#) lists the following potential participants for community visioning purposes:⁵

- faith-based groups
- government and public agencies
- union leaders and racial justice organizations
- environmental partners
- anti-poverty groups
- public health entities
- local colleges and universities
- economic and workforce development entities
- local business groups such as Downtown Partnerships

Create A Coalition

A coalition is a group of organizations that come together to work toward a common goal or set of goals. As a collective, they gain more power and influence than any individual organization could attain alone. There is no “one-size-fits-all” when it comes to coalitions, as they can take many forms. However, if the right people are at the table for the planning committee, it can evolve into a coalition dedicated to pursuing the collective vision while maximizing benefits to the community. Utilizing [coalitions](#) can be a powerful mechanism for enacting and maintaining positive changes in your community. It can also be a difficult task to manage.⁶

Establish Leadership

Ideally, the leader or leadership council is made up of recognized, trusted people who are respected broadly across a wide variety of stakeholder groups. This is a public process, so establishing leadership familiar to and respected by public officials will be valuable. One person may be the primary driver of the planning process, who will take ownership of the planning process.

Evaluate Internal Capacity And Partnerships

A first step of the planning process includes assessing the internal capacity of your planning committee while also locating opportunities to bring in external expertise. Preferably, these activities should happen as soon as the community becomes aware of the closure but may be difficult to organize prior to full acceptance of the closure by the community and workers who depend on the jobs affected. The sooner you can begin the planning process, however, the more likely you can provide the smoothest transition possible for your community. By starting the process early, you will also increase consensus, improve comprehensive data collection and analysis, and ultimately improve community outcomes.⁷

Project teams can begin by drawing in municipal staff members with high-priority skill sets such as knowledge of zoning, redevelopment experience, grant writing, and community outreach. In some cases, bringing in outside grant writers to build capacity may be very helpful. They will work closely with economic development leaders serving your community. For Appalachian communities, that is your Local Development District.⁸ States also have economic development districts. Cities and counties will have regional development entities as well. These professionals work together on economic development all the time, and know how the various systems work and where to get funding for specific activities. These groups will connect you to the possible sources of funding and expertise that can help with your planning and redevelopment efforts. You may wish to seek out partners with particular resources for redevelopment to join the planning committee:

- State and local government officials
- Non-profit entities, especially housing authorities and community action programs
- Local Media
- Parishes and congregations
- Municipal / County leaders
- Business stakeholders
- Developers and real estate buyers
- Environmental groups and analysts
- Workers, labor leaders, community-based training organizations
- Community members and neighborhood groups
- Advocacy organizations

See Delta Institute's [Redevelopment Roadmap](#) for a more detailed outline of potential stakeholders and their ideal skill sets throughout the redevelopment process. An outside facilitator may be helpful.⁹

Holding Meetings: Visioning Sessions

Visioning sessions are an effective way to both educate and engage the public, which includes:

- **Encourage diverse voices:** Visioning sessions allow regular people at all levels of official redevelopment involvement to have their say in laying the groundwork for sustainable economic

development in their community, county, or region. Participating civic or business leaders will be more likely to buy into the community’s vision for redevelopment of the site if and when they are involved in the process.

- **Talk about hard issues:** Environmental contamination may (or may not) be top of mind in the community, but it should be addressed. It represents a risk to the redevelopment process and remediation may be a huge cost. Transparency is critical to a successful effort.
- **Provide different kinds of visioning sessions:** Some sessions will be educational, such as reviewing reports provided by environmental or economic consultants. Some will be participatory. Some sessions may include both. It can be a daylong conference or an evening session. Time it so that working people can attend.
- **Document recommendations in reports:** Compile the recommendations from visioning sessions in a report full of the visuals you collected. Hold a report release event or schedule a presentation to a public body to formally present the ideas and keep the broader community informed.
- **Hold charrettes:** As the process continues, you may want to hold a series of charrettes – open sessions with visual representations of findings and plans – and invite all residents and participants to share in sessions considering findings and next steps.

Figure 3

Key elements helpful in a Community Visioning Process ¹⁰			
Community Charrette	Develop Guiding Principles	Community Visioning	Other Methods
A charrette is a public meeting or workshop devoted to a concerted effort to solve a problem or plan the design of something. These often involve hands-on drawing and planning for a site. Charrettes are valuable to educate the community about the site, set realistic expectations, and provide a forum for ideas to be expressed as a drawing of the site.	This process is often conducted by a neutral facilitator, through a series of discussions about the desired ultimate performance qualities and impact the site will have on the community, as opposed to identifying a specific use.	This is the process of developing consensus about what future the community wants, and then deciding what is necessary to achieve it. A vision statement captures what residents most value about their community and the shared image of what they want to see in the future.	There are numerous ways to engage stakeholders during the visioning process, and each community may choose to use its own method.

Source: See Delta Institute, “Coal Plant Redevelopment Roadmap: Guide For Communities In Transition,” May 2018

2.3 Technical Notes And Resources

- [Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization](#) (Energy Communities IWG). - This cross-agency initiative is administered by the U.S. Secretary of Energy. Appalachia and places like it, where workers created the energy that powered the nation's growth, are targeted for investment in the new energy economy.¹¹
- [The Delta Institute](#) has worked with communities throughout the Midwest (and beyond), exploring and/or transitioning from a coal-based economy while seeking to redevelop closed or closed coal power plants. Delta Institute's Roadmap is filled with practical tools and processes for communities to plan for the redevelopment of coal plant sites.¹²
- [The United States Environmental Protection Agency](#) (USEPA) has numerous factsheets on transition.¹³
- [The National Association of Counties](#) has resource materials on their website and offers peer support sessions.¹⁴

Case studies of how other communities have done it may be helpful. See the section on [case studies in Chapter 5](#).

Chapter 3: Physical Development

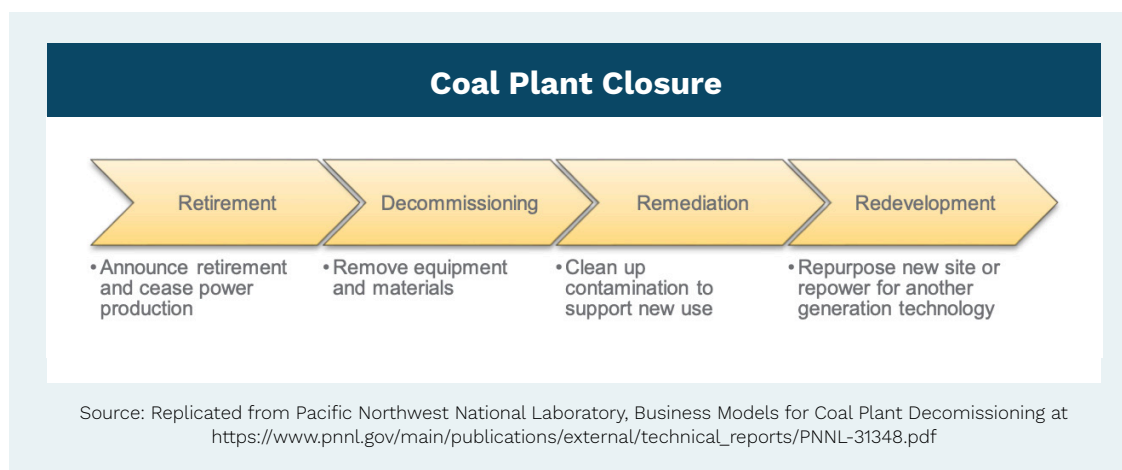
Know Your Site

- 3.1 Shuttering, Closing or Decommissioning
- 3.2 Ownership
- 3.3 Physical Characteristics of the Site
- 3.4 Brownfield Remediation
- 3.5 Technical Assistance for Brownfield Remediation Planning
- 3.6 Infrastructure
- 3.7 Regulation and Oversight

3.1 Shuttering, Closing or Decommissioning

A coal power plant is or was owned at one time by a utility company that generated electricity from the burning of coal.¹⁵ Most coal power plants in the United States (U.S.) are at least 30 years old and have an average life of 40 years. New coal plant constructions have stalled across the nation and the only coal facility built in the past decade was the 17 MW facility at the University of Alaska Fairbanks in 2018. New generating facilities utilizing lower-cost forms of power are replacing them. Operators face a series of choices in deciding what to do with an obsolete or uneconomical plant.

Figure 4



Coal facilities are typically authorized by state permits, so the process of closing or “decommissioning” the power plant varies from state to state. Plants may be “mothballed” rather than fully decommissioned, meaning that they are in operational stasis. According to the Pacific Northwest National Laboratory, operators commonly consider four options:¹⁶

1. Maintain the facility at minimal levels and plan for potential restart (mothballing).
2. Implement the “cold and dark” option where the owner does a partial demolition and retains and secures the site. In this case, the owner retains environmental liabilities and financial obligations (decommissioning).
3. Decommission and repower or repurpose the site (remediating and repurposing).
4. Sell the plant as is and the new owner will decide how and when to repurpose the site. In this case, the new owner takes responsibility for the financial obligation and environmental liabilities of the site. If bankruptcy occurs, the previous owner will take the responsibility of the environmental liabilities.

Figure 5

Options for Handling an Uneconomical Power Plant Facility	
Terms	Definitions
Retirement/Shutdown	Announce retirement, closing and cease power production.
Mothballing	Deactivate and preserve the production facility for possible future use or sale.
Decommissioning	Remove equipment and materials. Close or comply with permits, as necessary. Demolish buildings.
Remediation	Clean up contamination to support new use.
Redevelopment	Repurpose or construct a new site or repower for another generation technology.

Source: Replicated from Pacific Northwest National Laboratory, Business Models for Coal Plant Decommissioning at https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-31348.pdf

Preparing a site for reuse can be a complex, multi-year process that includes decommissioning the existing power plant, cleaning up contamination (e.g., in materials, soil, and groundwater), and creating and implementing a redevelopment plan. The first task of redevelopment is knowing your site — its ownership, physical characteristics, pollution and environmental contamination, structures, infrastructure, transportation access, surroundings, regulations and regulators, and conditions.

Technical Notes and Resources

- **EPRI** – Decommissioning Process for Fossil-Fueled Power Plants – <https://www.epri.com/research/products/000000000001020652>
- **U.S. Energy Information Administration** – More U.S. coal-fired power plants are decommissioning as retirements continue – <https://www.eia.gov/todayinenergy/detail.php?id=40212>
- **Pacific Northwest National Laboratory** – Business Models for Coal Plant Decommissioning – <https://www.pnnl.gov/publications/business-models-coal-plant-decommissioning>
- **Pacific Northwest National Laboratory** – Energy Storage And Power Plant Decommissioning – https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-32214.pdf
- **US Environmental Protection Agency** – Coal Plant Decommissioning, Remediation and Redevelopment at https://19january2017snapshot.epa.gov/sites/production/files/2016-06/documents/4783_plant_decommissioning_remediation_and_redevelopment_508.pdf

Expert Advisors in Site Development

Throughout the redevelopment process, you will be in close touch with federal and state environmental and economic development personnel, who can assist with getting the right advisors, the right information, technical assistance and financing. The Appalachian Regional Commission's Local Development Districts will be your partner and assistant throughout the process.

Typically the community will work closely with an industrial realtor and/or an environmental consultant or engineer on the initial phases of understanding the physical characteristics of the site. A legal team is also essential to different phases of redevelopment. Experts will be called in as needed to move the process forward.

This chapter is specifically about physical development. Experts in understanding site characteristics include:

- Industrial/commercial realtor
- Structural engineer
- Environmental water and soil testing laboratory
- Appraiser
- Survey company
- Environmental consultant
- Watershed district officials
- Public works director of the county or municipality
- State Department of Natural Resources
- State Environmental Protection Agency
- Army Corps of Engineers

3.2 Ownership

Technical Resources and Expert Advisors

Before embarking on the redevelopment process, it is crucial to understand who owns what on the site. Utility companies that generated power may not necessarily own the site. Hedge funds, commercial salvage firms, or redevelopment firms may now own it; operators may have responsibility for it, and pieces of the land may be controlled by external entities, like railroads and other transportation modalities that have rights of way or easements. Typically, the community will collaborate with experts in what may be a highly technical process of identifying ownership.

If the site is still owned by a utility, you can contact the owner through their business development offices, typically listed on each utility's website. Title companies and industrial realtors — important stakeholders to have on your leadership team — can help.

In response to the unique difficulties surrounding redevelopment of power plants, many states and localities have developed task forces on how to move forward with abandoned plants. Ports, economic development corporations and other quasi-public bodies are important actors in redevelopment. Local leaders have deep knowledge of stakeholders and employers; they are the first and probably best source of information on ownership.

Over the last decade, there has been much discussion about “zombie” homes, residences where the homeowners just walked away, leaving behind an uncared-for house that dragged down surrounding housing values. Due to the rapid pace of coal-fired power plant closures, many people worry that these plants will become much larger and potentially much more dangerous “[zombies](#).”¹⁷ Power plant retirement without decommissioning is a process that may or may not include remediation and redevelopment of the plant property.

Many of these retired power plants may remain structurally intact but have no announced plans to decommission the site and redevelop it for alternative use. The reason often relates to the costs associated with cleaning up accumulated toxic coal ash and waste. Developers are reluctant to take on the responsibility, and state requirements for plant owners to clean up polluted sites are often lax.

Today, the federal government offers many resources to help with clean-up and redevelopment. See Chapter 6 for information on sources of federal financing.

One potential solution to addressing environmental liabilities is transforming them into opportunities, such as using coal ash for building materials. This approach could help fund remediation efforts. See Chapter 5 for more information.

Technical Notes and Expert Advisors

Some technical terms can help understand what can be a complex web of barriers and restrictions on the use of a site. The Society of Industrial and Office Realtors (SIOR) offers a very useful glossary of industrial real estate terms as a reference tool.¹⁸ Common elements that may show up in an old industrial property like a shuttered coal plant may have to do with restrictions or claims on the property. Understanding the basic workings behind some of these issues may help during the initial planning phase. For example, the property may be subject to:

- **Deed restrictions** - Deed restrictions are recorded agreements that limit how an individual piece of land may be used by its owners. It may be that a shuttered coal plant contains a deed restriction barring any production of energy on the site if for the purposes of selling that energy on the electrical grid system. If a community is interested in solar power on that site, understanding such deed restriction may be crucial. Deed restrictions are permanent unless otherwise stated in the underwriting but in some cases, they may be removed, especially if deemed impractical or illegal.¹⁹
- **Easements and Rights-of-Way** - Certain parts of a property designated by other entities, and these easements and rights-of-way have specific purposes and rules. Legally, a right-of-way is “the right to build and operate a railroad line, road, or utility on land belonging to another.” For example, roads are built on rights-of-way to allow non-property owners access to these common areas for transportation and other community purposes. The legal definition of an easement is “a right to cross or otherwise use someone else’s land for a specified purpose.” The title or deed of the land remains with the property owner, but another person or organization is granted the right to use part of that land for a distinct purpose.²⁰
- **Liens** - A lien is a claim or legal right to a debtor’s property or other assets, typically assets that were used as collateral to back a loan. It serves to guarantee that the underlying obligation will be satisfied. If not, the creditor can seize and sell the assets in question. Liens can also be established through court judgments and by government entities.²¹

Experts Who Can Help Understand Ownership

- **Industrial/commercial realtor** - A realtor specializing in industrial property will have valuable insight into transactions like complex properties like an shuttered power plant or properties similar to an abandoned factory or mill.²²
- **Title company** - A title company ensures legal details are tied up and financing is in order in the “closing” or finalization of a property transaction.²³
- **Appraiser** - An appraiser assesses the property and places a value on the land and buildings. Many coal plant properties have been sold, so the appraiser looks at sale nationwide to compare the facility with other similar structures, adjusts for the regional and physical characteristics, and determines a valuation.²⁴

- **Surveyor** - Generally, we think of a surveyor as an expert who determines the correct boundaries of a property, but there are many other types of surveys and evaluations:²⁵
 - **Boundary survey** is for the express purpose of locating, describing, monumenting and mapping exact boundaries and corners of a given parcel of land. This involves record and field research, field measurements and computations with the findings shown on a survey plat that is given to landowners. A description may also be required for purposes of recording a new deed. Minimum standards for boundary surveys in Ohio, Chapter 4733-37 of the Administrative Code, have been established.
 - **Foundation survey** is required by some lending agencies, title companies or escrow agents before disbursement of construction loans. This type of survey locates existing foundations on the property to guarantee to lenders that the foundation is actually on the property and not encroaching on easements or building lines.
 - **Lot survey** is a survey of a lot in a recorded subdivision. Corners should be marked in accordance with existing state standards, and the owner receives a drawing depicting what corners were set and what corners were found.
 - **Mortgage location survey** meets the specific needs for title insurance. The survey plat must show particular information discovered from measurements taken at a site, and not necessarily evidenced by public record. Minimum Standards for Mortgage Location Surveys in Ohio, Chapter 4733-38 Administrative Code, have been established.
 - **Subdivision survey** is for division of any lot or tract of land into smaller lots, with monumentation and a subdivision plat conforming to governing ordinances including boundary descriptions for new deeds as required.
 - **Topographic survey** locates natural and man-made features such as elevations, contours of land, streams, buildings and fences. A combination of boundary and topographic surveying is used for design and construction of roads, subdivisions, pipelines, and buildings.

Google's A.I. gives a list of resources that can help you find ownership information for coal power plants:

- **[Global Power Plant Database](#)** - This open-source database includes information on ownership, capacity, generation, and fuel type for about 30,000 power plants worldwide. The database is available for download from the WRI Open Data Portal.
- **[Global Energy Ownership Tracker](#)** - This tracker provides information on the ownership chain for energy projects, including coal plants. It shows the ownership levels from the direct owner to the ultimate parents, such as governments, investment firms, and corporations.
- **[Coal Power Plant Redevelopment Visualization Tool](#)** - This public database and map helps identify opportunities for redeveloping coal power plants. It includes information on closed or retiring coal power plants, as well as infrastructure characteristics that may be relevant for redevelopment.
- **[Synapse Energy](#)** - This interactive map of US power plants includes information on ownership, fuel type, location, and more for over 9,900 power plants.
- **[Global Energy Monitor](#)** - This website includes a tracker map and a nationwide list of over 600 coal plants in the US. It also provides information on proposed coal plants and coal plants under construction.

- **Power Plant Tracker - Enerdata** - This database includes a plant dashboard that provides information on the status, capacity, and performance of a specific power plant.
- **RMI's map of power plants** - RMI's IRA Opportunity Map is a living document that will be updated over time to support electric utilities, regulators, and advocates as they explore implementation strategies for IRA provisions, which can create billions of dollars of savings for customers by building new clean energy resources.
- **860-EIAm (monthly electric inventory)** - The Energy Information Administration has a monthly spreadsheet that lists power plants and ownership; the [annual](#) form provides history status; the [preliminary](#) format may have more current information.
- **Other Sources of information on site ownership** - Ownership may be found on the websites of your municipal or county tax auditor or the office that records property deeds.

3.3 Physicals Characteristics of Your Site

- 3.31 Basic Resources
- 3.32 Structures
- 3.33 Topography
- 3.34 Water Issues
- 3.35 Soil Types
- 3.36 Flora/Fauna/Endangered Species
- 3.37 Technical resources and Expert Advisors

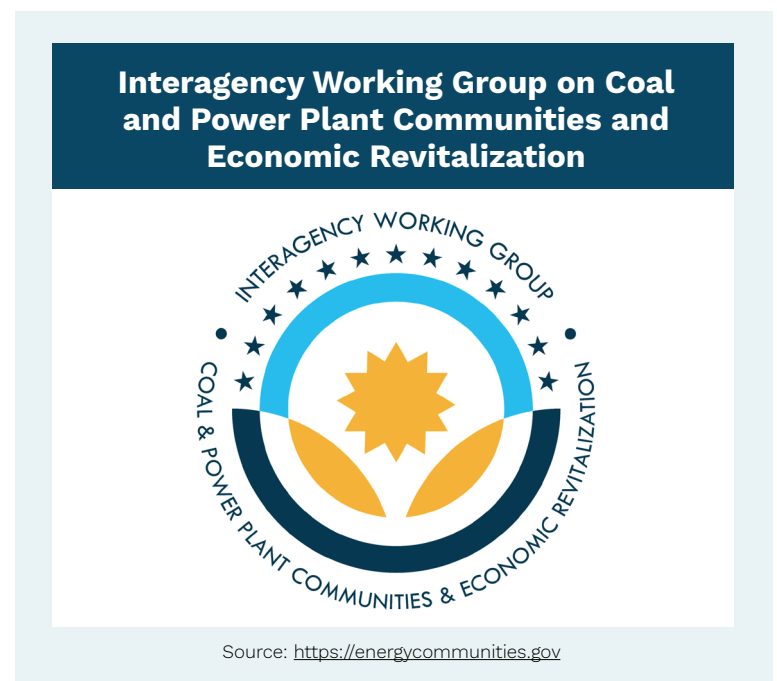
An early stage in redevelopment will produce an assessment of the property's physical characteristics. Your planning team will typically hire experts to evaluate these elements. Examples of where you can find technical assistance to help you identify the types of experts you will work with and funding for such assistance are in this chapter and in [Chapter 6](#). Basic resources are listed in this first section, with more specific resources given in the following sections.

Basic Resources for Knowing Your Site

The federal government has focused on redevelopment of unused coal plant sites because they are valuable industrial properties with many physical characteristics that make them ideal for the industries of the future. Such industries may include a mix of purposes, rather than one single purpose, including clean energy electricity generation like solar and geothermal co-located with cleantech and circular manufacturing facilities; a recycling and re-use center, data and artificial intelligence centers where heat waste is transferred to nearby facilities in need of heat; coal waste technologies for separating coal ash from rare earth minerals, and other emerging technologies.

For more information and resources, the federal Interagency Working Group on Coal and

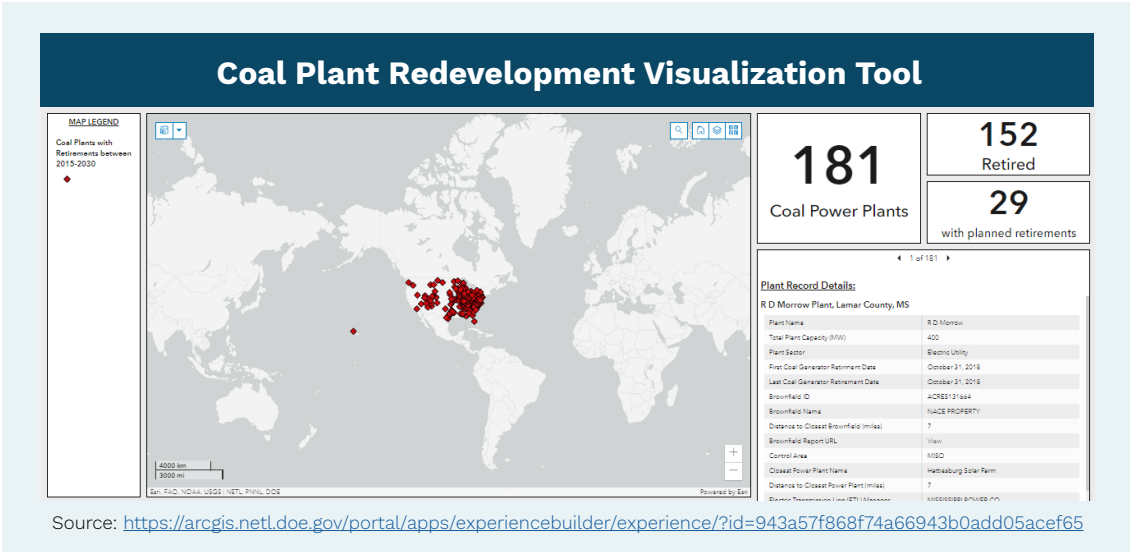
Figure 6



Power Plant Communities and Economic Revitalization, at energycommunities.gov, provides a wealth of information as you get started.

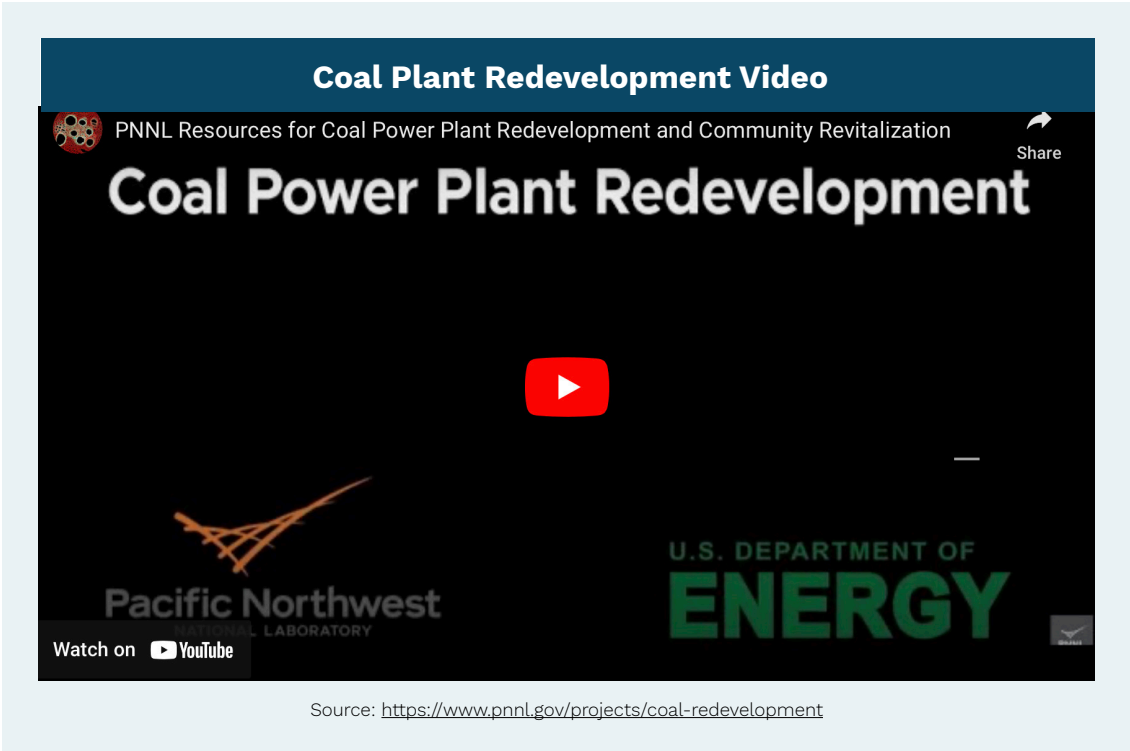
The United States Department of Energy, in concert with the Pacific Northwest National Laboratory (PNNL) provides valuable information on physical redevelopment.²⁶

Figure 7



The data layers in this map include electricity transmission infrastructure, which can be a valuable asset for redevelopment; transportation infrastructure, like ports and rail registered brownfield sites, and other existing energy generation assets, which can help inform synergies with coal power plant redevelopments in a region.

Figure 8



Pennsylvania's Coal Plant Redevelopment Playbooks: A Comprehensive Resource on All aspects of Physical Development

The Pennsylvania Department of Commerce created a series of coal plant redevelopment books, with various redevelopment scenarios, for a set of shuttered coal plants in that state. These books are very helpful in understanding the physical characteristics of a coal plant site and the various elements of redevelopment.²⁷

Structures On Site

During a coal-fired plant's decommissioning process, the electric-generating equipment — such as precipitators, boilers, turbines, and generators — is shut down, and operating permits are terminated. Unused coal and materials associated with both the generation process and the buildings and structures are removed.

Physical structures including docks and rail lines may actually be owned by external actors – part of the ownership puzzle the team will have to figure out.

If the site was sold to a salvage company, little in the way of building or equipment may remain. However, structures are often left in place. A utility may retain ownership of some of the structures — the transmission lines, for example — because they are important nodes in the overall grid. Remaining structures can represent assets for repurposing and redevelopment purposes.

Expert Advisors

Engineering, architectural, and construction firms can provide advice on machinery, equipment and facilities left on the site of a shuttered coal plant. Your attorney, environmental consultant, local government staff and/or industrial realtor can help you find a firm with the right expertise.

Topography

Topography refers to the natural and artificial features of the land's surface, including its elevation, slopes, and physical characteristics. It includes basics: hills, valleys, and ponds, but there are many aspects that it affects:²⁸

- **Elevation Dynamics:** The elevation of a site influences drainage, foundation design, and overall accessibility.
- **Slope Considerations:** Grading and slope analysis are essential in determining the feasibility of construction and potential erosion risks.
- **Access and Mobility:** Addressing challenges related to vehicle and pedestrian access at sites on hills or elevated terrain.
- **Mitigating Flood Risks:** Incorporating floodplain analysis to determine potential flood zones.
- **Optimizing Building Placement:** Positioning structures to maximize energy efficiency and minimize environmental impact.

- **Green Infrastructure Integration:** Utilizing natural features for sustainable landscaping and stormwater management. Integrating wetland restoration and reforestation efforts into project design may be an interesting option for also offsetting greenhouse gas emissions from industrial uses.
- **Preserving Natural Habitats:** Balancing construction needs with environmental conservation efforts.

Expert Advisors

A structural engineer will provide analysis of topography; a surveyor may perform a topographical survey; the state agricultural extension office in your county (all states have agricultural extension programs) may have structural engineers on staff and county and local government experts in public works or transportation divisions may be able to provide an overview.

Water/Floodplain Issues

Prospective developers will want to understand construction requirements and risks. For example, one of central Appalachia's coal utility sites are near rivers that may flood. The water table's depth matters for heavy buildings or structures with features like basements. If surrounding wetland ecosystems support plants and animals, or if the site lies along migratory bird paths, these factors may also pose a consideration in a community's redevelopment approach. In each of these scenarios, water in all its forms could pose a significant risk to any redevelopment effort.

The [Federal Emergency Management Administration's website](#) explains water issues and provides floodplain maps and other on-line tools.²⁹

State websites give extensive information on water table levels and floodplain considerations:

- **Ohio:** In Ohio, ODNR Division of Water Resources is the State Coordinator of the National Flood Insurance Program. If you cannot find what you are looking for in FEMA's resources, contact your community's local floodplain administrator.³⁰
- **Pennsylvania:** Pennsylvania administers the National Flood Insurance Program and publishes flood maps and other resources.³¹
- **West Virginia:** The State of West Virginia provides an on-line tool, the West Virginia Flood Tool.³²
- **Kentucky:** The Kentucky Flood Hazard Portal gives access to maps and tools.³³

Expert Advisors

An environmental consultant typically has staff to analyze many physical elements. Other sources of expertise may come from a hydrogeologist of a public health department or local watershed district, someone from a local public works department of a county or municipality, or an agricultural extension agent.

Soil Types

A structural engineer and environmental consultant can provide information about soil properties (types and nature of soils) and hazardous wastes in the soil to provide a basis for assessing the need for

remediation of pollution and type of construction that can or cannot happen at the site. The United States Department of Agriculture provides a [basic background](#) on soil risks and hazards.³⁴ The [US Geological Survey \(USGS\)](#) provides detailed information.³⁵ State offices may provide detailed core samples and survey information:

- Ohio's [Horace R. Collin Laboratory and Core Repository](#) is used in the course of construction throughout the state.
- Pennsylvania's [PennState extension service](#) offers information on soils in the state.
- West Virginia's [Conservation Agency](#) provides statewide maps and information.
- Kentucky has an online tool about soils in the state, the [Kentucky Soils Data Viewer](#).

Expert Advisors

The environmental consultant will address pollutants, hazardous waste, and other features. Other experts might include geologists, structural engineers, and experts from a local government.

Flora, Fauna And Endangered Species

Redevelopment of a coal power plant site may involve federal funding through the federal Department of Energy (DOE). Federal environmental laws apply to DOE Loans and Loan Guarantees. The DOE **“Loan Programs Office (LPO)”** includes an Environmental Compliance Division that oversees LPO's compliance with environmental regulations applicable to LPO actions. These laws include:³⁶

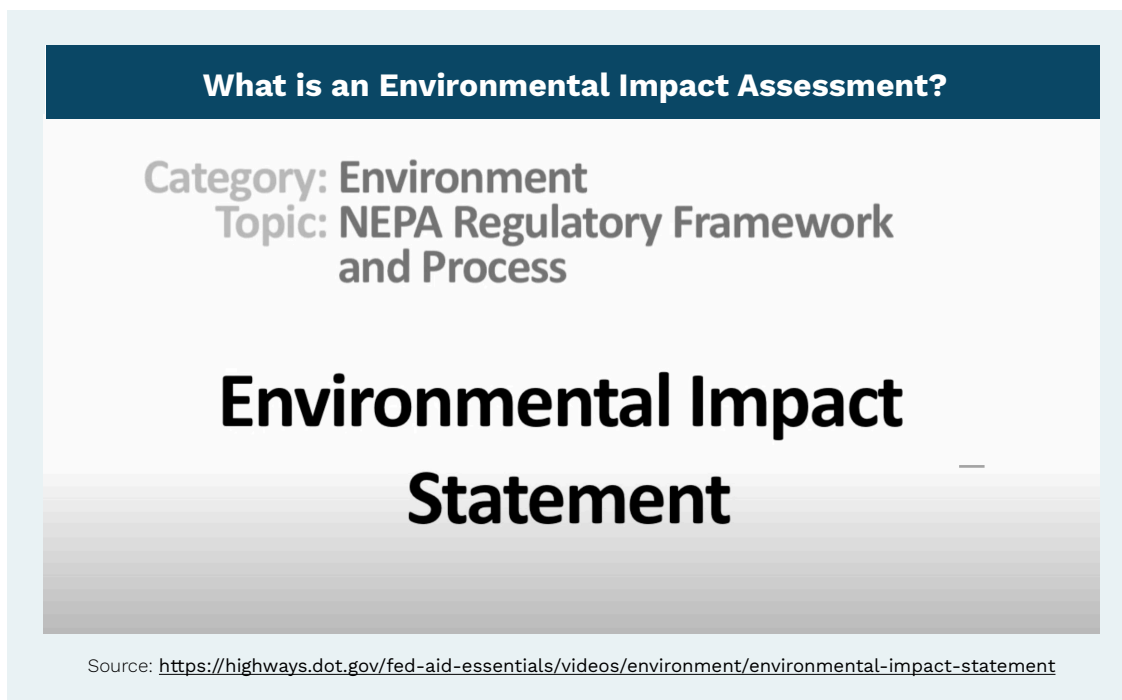
- **National Environmental Policy Act (NEPA)** – requires DOE to consider the environmental effects of proposed actions to inform agency decision-making. Analyses and documentation necessary to conduct include a Categorical Exclusion, Environmental Assessment, or an Environmental Impact Statement
- **National Historic Preservation Act** – requires that DOE assess the effects of proposed actions on historic and archeological resources. Some structures on older coal plant sites may have historic value.
- **Endangered Species Act** – requires that DOE assess the impact of proposed actions on federally listed threatened and endangered species and their habitat.
- **Federal laws, regulations, and Executive Orders concerning wetlands and floodplains** – this requires consultation with the U.S. Army Corps of Engineers or Federal Emergency Management Agency.
- **Other laws** that apply to both federal and private projects, such as the Clean Air Act, Clean Water Act, and hazardous waste management laws.

Technical Resources and Expert Advisors

Discerning how development might impact the ecosystem and environment will require an environmental impact assessment. There are many good resources out there to help understand this process, like this local government handbook on the endangered species act.³⁷ If you are wondering: “What is an environmental impact assessment?” [This video](#) is a good resource.

The Federal Highway Administration's [video](#) gives an overview of what's required in an environmental impact assessment.³⁸

Figure 9



Expert Advisors

Your legal and environmental advisors will be the experts you turn to as you engage the right consulting team to assess the environmental conditions of your site, with a focus on those that are necessary for financing.

Pennsylvania's Coal Plant Redevelopment Playbooks: A Comprehensive Resource on All Aspects of Physical Development

The Pennsylvania Department of Commerce created a series of coal plant redevelopment books, with various redevelopment scenarios, for a set of shuttered coal plants in that state. These books are very helpful in understanding the physical characteristics of a coal plant site and the various elements of redevelopment.³⁹

Figure 10



3.4 Brownfield Remediation

3.41 What is a Brownfield

3.42 Who Pays for Remediation?

3.43 Assessing The State of Contamination

3.44 Clean-up Specific to Power Plants

3.45 Technical Notes and Resources

An early stage in redevelopment will produce an assessment of the property's physical characteristics. Your planning team will typically hire experts to evaluate these elements. Examples of where you can find technical assistance to help you identify the types of experts you will work with and funding for such assistance are in this chapter and in Chapter 6. Basic resources are listed in this first section, with more specific resources given in the following sections.

What is a Brownfield - Definitions and Resources

A coal power plant site is a brownfield. What is a brownfield? The definition is very broad, as illustrated by this 2017 definition of the [United States Environmental Protection Agency \(EPA\)](#) :

“A brownfield is a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. It is estimated that there are more than 450,000 brownfields in the U.S. Cleaning up and reinvesting in these properties increases local tax bases, facilitates job growth, utilizes existing infrastructure, takes development pressures off of undeveloped, open land, and both improves and protects the environment.”⁴⁰

The [Environmental Policy Law Center](#) says:

“The term brownfield typically refers to land that is abandoned or underused, in part, because of concerns about contamination. The federal government defines brownfields as “abandoned, idled or underused industrial and commercial properties where expansion or redevelopment is complicated by real or perceived environmental contamination.”⁴¹

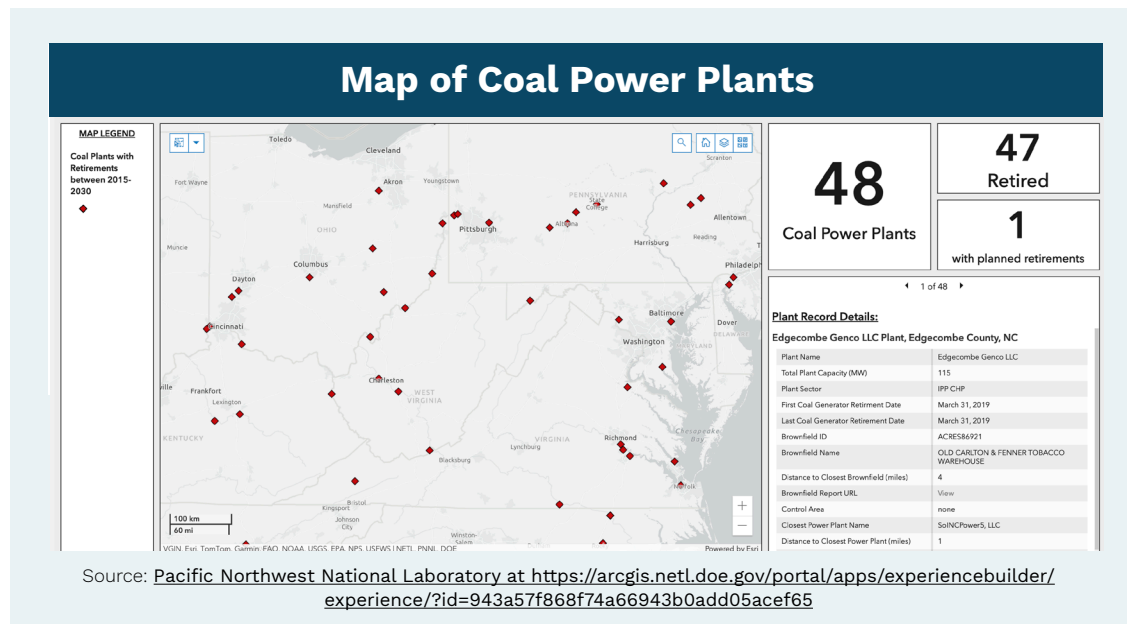
Clearly, the term is very broad. Unused or decommissioned coal plants, like most old industrial properties, fall into this category. A shuttered coal plant site likely contains many types of pollutants, from toxins in coal ash ponds or landfills, to asbestos in buildings left standing on site. Any unused coal and hazardous materials associated with both the generation process, the coal ash left after burning (which is not classified as a hazardous waste but contains toxic substances) and the buildings/structures (e.g. process chemicals, asbestos in the building or in equipment, polychlorinated biphenyls [PCBs], lead) must be assessed and remediated or removed prior to redevelopment.

Figure 11



The Pacific Northwest National Laboratory (PNNL) provides a very helpful map identifying locations of all shuttered, retired, converted or decommissioned coal burning power plants in Central Appalachia. A link to each site provides detailed information.

Figure 12



The map above identifies brownfield sites near to each coal plant that has been identified on a federal or state list for remediation. The coal plant site itself will also be a brownfield, whether it is on a list or not and indicated on this map.

Coal ash remediation is a major factor in some redevelopment projects. In the case of Ohio's old AEP Muskingum River power plant, the utility that owned that plant, AEP, thoroughly remediated the site and its associated coal ash ponds, so as the Southeast Ohio Port Authority took the site over for redevelopment, the cost of assessment and remediation was well under \$100,000. However, in other sites, the cost can be staggeringly large.⁴² For example, cleanup at the Alabama Power sites was estimated at \$3.3 billion in 2019; the utility attributed a 3% increase in customer rates to coal ash clean-up. Clean-up there may take 7-12 years to close the ponds, with an additional 30 years of groundwater monitoring required after closure.⁴³

New federal rules have been established to ensure that decommissioned coal plants remediate coal ash, and that even mothballed or converted plants address leaking and faulty coal ash storage, which seeps into groundwater. Earthjustice estimates most coal plant sites need to address remediation.⁴⁴

Who Pays For Remediation?

Who pays for the remediation may be a major point of negotiation in the sale or transfer of the site. Generally speaking, the utility or final owner of the site should pay for remediation. The Federal Environmental Protection Agency (EPA) provides financing to help plan and implement remediation, but not to owners who are responsible for the pollution. State Public Utility Commissions control regulation of decommissioning, and requirements vary from state to state. While new approaches for mitigating the cost of remediation are under development – staging of acquisition, insurance options – complexity and scale of remediation can make redevelopment and financing difficult.

The challenge for redevelopment is that there are many unknowns about the state of each site. Remediation may or may not have happened to a satisfactory level, depending on ownership and phase of shut-down. The rigor of environmental remediation at any given site may not match the purposes you have in mind. Additionally, remediation of a site may be adequate for industrial use, but not commercial, retail or housing. The type of remediation that has been done may determine redevelopment options. It is possible that remediation has not occurred at all. See chapter 6 on financing options and technical assistance for remediation of coal plant sites.

The community will care about pollutants on the site and will want and need all the information available. A major focus of community interest may be the remediation of pollutants affecting groundwater, cancer levels, and other health concerns emerging in the community. Redevelopment will be hampered if community members feel remediation is not going to address lingering health concerns. The community must understand the cost and timeline for clean-up and redevelopment.⁴⁵

Assessing The State Of Contamination

Environmental remediation of shuttered coal plants should have/may have occurred during the decommissioning stage of the coal plant closure;⁴⁶ but the interested developer or community must obtain the environmental assessments (phase I, II and III) and understand the type of remediation already in place. The EPA has helpful [fact sheets](#) on these phases.⁴⁷

- **Phase I Environmental Site Assessment** – A non-intrusive evaluation of potential areas of environmental concern. If concerns are raised, move to Phase II assessment.
- **Phase II Environmental Site Assessment** – Physical sampling and analysis is conducted to confirm the presence or absence of hazardous materials related to findings of the Phase I ESA. Not all sites have to proceed to a Phase II; this is only done if necessary and may, in some cases, be the final step.
- **Phase III Environmental Site Assessment** – Further investigation of confirmed impacts designed to establish magnitude and extent of contaminants and to obtain data for remedial action planning.

These site assessments are critical in establishing the required course of actions that must be taken to remediate environmental concerns.

Clean-up Specific to Coal Plants

Although the extent of the cleanup will depend on the final land use, many common methods are applied. For example:

- Asbestos, PCBs and other hazardous materials are removed from the buildings.
- Coal ash disposal areas are removed or capped with a protective cover of soil or other impervious material to ensure the waste is not accessible. Proper disposal also requires that the containment area be lined with an impervious material.
- Fuel tanks and any associated contaminated soil are removed.
- Concrete pads and soil around old transformers and hydraulic equipment are tested for PCBs and removed if necessary.
- Surface soil is tested for mercury and other airborne contaminants and removed if necessary. Soil around spills and leaks is tested and removed.
- Sites with old manufactured gas plants could contain coal tar and other hazardous materials, which require special methods for cleanup.
- Remediation of [coal combustion residuals](#),⁴⁸ commonly known as [coal ash](#),⁴⁹ is critical in coal plant redevelopment. This is one of the largest industrial waste streams in the nation. It has often been

disposed of in onsite landfills or surface impoundments (coal ash ponds). Coal ash is a complicated topic: by itself, it is not considered a hazardous material, but it contains hazardous materials. It can also be processed and sold for use in concrete, cement and other products.⁵⁰

Some shuttered coal utility plants will still have onsite or associated coal ash ponds or solid waste landfills. It is important to understand the nature and extent of the on-site contamination that may exist, pollutants that may have drifted into adjoining properties, and penetration of pollutants and toxins into surface and groundwater. There is no shortage of horror stories associated with the dangers of coal ash.

The environmental watchdog group Earthjustice has found reports of groundwater contamination in 124 former coal plants. For example, in 2018 they found that at the Bruce Mansfield Plant in Shippingport, Pennsylvania, ground water from the Little Blue Heron Run had left cadmium, lead, barium, boron, hexavalent chromium, thallium and other toxic minerals in the groundwater.

Source: Earthjustice <https://earthjustice.org/feature/coal-ash-contaminated-sites-map>

Technical Notes and Resources

- Federal Support Opportunities to Remediate and Redevelop Energy Assets – <https://www.energy.gov/sites/default/files/2023-05/FSOTRREA%20Report.pdf>
- Reimagine Appalachia – Press Conference Webinar: Repairing the Damage – Coal Ash Clean up – https://www.facebook.com/watch/live/?ref=watch_permalink&v=293222762629642
- Utility Dive – Shuttered coal plant fixer-uppers for sale all over the U.S. – <https://www.utilitydive.com/news/shuttered-coal-plant-fixer-uppers-for-sale-all-over-the-us/514213/>
- Earth Justice – CLEANING UP COAL ASH FOR GOOD – https://earthjustice.org/wp-content/uploads/coal_ash_addendum_new_final_email.pdf
- Earth Justice – Most Power Plants Violating Federal Rules Mandating Cleanup of Toxic Coal Ash Dumps – <https://earthjustice.org/press/2022/new-report-most-power-plants-violating-federal-rules-mandating-cleanup-of-toxic-coal-ash-dumps>

3.5 Technical Assistance for Brownfield Remediation Planning

- 3.51 United States Environmental Protection Agency (EPA) Regional Offices with Brownfield Representatives
- 3.52 EPA Technical Assistance for Brownfields Offices
- 3.53 State programs for Brownfields
- 3.54 Financial Assistance
- 3.55 Technical Notes and Expert Advisors

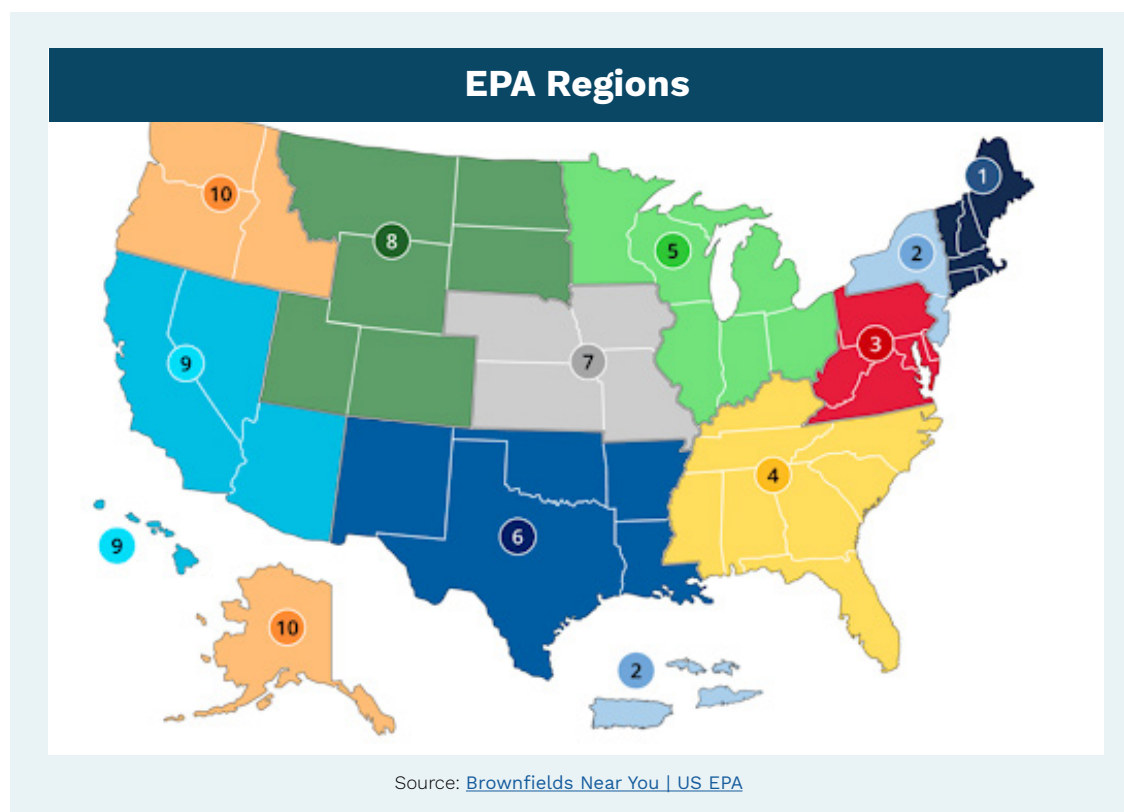
United States Environmental Protection Agency (EPA) Regional Offices

The United States Environmental Protection Agency (EPA) has 10 regional offices each housing a [Brownfield Program representative](#)⁵¹ who can provide brownfield stakeholders with guidance regarding

applicable laws and regulations, cleanup, and redevelopment efforts and technical assistance. Each EPA region has a webpage with region-specific brownfield information. Contact for each office is provided below.

- [Pennsylvania \(Region 3\)](#)⁵²
- [West Virginia \(Region 3\)](#)⁵³
- [Kentucky \(Region 4\)](#)⁵⁴
- [Ohio \(Region 5\)](#)⁵⁵

Figure 13

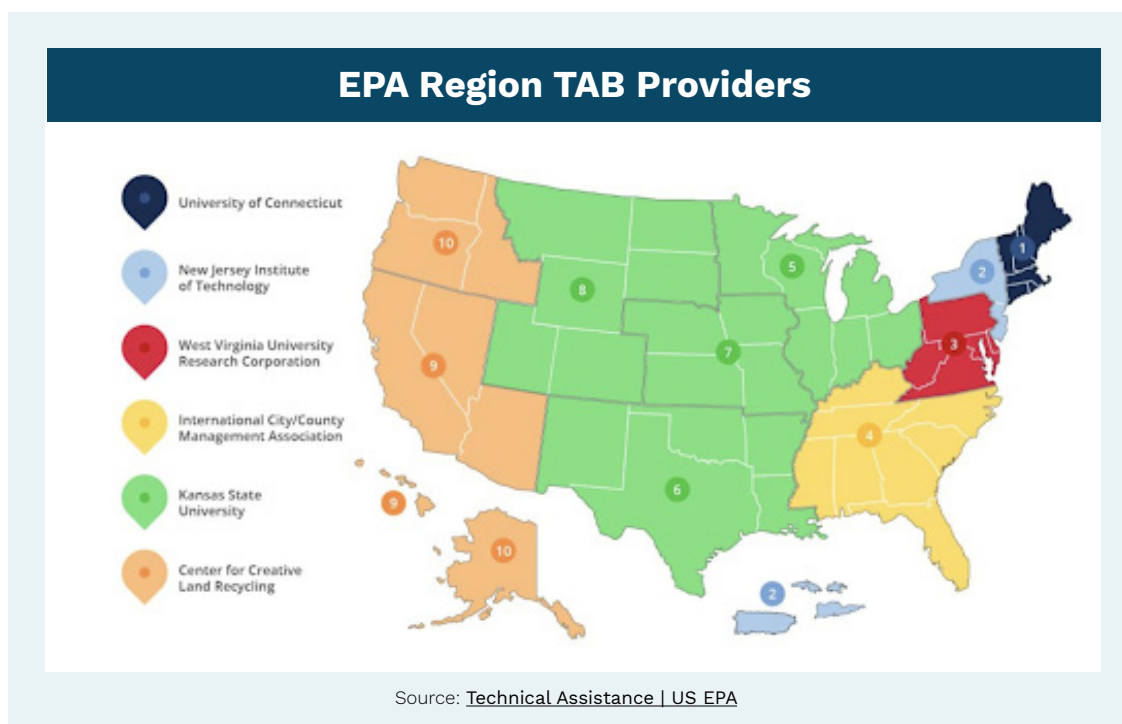


EPA Technical Assistance to Brownfields Communities (TAB) Program

The EPA offers [several types of free technical assistance](#) helping communities in their effort to remediate a brownfield site.⁵⁶ One of the biggest programs is the [Technical Assistance to Brownfields Communities \(TAB\) Program](#).⁵⁷ The program funds regionally based expert organizations to help communities understand how to address various brownfield related issues such as:

- preparation of brownfield grant applications
- perform a site inventory
- review historical information
- design site investigations, sampling and field analysis
- plan cleanup and redevelopment

Figure 14



Links to each region's TAB provider and further information about the Technical Assistance to Brownfield Communities (TAB) Program can be found [here](#).⁵⁸

State Programs For Technical Assistance

Besides the federal EPA, environmental state agencies have their own brownfield programs offering various types of assistance to local communities.

Ohio

- [Ohio EPA: Ohio Brownfields](#)
- [Ohio Department of Development: Brownfield Remediation Program](#)
- [Ohio Water Development Authority: Brownfield Loan Program](#)
- [Ohio Brownfield Toolkit - Ohio Resources for Brownfield Revitalization](#)

Kentucky

- [Kentucky Energy and Environment Cabinet: Kentucky Brownfields Program](#)

Pennsylvania

- [Department of Environmental Protection \(DEP\): Brownfield Redevelopment](#)

West Virginia

- [Department of Environmental Protection \(WVDEP\): Brownfields](#)

Financial Assistance

[Chapter 6](#) of this manual describes the funds the Environmental Protection Agency (EPA) has available to help with the cost of clean-up of hazardous and toxic waste. Assistance depends on ownership of polluted property: not all owners are eligible for EPA assistance.⁵⁹

Technical Notes and Expert Advisors

Brownfield site remediation – particularly of a site as big as a coal power plant site – can be a huge task, involving billions of dollars and years of work. There are many experts, agencies, and actors you'll need on your speed dial.

- **Environmental consultants** are essential players in every real estate development involving a coal plant.
- **State Environmental Agencies:** Property owners or developers that decide to clean up brownfield sites, either for sale or reuse, may perform the cleanup under the oversight of a state environmental agency. In addition to overseeing cleanups, state environmental agencies can offer incentives such as liability protection from further cleanup.
- **State Economic Development and Planning Agencies:** Some states provide economic incentives for the redevelopment of brownfield properties, such as low-interest loans. These incentives may be offered through state economic development and planning offices that are interested in attracting new businesses and investors to their states, as well as guiding their state's growth.
- **Commercial Lenders:** An increasing number of commercial lenders are willing to provide loans to support the cleanup and redevelopment of brownfields.
- **Technical Consultants:** Technical consultants can help design and implement the investigation and cleanup of environmental contamination on brownfields. Technical consultants may also help property owners or developers work with state regulatory agencies and communities surrounding the property.
- **Legal Counsel:** Lawyers can assist in many aspects of the cleanup, redevelopment, and sale of brownfields by advising all interested parties, from owners and developers to neighbors and community members, about regulatory requirements, negotiating with regulators and prospective buyers, drafting sales agreements, and communicating with other people interested in the project.
- **Citizens and Community Groups:** State and federal cleanup programs may require public involvement such as opportunity for notice and comment from the public. Furthermore, some economic incentives, such as grants and loans, may not be available unless supported by the surrounding community. See [Chapter 6](#) on public subsidy for remediation.
- **Local Government Agencies:** Local economic development, planning and tax agencies may provide incentives for brownfield redevelopments in order to attract investors and businesses to their communities, guide growth, and increase jobs. Local health agencies may monitor redevelopment so as to protect community health.
- **United States Environmental Protection Agency (EPA):** EPA is unlikely to be directly involved in the cleanup of brownfield properties, because most cleanups will be overseen by state environmental protection offices. However, EPA provides cleanup and redevelopment incentives and financial support that may be available for some brownfields projects. See [Chapter 6](#) on brownfield financing and technical assistance.
- **Developers:** Developers typically manage the entire process of adapting properties for new uses, but they will limit their involvement to determining and implementing marketable reuses of brownfields. They will not typically administer the clean-up nor take title to the property until they are absolutely sure all remediation is completed.
- **Brownfield Developers and Investors:** A new group of firms specializing in cleaning up and reusing brownfields has emerged in recent years. These firms rely on a mix of engineering, legal and real estate technical and financial backing and expertise.

- **Real Estate Professionals:** Real estate professionals can provide advice on the market for a particular property and can help locate buyers or developers.
- **Local Community Development Corporations (CDCs):** CDCs, nonprofit organizations created to encourage local urban redevelopment, can assist in determining the value of a property, redeveloping a site, and marketing a site.
- **Certified Development Companies,** certified and regulated by the federal Small Business Administration, have access to a set of loans and grants.⁶⁰
- **Federal Government Agencies:** Federal government agencies, other than EPA, may provide technical and financial support for brownfield redevelopment including the Department of Housing and Urban Development, the United States Army Corps of Engineers, the Commerce Department's Economic Development Administration, and the Department of Interior's Groundworks USA Program.

3.6 Infrastructure

3.61 What is "Infrastructure?"

3.62 Water and Sewer

3.63 Natural Gas

3.64 Electric Transmission

3.65 Fiber Optic and Broadband

3.66 Transportation Access

What is "Infrastructure?"

"Infrastructure" is the basic facilities and system serving a country, region, or community. Electricity generation plants are massive industrial complexes served by specialized water, sewer, telecommunications, energy connections and transmission systems, transportation systems of several types, and more, depending on the facility. The elements of infrastructure and the condition they are in may affect or determine the kind of redevelopment that are most suited to take place on a site.

One of the incredible attributes of power plant reclamation is that the real estate typically has built-in infrastructure components that can be easily reused for new industries...access to rail, access to waterways and ports, access to highway transportation, access to utility grids, and so on.... retired power plants are typically located in areas where there is a strong talent base and the need for good-paying jobs.

Source: Area Development at <https://www.areadevelopment.com/energy/q2-2020/redevelopment-of-former-coal-plant-sites.shtml>

Water And Sewer Systems

Shuttered coal plants will have [specialized water systems](#) both bringing fresh water in⁶¹ and carrying waste water out. Complex [water sewer](#) systems may exist for taking coal ash to ponds and landfills.⁶² Their state of repair will vary. Your industrial realtor, appraiser, public works officials, and the owner should be able to help you understand the volume and condition of the existing system.

Natural Gas

The site will likely have a connection to natural gas utilities. In some cases, a natural gas generator may remain on the site. Several generators in the Relmagine footprint have been [converted](#) to natural gas.⁶³

Electric Transmission Connections

[Transmission](#) refers to the big high-voltage lines that carry electricity from generation sources to the areas where the power is needed – the equivalent of the freeway system. (As opposed to the last-mile “distribution” lines, the equivalent of local roads, which bring lower-voltage electricity to end users.) On average, transmission lines take 10 years to build in the United States, and in some cases can take up to 20 years. Most of this time is spent getting the proper permits. Transmission lines require approval from every state they cross (and, in some states, every county). The connections to the grid – even on plants that are not operating – may be one of the most important elements in redevelopment.⁶⁴

Across the country, aging and defunct coal-burning power plants are [being resurrected](#) as renewable energy projects because they are already wired into the power grid. If deed restrictions do not prevent generation of electricity on the decommissioned site, existence of this infrastructure can reduce regulatory hassles.^{65, 66}

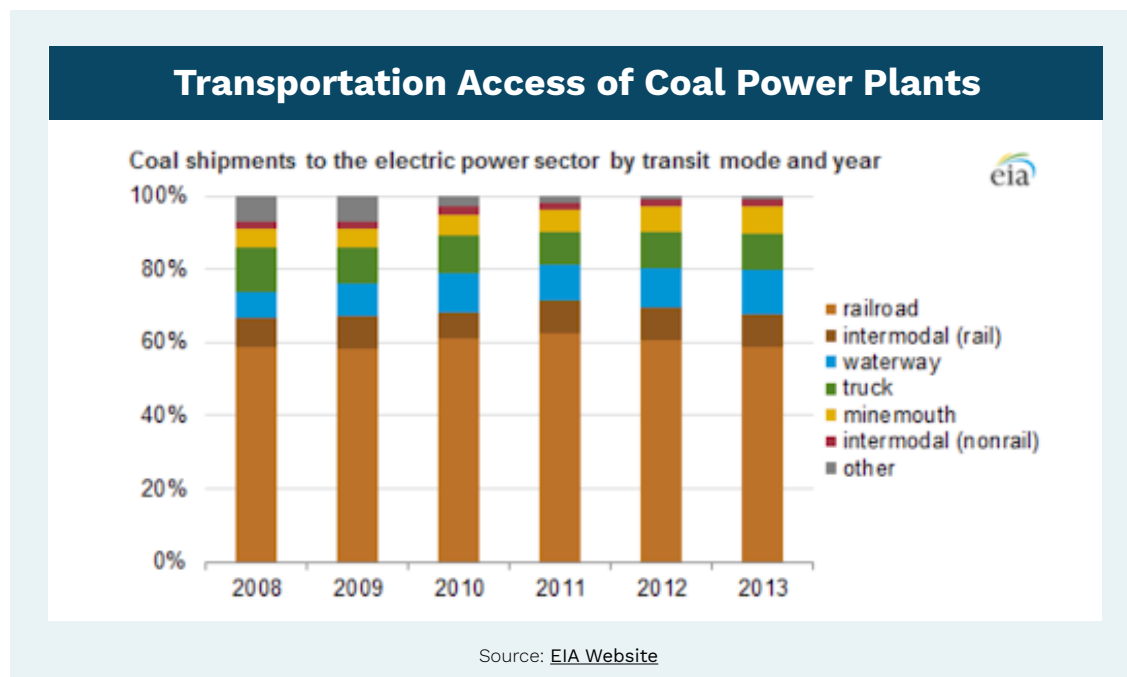
Fiber Optic/Broadband

[Fiber optic](#) communications infrastructure is used in the electric generation and distribution process.⁶⁷ While modern coal plants will have access to the internet, older plants may not: Plants shuttered many years ago may be as underserved as the surrounding communities. The access and condition of fiber optic and access to broadband is critical infrastructure for your site. Finding out [who the provider](#) is may be complicated, but there are sources of information, such as your industrial realtor, that can help.⁶⁸

Transportation Access

Coal plants are primarily served by rail and – especially along the Ohio River – water transport. The graph below shows the share of transport of coal by type of transportation modality.

Figure 15



Expert Advisors

Experts who can help identify transportation access to a site include state agencies of natural resources, transportation, rail and maritime systems, and communications; the utilities themselves; industrial realtors; surveyors.

Rail Access

[Freight rail lines in central Appalachia](#) appear limited relative to the dense interconnection of freight rail in the heavily industrialized regions of the Midwest. However, there is rail access to the old coal power plants, which may be an important point in redevelopment. A caveat, however: Thousands of miles of rail track have been abandoned in the past 50 years of deindustrialization. Many once-active rail lines have been converted to recreational greenways with bicycle trails. Rail is of increasing importance to manufacturers. There are both state and regional plans to upgrade freight rail services and connections in the region.⁶⁹

- **Pennsylvania** - Pennsylvania's network of active [freight rail systems](#) provide a primary gateway to the Atlantic coastal ports and overseas markets. Other state lines connect to the Pennsylvania system.⁷⁰
- **Ohio** - While the [southern Appalachian counties of Ohio](#) are not much served by rail, the northern counties are connected to the lines that run into Pennsylvania and out to the Atlantic seaboard. The presence of coal utility plants along the Ohio River are served by specific rail lines.⁷¹
- **West Virginia** - West Virginia has the most [dense rail network](#) of the four states of Central Appalachia, with a concentration in coal country. A CSX line that connects to the coast runs through the northern part of the state with connecting lines running south and almost connecting with the networks of the south.⁷²
- **Kentucky** - The Appalachian counties of [Kentucky](#) are not much served by rail, reflecting rugged terrain; the linkage to coal plants is clear, however, as in Ohio.

Water Access

River barge is the most cost-effective method of transporting large quantities of coal over long distances. In Central Appalachia, coal plants along the Great Lakes, the Ohio River and other rivers will have [good river and rail access](#).⁷³

Road Access

Some coal plants in Central Appalachia have decent road access because of the densely developed roadways in the industrial landscape. These are positive assets in redevelopment. Others may have more limited road access, because little coal was trucked in. This is an infrastructure element that may affect your redevelopment plans. When the network of rail, water and road is combined, coal plants have a strong [network](#) for transportation access.⁷⁴

The primary mode by which a power plant receives or received its coal is largely determined by its location and access to the freight rail and water transport systems. These are economical ways to ship heavy freight and provide a unique asset to redevelopment of coal plant sites.

3.7 Regulation, Oversight and Agreements

- 3.71 Power Plant Regulators
- 3.72 Environmental permits
- 3.73 Local Government Regulation and Permits
- 3.74 Project Labor Agreements

Redevelopment of a power plant site will be overseen by many levels of government and regulatory agencies. The timeline will encompass regulatory approvals.

Power Plant Regulators

Utilities are regulated by [state and federal regulators](#).⁷⁵ Various levels of regulation and oversight may affect your plans, depending on whether the owner is a utility or not.

- Investor-owned utilities are primarily regulated by state Public Utility Commissions (PUC).
- Municipal utilities are regulated by the Federal Energy Regulatory Commission (FERC).
- Nuclear and hydroelectric facilities operate under a federal license, from the Nuclear Regulatory Commission and the Federal Energy Regulatory Commission.
- Coal facilities are typically authorized by state permits overseen by state regulators (Public Utility Commissions or Boards).

Experts who can help identify these factors include (not limited to):

- Utilities
- Your environmental consulting team
- State public utility commissions
- Industrial realtors

Environmental Permits

Redevelopment always requires many permits, from basic building permits to environmental permits specific to brownfields and other environmental factors. The federal EPA oversees 800 permitting processes alone. Some of the more common permits your site may be subject to are listed below, but there are many others that may come into play, depending on ownership and redevelopment use.

- Air pollution control
- Water withdrawal for cooling
- Water discharge
- Hazardous waste storage
- Fuel storage tanks
- Flue gas stack (Federal Aviation Administration)
- Permits that may be required during redevelopment

Experts who can help identify these factors include (not limited to):

- Your environmental consulting team
- The federal technical assistance agencies described in the prior section
- State agencies of natural resources, transportation, Environmental Protection Agencies
- Industrial realtors
- Surveyors

Local Government Regulations And Permits

Heavy industry like utilities or the kind of tenant that may come to a shuttered coal plant site or similar construction will require a lot of interaction with local and state government over the rules that keep the process, facilities, and site safe and orderly. A few of the common regulations or rules are listed below.

- **Zoning** refers to municipal or local laws and regulations that govern how real property can be used in certain geographic areas. For example, zoning laws can limit commercial or industrial use of land to prevent oil, manufacturing, or other types of businesses from building in residential neighborhoods. These laws can be modified or suspended if the construction of a property will serve to help the community advance economically.⁷⁶
- **A construction permit** is a government-issued document that gives you the right to start construction. Permits are issued by building offices or city halls under municipal jurisdiction. Permits are required for demolition and construction work since they set a standard for safe, stable construction and ensure compliance. Some projects require multiple permits, while some require none at all. It's important to always check with the local policies and government about what permits might be necessary.⁷⁷
- **Building permits** are documents issued by a local government when an individual or company wants to build a new structure, or engage in construction on an existing structure for expansion or repair. When you file an application for a building permit, the corresponding government agency reviews the application to make sure the proposed changes comply with all federal, state and local zoning laws, land use standards and construction ordinances. Building permits also allow officials to ensure the proposed project complies with accessibility standards and any other applicable legal requirements. While each municipality has its own unique set of laws, the permit issuer will typically ensure the proposed construction does not cause or result in problems with:
 - Structural integrity
 - Fire resistance
 - Proper exiting
 - Health concerns
 - Water and sewer lines
 - Extension of electrical service
 - Industrial waste

Specific permits that will be needed in the construction process include electrical, mechanical, plumbing, concrete or development. The developer will take care of these elements, but obtaining them will take time.⁷⁸

Project Labor Agreements

[Project labor agreements](#) ensure an orderly process with skilled labor. The community has a right to ensure the construction jobs are good jobs with union labor. This is typically done through a project labor agreement. The advantage to community participation in a planning process is that this can ensure that the value of construction flows into the jobs for local workers and the construction meets governmental standards. A good explanation may be found in this [video](#).⁷⁹

Expert Advisors in the Construction and Permitting Stages

Typically the community will work closely with an industrial realtor and/or an environmental consultant or engineer on the initial phases of understanding the physical characteristics of the site. Experts will be

called in as needed to move the process forward. Experts in understanding site characteristics include:

- Industrial/commercial realtor
- Structural engineer
- Environmental water and soil testing laboratory
- Appraiser
- Survey company
- Environmental consultant
- Watershed district officials
- Public works director of the county or municipality
- State Department of Natural Resources
- State Environmental Protection Agency
- Army Corps of Engineers

Physical Development: Just One Part of a Complex Process

The key role of the community in redevelopment is not orchestrating this complicated process, but understanding it. This chapter has provided reference information to help understand technical aspects of physical development. In the next chapter, an equally important part of understanding is outlined and reference tools provided for understanding the context within which redevelopment takes place: The community: its people, institutions, workforce, businesses and local economy.

Chapter 4: Know Your Community

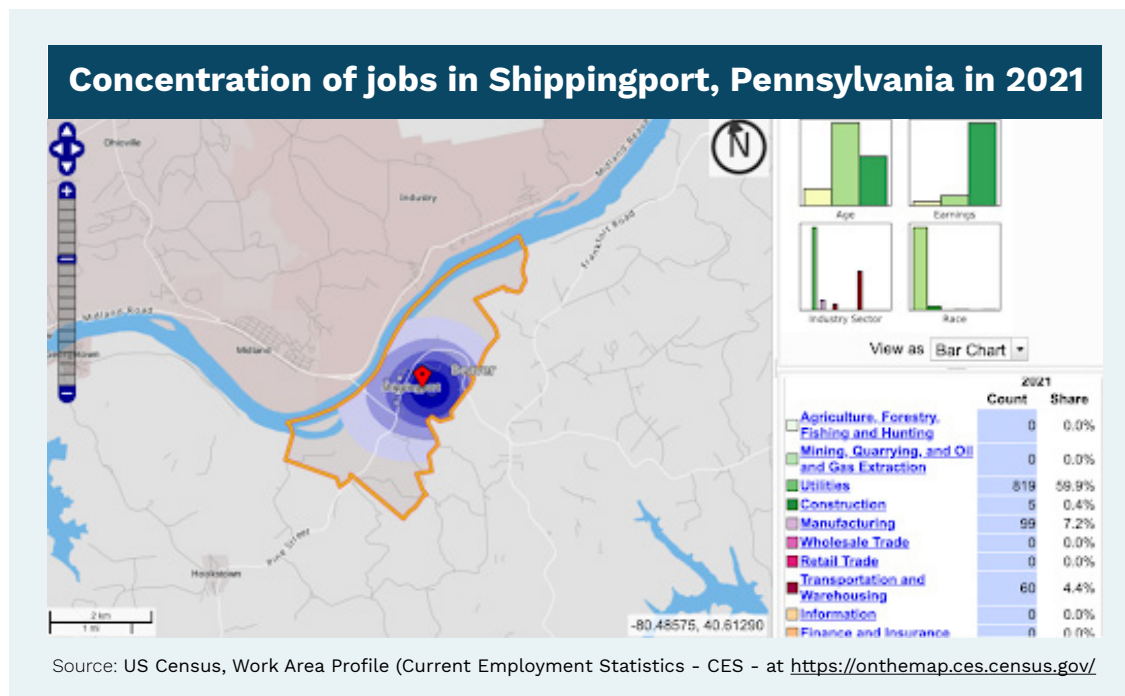
Economic, Demographic and Social Factors

- 4.1 Community Profile
- 4.2. Workforce Assessment
- 4.3 Economic Assessment
- 4.4 Expert Advisors

Knowing the characteristics of your community is as important as knowing the characteristics of the site when it comes to community visioning, planning and benefits. The community planning committee must look together at the data that describes the characteristics – demographics, economy, workforce, and other factors – to inform the creation of a plan for the coal plant’s redevelopment. Data can reveal surprising things that people don’t commonly realize.

Take Shippingport, Pennsylvania, for example (Figure 16). A quick look at the Census mapping tool for the borough where the Bruce Mansfield Plant site is located reveals that almost two thirds of the workforce were employed by the utility in 2021. At that time, pay was good, the workforce was older, and the share of people in the workforce were majority male.

Figure 16



The census map of workforce concentration shown in Figure 16 looks like a hurricane with the eye at the plant site, and that hurricane equally devastating to the community when the plant closed. People in the town, county, and surrounding areas from which workers commuted must now think about the kinds of jobs needed to replace those lost — and for those who were not working, but maybe now need to be, with the jobs at the plant gone.

The committee may want to consider the types of work that could replace power plant jobs and skills those workers possess; where others in the community, women and young people, are working and what kinds of jobs they may be prepared for; and what training facilities are available to help people change careers. Data centers are interested in shuttered coal facility sites, for example. They may generate few jobs, but raise significant property taxes to replace lost revenues, while leaving room for other tenants (including tenants who might value access to the significant waste heat produced by data centers). Developers of solar power may be interested in co-locating with data centers and other industries interested in purchasing renewable energy generated on site. Manufacturing firms, hoping to avoid tariffs and the supply chain disruptions of overseas production may be looking to return to an industrial site with skilled workers, connections to the electrical grid, good transportation access to clean energy and other amenities. Of those three, community members might debate about the most and least desirable tenants up-front, so when developers investigate the property, a plan has been developed and the hard conversations have been held (or at least started). This is why it is also important to have leaders from the key stakeholder groups represented on the planning committee in order to develop a collective vision that can garner significant public support.

The following information may be helpful to the planning committee in evaluating the kind of development participants want to prioritize.

4.1 Community Profile

4.11 Assessment of Community Needs

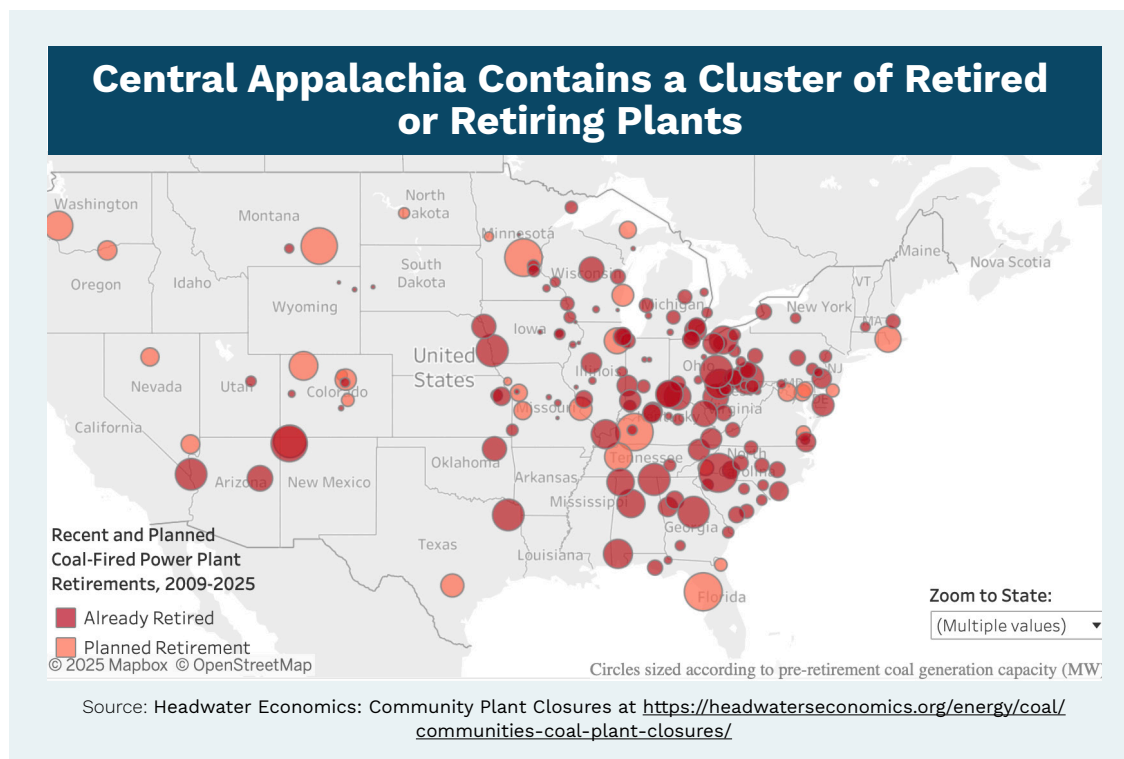
4.12 Resources for Demographic Analysis

Assessment Of Community Needs

Among communities where coal-fired power plants have retired, some will experience greater hardship than others due to a variety of factors: isolation from larger urban markets, lack of alternative employment opportunities, high rates of poverty, a large number of residents with language barriers and more.

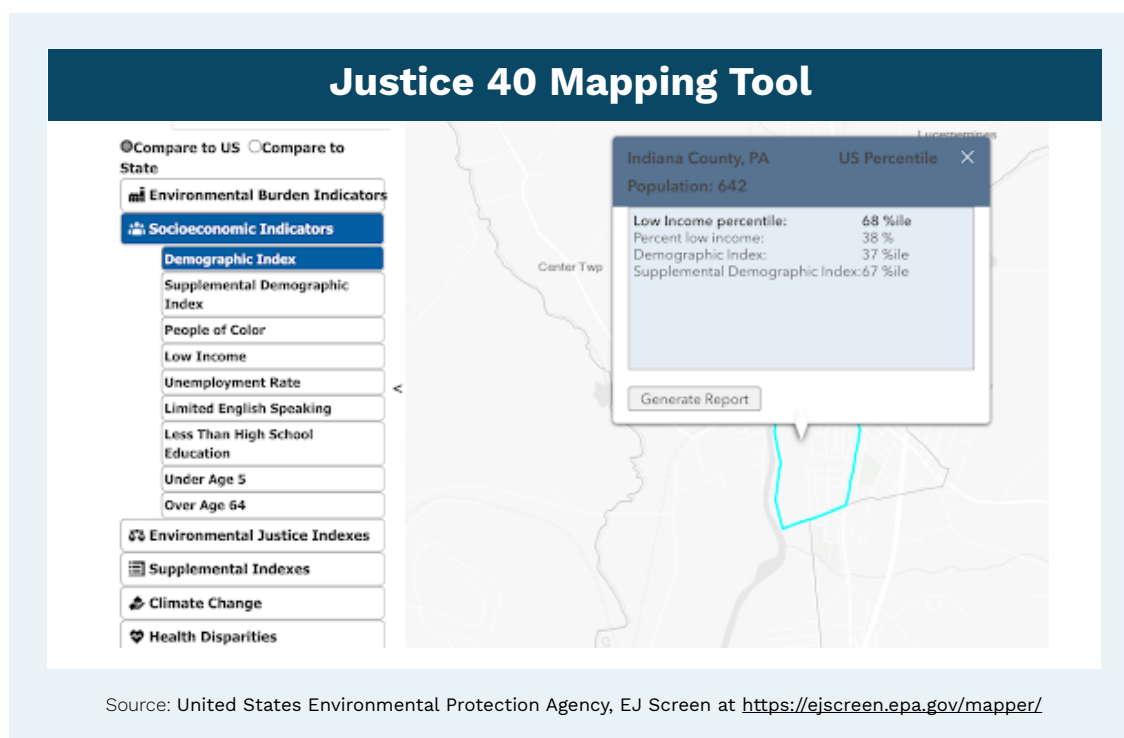
Headwaters Economics identified a concentration of such communities in the ReImagine footprint (See Figure 17). [Their assessment](#) of a community's vulnerability to risk of a plant closure (or the departure of any large employer) includes 1) The degree of isolation from metropolitan and global markets (measured as travel time to cities with populations more than 50,000); and 2) The level of education (measured as the percent of the adult population without a college degree). These characteristics may point to places where the retiring coal-fired plant plays an out-sized role in the local and regional economy, where there are relatively few other job opportunities for laid-off workers, and where it may be more difficult to attract and grow other types of jobs, particularly those that rely on advanced education.⁸⁰

Figure 17



The EPA's Environmental Justice initiative provides a [mapping tool](#) (Figure 18) that gives additional information on income, poverty, health, disabilities, race and other elements that shape a community.⁸¹

Figure 18



Types of information that can be helpful in a community assessment include:

- Type of jobs needed and desired (which may be obtained by analysis of census data and by survey)
- Types of jobs utilizing the skills of former coal plant workers and skill sets needed in developments identified as appropriate for the site being considered.
- Types of jobs available (Census data and survey)
- Identification of educational institutions that can offer training and retraining (Survey of existing institutions), including registered apprenticeship programs.⁸²

Resources for Analyzing Community Needs - Basic Demographic Data

Census data can provide detailed information on the social, economic and housing characteristics of communities such as:

- **Basic features** – age, gender, race/ethnicity
- **Social features** – households/families, education, veteran status
- **Economic features** – Employment by industry; Number, type and size of firm; Presence (or absence) of financial institutions
- **Workforce Issues**— income, poverty, employment, commuting
- **Housing features** – owner/renter status, type, price

This list just scratches the surface in terms of the socioeconomic information that is available. Experts may be hired to help pull this information together. Representatives from participating communities that make up/contribute to the local economy may pool data and develop individual and regional assessments. States often feature current demographic and economic data on their websites. This data is detailed enough that the committee can initially study the information and get a good overview of community characteristics without hiring an expert. All states have a census office that provides information on the economy, labor market, and other relevant topics.

- **Ohio:** The Department of Development publishes “[County Trends](#)”⁸³ and at the same site, provide a profile of Appalachia Ohio. Descriptions of many aspects of the community are provided on the main page of the [Ohio Department of Development](#).⁸⁴ Ohio’s Department of Job and Family Services provides detailed information about the [labor market](#).⁸⁵
- **Pennsylvania** - Pennsylvania’s county data is provided by legislative office called the [Center for Rural Pennsylvania](#).⁸⁶ The [labor market information](#) can be found on the state website as well.⁸⁷
- **West Virginia:** The Department of Economic Development provides [community data](#)⁸⁸ and [Workforce West Virginia](#) provides labor market information.⁸⁹
- **Kentucky:** The University of Kentucky puts out a publication called [Kentucky: By the Numbers](#);⁹⁰ See also the State of Kentucky’s [Community Profiles](#).⁹¹

Once data has been compiled, analyzed, and discussed, work can begin on identifying the type of jobs needed and desired in a community, from the kinds of industries and sectors that provide such jobs, and any gaps that may exist in current training opportunities in local schools, career technical centers and colleges, and universities.

4.2 Workforce Assessment

4.21 Common Skills of Coal Plant Workers

Analysis of the workforce that served the coal plant – and the existing workforce, if the plant was closed long ago – is important to community planning. The data allows participants to understand the connection between the local economy and the skills of the residents. It provides detail on how the types of jobs available affect not just workers and families but the community as a whole. This analysis can help the community identify the type of new uses they would like to see at the coal plant site: uses that create good jobs with living wages that provide stability to families and the community.

Common Skills Of Coal Plant Workers

For the communities facing a recent or pending coal plant closure, understanding the skills of the existing workforce is important. Ohio University's Voinovich School provides an excellent overview of the common workforce skills of people working in a coal fired power plant.⁹² If employment in the area is as concentrated in the utility plant, the planning committee will need to consider what sectors can re-employ people with these skills at a family-supporting wage level.

The coal utility industry involves many different occupations. Some skills such as those held by bookkeepers and machinists are common across the sector both in and outside the coal plant context. Other work is more specialized, and retraining can help these people prepare for and transition to a new career. A community benefit that could be part of a legal agreement with the developer would be about rehiring coal plant workers, so individuals and families affected by a closure are the first in line for new jobs.

Figure 15

Workforce Characteristics				
Coal-Fired Power Plant Occupations				
Occupation	% Occupation	Employment Projections 2014-2024	Median Hourly wage	Education
Power plant operators	43.6%	-15.3%	\$33.4	High school diploma / eq.
Industrial machinery mechanics	0.9%	18.0%	\$22.6	High school diploma / eq.
Control and valve installers/repairers	4.3%	-7.6%	\$31.2	High school diploma / eq.
Maintenance and repair workers	0.1%	4.7%	\$18.0	High school diploma / eq.
Computer systems analysts	0.1%	20.4%	\$39.7	Bachelor's degree
Mechanical drafters	0.3%	-7.8%	\$20.2	Associate's degree
Purchasing agents	0.2%	-1.7%	\$29.4	Bachelor's degree
Laborers & freight/stock movers	0.0%	5.7%	\$11.7	No formal ed. credential
Bookkeeping/accounting/auditing clerks	0.0%	-8.9%	\$17.2	Some college, no degree
Machinists	0.1%	10.4%	\$19.1	High school diploma / eq.
Inspectors/testers/sorters/samplers	0.0%	-1.0%	\$17.4	High school diploma / eq.

Source: Understanding the Skill Gap and Employment Needs of Displaced Coal Fired Power Plant Workers at <https://www.ohio.edu/voinovich-school/videos/understanding-skill-gap-employment-needs-displaced-workers-archived>

Expert Advisors

Government agencies connected to the community planning process may have much of this information. Local colleges and universities may have professors willing to help compile such information. There are non-profits that may help, and consultants who can be hired.

Schools from high schools to joint vocational schools, career technical centers, apprenticeship training centers, community colleges, and universities are located throughout Central Appalachia. Any or all of these educational institutions may offer certifications that allow workers to switch careers, degrees that may move them into entirely different fields, and enrollment in apprenticeship programs that pay a living wage as workers train. Part of the planning process would involve identifying gaps in programs that can help people switch careers and serve new users of the coal plant site.

4.3 Economic Assessment

An economic profile of the community includes an inventory of employers and financial institutions in the area. States provide a variety of economic information arranged/sorted by county. For example, Ohio's [county economic information](#)⁹³ includes the following data:

- [Employment Percent by Industry](#)
- [Employment, Wage, and Firm Size](#)
- [Online Job Postings](#)
- [Industry Turnover Rates](#)
- [High School Enrollment](#)
- [Local Area Talent Report](#)
- [Educational Attainment](#)
- [Veteran Employment](#)
- [Civilian Labor Force](#)
- [Commuting Patterns](#)
- [Population to Jobs by Area](#)
- [Profile of UC Claimants](#)

Not all state profiles contain all of this information. Consultants can be hired to develop profiles of the economy, and sometimes universities can provide such expertise. The local governments participating in the planning process may have their own information from which a regional assessment could be developed as well.

Community Needs Planning Participants and Expert Advisors

A community planning process should develop an understanding of the jurisdictions, institutions and experts serving the region. As many of these groups as possible should be involved in the community planning process, or at least kept informed as fact-finding proceeds.

Government Entities And Agencies

A community planning process will include not just one jurisdiction, but many overlapping and adjacent jurisdictions across the labor shed – the area from which workers commute to the site. Elected leaders, economic development and public works staff, particularly program directors, should be involved in the planning process. In more urban areas, the metropolitan or micropolitan planning entity might be the best

agency to lead the planning process, since by nature they serve across jurisdictions in a region. Entities identified here should at least be informed about the community planning analysis and visioning.

Such jurisdictions and officials would include (but not limited to):

- Elected officials at the federal, state and local levels
- Top managers in municipal, county, township
- Directors of the Water district/ Sewer district
- Court Officials
- Public safety – fire, police
- Public health departments
- Libraries
- Metropolitan or micropolitan planning organization
- Transportation districts and modalities (freight rail, road, maritime)
- Correctional institutions
- Parks and recreation
- Military installations
- School districts, career tech or joint vocational training schools, colleges, universities, apprenticeship programs

Labor Organizations

Each state and city or region within the state has numerous labor organizations. Often labor leaders are also serving the community in elected offices, since labor unions are run democratically and members learn policy, positions, campaigning and serving each other. They are a valuable resource of community planning and development. Basic structures include:

- **State Federation of Labor and Regional Federations:** State federations and central labor councils are made up of local unions that partner with state and community organizations and conduct state, local and national campaigns to improve the lives of working families.
- **Building and Construction Trades Councils and Locals:** A state Building and Construction Trades Council is made up of different regional Building and Construction Trades Councils (BCTC), which are composed of local unions and District Councils dedicated to ensuring their union members provide highly skilled craftsmanship on every project. By working with contractors and project owners, the BCTC ensures the success of the collective bargaining process.

State contacts are listed below:

- **Ohio**
 - Ohio AFL-CIO – <https://www.ohioaflcio.org/>
 - Ohio Building Trades
<https://ohiostatebtc.org/>
<https://www.actohio.org/building-and-construction-trades-councils/>
- **Pennsylvania**
 - Pennsylvania AFL-CIO <https://paafICIO.org/>
 - Pennsylvania building trades
<https://pabuildingtrades.org/>
<https://www.actohio.org/surrounding-states/pennsylvania/>
- **West Virginia**
 - West Virginia AFL-CIO <https://www.wvaflCIO.org/>

- West Virginia Building Trades
<https://www.wvtrades.org/>
<https://www.actohio.org/surrounding-states/west-virginia/>

- **Kentucky**

- Kentucky AFL-CIO <https://ky.aflcio.org/>
- Kentucky Building Trades
<https://kypolicy.org/kypolicy-conference-2022/ky-state-building-and-construction-trades-council/>
<https://www.actohio.org/surrounding-states/kentucky/>

Other Institutions And Organizations

An inventory of other important institutions and organizations who should be involved in the planning process and can contribute data might include (but is not limited to):

- Chamber of commerce
- Neighborhood and community organizations
- Local NAACP
- Urban League
- Hospitals and health care entities
- Parishes and congregations
- Hospitality and tourism
- Museums and cultural centers
- Social service agencies and not-for-profits
- Civic organizations and clubs
- Trade and professional associations
- Utilities
- Community-based training organizations

4.4 Expert Advisors

The community planning process almost always involves hiring experts, but the process needs local experts in the group to analyze the findings and information of consultants and to add to the deliberations of how the findings might affect redevelopment. Experts might include (but are not limited to):

- Attorneys
- Industrial realtors
- Experts from the insurance industry
- Environmental consultants
- Economic development professionals
- Title experts
- Surveyors
- Developers
- Bankers

Remember to start with your local development district: [information on contacts, programs, funding and strategies are here.](#)

Chapter 5: Turning Liabilities into Opportunities

- 5.1 Envisioning Opportunities
- 5.2 Case Studies

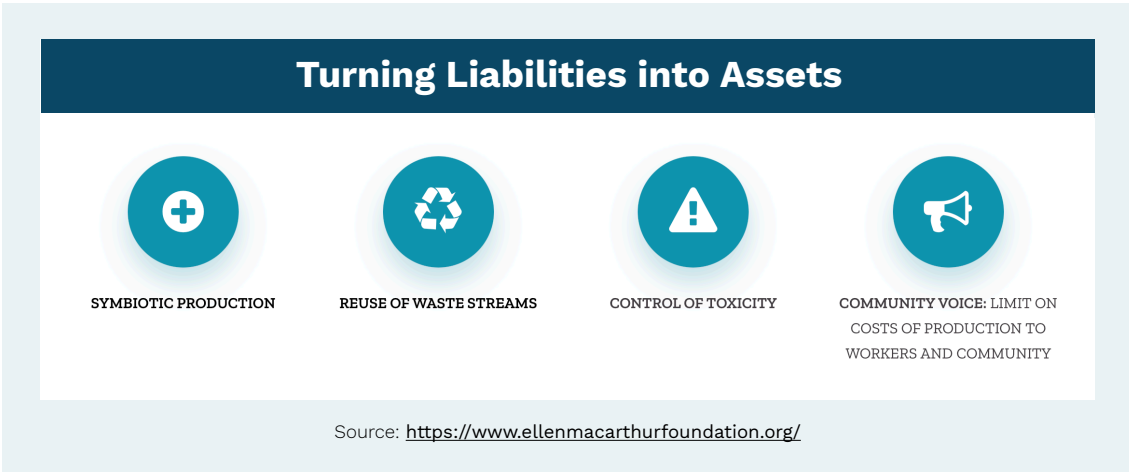
5.1 Envisioning Opportunities

The coal power plant, which once supported well-paid jobs, becomes a liability when it is shuttered or simply not operating. In many cases, it is blighted industrial property. However, with many assets for industry, including transportation access, access to dense markets on the East Coast and in the Midwest and the presence of a skilled workforce, with the right resources it can be turned into a major asset. Connections to the heavily reinforced electrical grid offer additional value, making it well suited to the needs of industry.⁹⁴

The Midwest remains the nation’s industrial heartland, even in a shifting economy. Central Appalachia, with access to Pittsburgh, Cleveland, Columbus, Cincinnati, Philadelphia, New York, Chicago, and Atlanta, is in the middle of major markets. Communities can envision the production of many resources for the new energy economy.

Communities can plan for redevelopment that builds a competitive advantage in the region. Manufacturers will find locations promoting circular manufacturing — where the waste of one firm is a feedstock for another — a competitive location. “Eco-industrial parks,” where production is based on the assets of a region — minimizing transport needs for both input and outputs and anchoring capital - will also make a region competitive.

Figure 20



Shuttered coal plant sites provide ideal locations for new and sustainable configurations of manufacturing industries, described below.

Circular manufacturing

This strategy involves the reuse of worn-out or discarded products. Today, even the largest companies like

Michelin Tires and Siemens are getting into the recycling and reuse business because it is cost-effective. Reuse and recycling of many products are growing industries and can help mitigate climate chaos. This [video](#) gives a good overview of circular manufacturing.

A good example of the reuse of waste is the new practice of refining coal ash into a material that can be used in cement and concrete, and actually reduces the carbon footprint of that common building material, which is a major contributor to global carbon emissions. One of the biggest barriers to redeveloping shuttered coal plants is the storage sites for the disposal of coal wastes (coal ash ponds), an environmental hazard representing a risk to the owner or developer. With the right resources, however, these liabilities can be turned into opportunities.⁹⁵

Almost two-thirds of the residue of burned coal at power plants produced annually is now recovered and sold. As coal burning power plants close, this waste product is imported from overseas. Expanded technology to refine the waste in old coal ash landfills and ponds can contribute to remediation of the century-old waste. In the long run, it is possible this waste can also be mined for critical minerals and rare earth materials needed by electric vehicles and other new energy sectors.

Eco-Industrial Parks

An eco-industrial park is a shared site where local businesses and co-located manufacturers work together to share a range of resources, such as technical services, transportation, infrastructure, energy, and waste streams to collectively reduce costs and waste.⁹⁶

A key component of eco-industrial parks is the reuse of end products and waste streams from one company by complementary manufacturers at the site. This cycling of materials is what turns the functions of the eco-industrial park into a circular system. Eco-industrial parks can incorporate manufacturers of different scales, from a group of small-sized companies to larger operations as well as companies across a range of industries; not all eco-industrial parks will involve solely heavy industry. The Industrial Commons in Morganton, NC, is a good example of an operation that has built on the long heritage of textile production in the area to create shared physical and social structures that support small and medium-sized textile companies.⁹⁷

By now, coal fired power plants have been repurposed across the nation. Some have been converted into different types of energy production⁹⁸ while others have been transformed into mixed-use industrial parks.⁹⁹

Moving Forward with Planning for Reuse

Economic development professionals and developers are experts in identifying uses appropriate for specific sites and marketing them to those users. However, communities planning to redevelop a coal site also need to provide those economic development professionals and developers – and elected leadership – with a vision of what they want in the

Figure 21

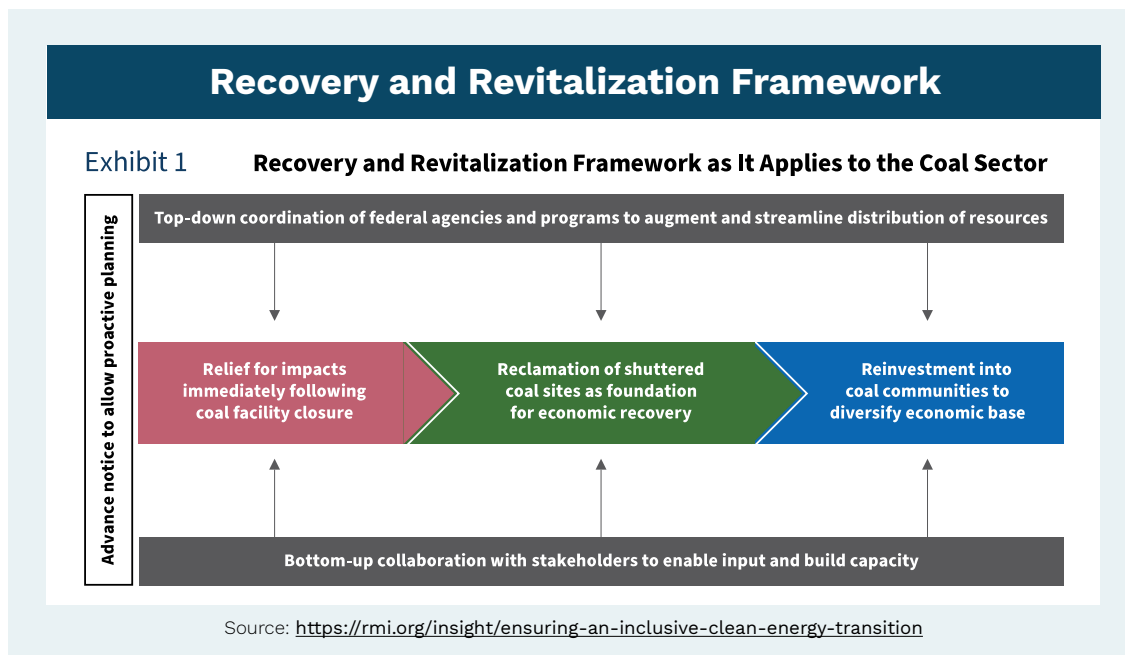


community, as well as the types of companies that can contribute to that vision, which may include:

- Relief for coal workers and communities to alleviate losses of local revenue and jobs that occur immediately following coal closure
- Reclamation of remaining coal sites to prevent prolonged pollution risks and promote short- and medium-term job creation and local economic activity
- Reinvestment in coal communities to promote long-term economic resilience and diversification

Coal plant sites are very large and many uses are possible at any one site. Artificial intelligence facilities are looking hard at old power plant sites because these giant computer facilities require a tremendous amount of power. They may not be as large as, say, a multi-modal distribution fulfillment center, but may leave space for one at the site, which could be a real asset to the community, as distribution centers create many jobs. RMI, a think tank that concentrates on energy transition, outlines state actions to ensure opportunity is widespread and inclusive.¹⁰⁰

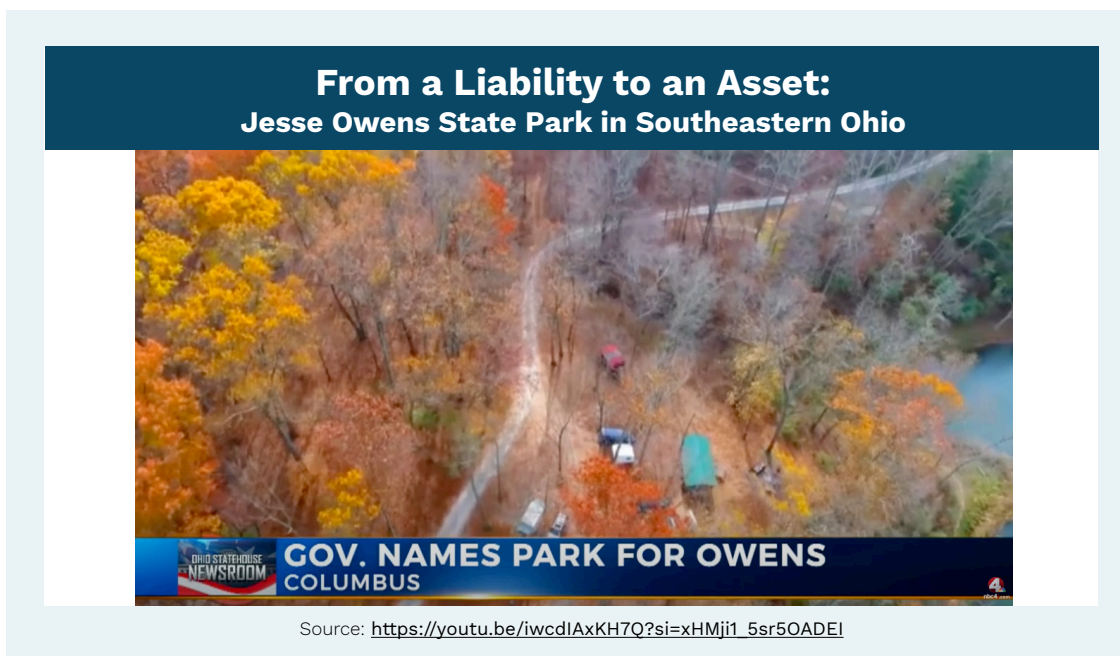
Figure 22



The community can work with experts and developers to create a plan that is attractive to users, creates meaningful value for owners, and fulfills community needs. While physical redevelopment of the coal plant site is the focus of activity, focus must be shared with efforts and action to ensure workers, residents and the community receive the resources needed to restore what was lost. States play a critical role in ensuring the shuttered coal plant results in new opportunities.

5.2 Case Studies: Possibilities, Options, Highest and Best Use

Figure 23



The old AEP Muskingum River power Plant site sold first to Commercial Liability Partners (CLP) in 2015, has since been fully demolished, remediated, and prepped for redevelopment. The site features a 96-car unit train rail loop with aggregate unloading facility and additional rail spurs, 138kv and 345kv electrical substations, a wastewater treatment facility, and access to a Title V air permit, process water from the Muskingum River, and three 36" Texas Eastern Pipeline natural gas lines. An upgraded county road leads to the site, which is located five miles from State Routes 60 and 339 in Waterford, Ohio, and is less than 25 miles from US Rt. 50, Interstate 77, and downtown Marietta, OH.¹⁰¹

Links to Case Studies and Stories of Reuse

- **RMI's resources on transition of coal plants** can be found [here](#)¹⁰² and [here](#)¹⁰³.
- **The Centralia Model (Ohio River Valley Institute)**¹⁰⁴ - [This case study](#) of a coal plant closure with a community benefit agreement is particularly helpful to community planning.
- **The Pennsylvania Department of Commerce** [coal plant playbooks](#) give good examples of redevelopment scenarios for several plants in Pennsylvania.¹⁰⁵ Considering these scenarios in a visioning session can help get people thinking about what is possible.
- **Foresight Development:** [Case Studies](#).¹⁰⁶
- **Huntly Coal plant in Tonawanda Coal Plant, New York**¹⁰⁷ - Resources for the Future [case study](#) of transition.
- **Avon Lake Power Plant, Ohio** - The [New York Times article](#) describes the transition.¹⁰⁸
- **Repurposing Legacy Power Plants**¹⁰⁹ - [This report](#) identifies strategies for the future from lessons of the past.
- **Phillip Sport plant of Mason, West Virginia** is featured in [this article](#).¹¹⁰
- **"Coal to X" – Redevelopment strategies:** [Pacific National Labs](#) gives stories of redevelopment at several stages.¹¹¹

- **Case studies** provided in a [video](#).¹¹²
- **Energy Storage Systems:** Old power plants are [finding new uses](#) as energy storage sites.¹¹³
- **Reuse of shuttered coal plants across the nation:** Some sites are being used for new sources of energy, like [solar or wind power](#).¹¹⁴
- **Pennsylvania examples of reuse:** Pennsylvania has seen [varied uses for old coal plant sites](#), including industrial parks and brownfield consultants.¹¹⁵
- **Options for reuse:** [This article](#) explains many re-uses of power plant sites.¹¹⁶
- **What the realtors are seeing:** Examples from across the nation can be useful here at home. [See Old plants, new ideas](#): Who might buy a retired coal power unit? – WyoFile¹¹⁷
- **Transition Stories:** The Delta Institute, a Chicago-based non-profit, has been working with coal plant transition for many years: [stories are included here](#).
- **Environmental Law and Policy Center** looks closely at the [transition of Michigan power plants](#).¹¹⁸
- **Artificial Intelligence:** The tremendous energy needs of [artificial intelligence facilities](#) is turning their attention to available power plant sites.¹¹⁹

Chapter 6: Financial and Technical Assistance

6.1 Different Types of Federal Funding - An Overview

6.2 Funding Trackers

6.3 Redevelopment Programs

6.4 Brownfield Financing

6.5 Community Programs

6.6 Appalachian Regional Commission Programs

6.7 Technical Assistance Programs

Federal and state funding programs described in this handbook represent the status at the end of the Biden Administration (December 2024). With numerous changes initiated by the Trump Administration and related challenges in the courts, the future of many programs listed in this chapter is currently unknown. We expect that some of the programs will be cut, some will shrink, and some will not change significantly.

Based on these uncertainties, we are unable to provide you with an overview that presents the latest status of these programs. Thus, we acknowledge that information about various funding resources in this chapter will be outdated. Once changes have been finalized, we will update this chapter accordingly.

With the Bipartisan Infrastructure Law of 2021 (BIL), the Inflation Reduction Act of 2022 (IRA), and CHIPS and Science Act, Congress and the Biden Administration passed a historic package of infrastructure and climate legislation that emphasizes community involvement, economic and environmental justice, and family-sustaining wages. Many of these federal investments are already at work in Appalachia, and there are still appropriated funding streams for communities to receive federal support for redevelopment and job creation.

However, finding and accessing these sources is not easy and can be overwhelming. Our goal is to assist with that. First, we will introduce search engines that help you find funding opportunities for your project. Next, we will discuss several relevant federal and state funding options that support coal plant redevelopment projects, as well as programs that support community planning and development.

6.1 Different Types of Federal Funding - An Overview

6.1.1 New Federal Funding Sources

6.1.2 A Focus on Energy Communities

6.1.3 Definitions of Disadvantaged Communities

The federal government, as well as state governments, provide tax credits, loan and loan guarantee programs, and grant programs for local governments, economic development entities, developers and

other stakeholders to apply for. Each funding type has its advantages and disadvantages to consider, and more often than not, applying for any type of federal financial assistance is an involved process.

For instance, many (but not all) tax credits are noncompetitive, meaning that every eligible entity that accurately files for those tax credits will receive them. However, filing all needed documents on time and correctly can be complicated, and working with a tax expert is advisable.

Grants for community planning and those for program implementation are often competitive, and not everyone gets the funding they apply for. Many grants also require a match; that is, communities need to contribute their own money (percentage of the match varies) to receive the grant.

Public financing support through low-interest, long term loans and loan guarantees is provided on a case-by-case basis and can be tailored to projects. However, the loan or loan guarantee will make up only a part of the financing for developers coming to your coal plant site.

New Federal Funding Sources For Redevelopment Projects

The last few years brought the passage of important federal legislation, such as the American Rescue Plan Act (ARPA), the Bipartisan Infrastructure Law (BIL), the Inflation Reduction Act (IRA), and the CHIPS and Science Act. The goal of the legislation is to improve our infrastructure, invest in clean energy, support small businesses and strengthen our manufacturing sector and national security. The BIL and the IRA especially offer incentives for the redevelopment of retired coal power plants and their communities. Many of these resources prioritize investment in energy communities, like those found in the Ohio River Valley of Appalachia (aka coal country).

Bipartisan Infrastructure Law

The Bipartisan Infrastructure Law funds hundreds of programs to build a modern and resilient infrastructure. Among other things, the funding streams go toward grid modernization, expanding broadband services, building an improved and more climate-friendly transportation system, and tackling the cleanup of legacy pollution in our communities and repairing damaged lands.

Inflation Reduction Act

The Inflation Reduction Act makes the single largest investment ever in a new clean economy. It includes tax credits and funding for clean energy, clean vehicles, clean buildings, and clean manufacturing. Funding streams can go to a host of applicants, from families who can use tax provisions to make their homes more energy efficient, to local governments, to private investors turning a shuttered coal plant into an eco-industrial park.

A Focus On Energy Communities

Several important programs under the BIL and IRA prioritize and/or provide additional funding for projects in “energy communities.” An “energy community” is a technical term created by the federal government with detailed definitions outlined in the BIL and IRA. Broadly speaking, “energy communities” have depended on fossil fuel industries and suffer or have suffered economic loss as the use of coal has declined and the new energy economy emerges.

Since “energy communities” are given extra funding under the infrastructure and climate legislation, Appalachian communities have an unprecedented opportunity to use those funds to create good jobs while transitioning to a more sustainable, prosperous and equitable economy. It is important to note that the definition of an “energy community” varies depending on the funding opportunity. The Internal

Revenue Service provides [information](#) on how areas may qualify as an “energy community,” depending on different federal funding programs.¹²⁰ For definitions of “energy community” check the Blue-Green Alliance map and [website](#).

The map identifies the energy communities in the United States, including much of the Ohio River Valley of Appalachia, and clarifies which communities stand to benefit from the energy communities bonus credit and other targeted provisions in the Inflation Reduction Act.

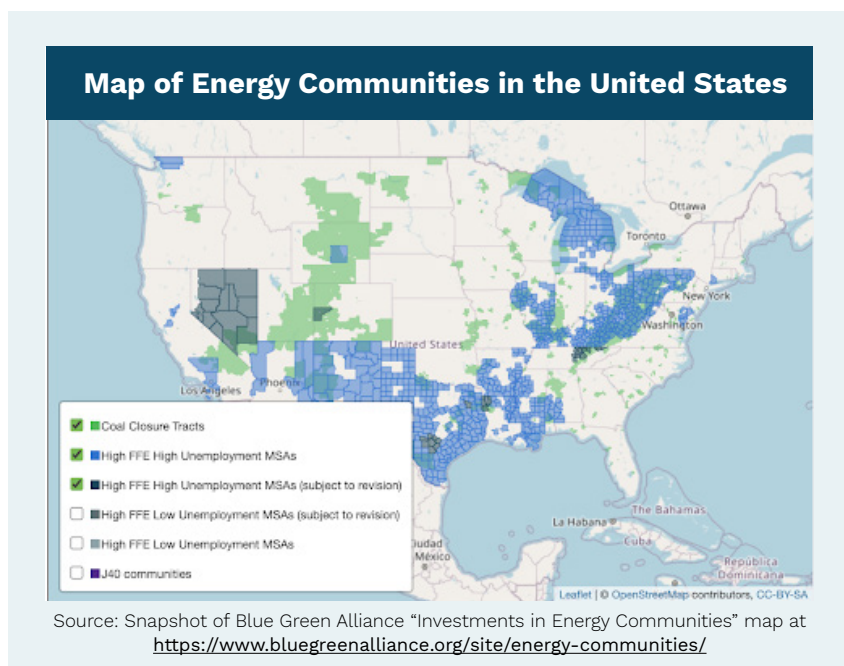
Map Glossary

- **Coal closures** refers to census tracts that are eligible due to a coal plant or coal mine closure.
- **High FFE** indicates that the percentage of fossil fuel employment within the metropolitan statistical area (MSA) or area is above the minimum threshold for eligibility.
- **High unemployment** indicates the unemployment rate for the MSA or area is above the minimum threshold for eligibility.
- **Low unemployment** indicates the MSA or area has too low of an unemployment rate to qualify, even though the area meets the fossil fuel employment requirement.
- **J40** refers to Justice40 communities, as defined by the White House Council on Environmental Quality.¹²¹

Definitions of Disadvantaged Communities

Next to “energy communities,” the BIL and IRA aim to support disadvantaged communities with special grant programs and additional clean energy tax credits. Again, the specific term and definition of a disadvantaged community varies from program to program which, frankly, adds another level of complexity when navigating potential funding opportunities. Other terms you might encounter are Justice40 community, low-income and disadvantaged community (LIDAC), or underserved and overburdened community. Whichever term is used, many Central Appalachian communities qualify as such, and you should check the programs’ definition (and map if available) to determine whether your community or project are eligible for programs or additional tax credits for disadvantaged communities.

Figure 24



6.2 Funding Trackers

Search Engines For Funding Opportunities And Technical Assistance

6.21 The IWG Tracker Tool

6.22 The IWG Navigator Tool



Interagency Working Group on Coal & Power Plant Communities & Economic Revitalization

The IWG Tracker Tool

Federal agencies are working together to coordinate efforts, attention and focus on building the new energy economy in energy communities. The agencies coordinate through an office called The Interagency Working Group on Coal and Power Plant Communities & Economic Revitalization or [Interagency Working Group \(IWG\)](#) for short.¹²²

Among other things, the IWG offers a search engine for federal financial support for redevelopment of fossil fuel sites and development of the community. This user-friendly database is for energy communities looking for funding opportunities connected to the Bipartisan Infrastructure Law (BIL), the Inflation Reduction Act (IRA), and other legislation for planning and growing the local economy.

The search engine offers four search tools categorized by type of funding program:

- **Competitive:** Competitive Funding is available to eligible recipients who submit an application for a funding opportunity. Each application is reviewed through a competitive evaluation process and awardees are selected based on the merits of their application and alignment with the agency's mission.
- **Formula:** Under some programs, the federal government provides non-competitive funding through ongoing appropriations to governmental entities (such as states, tribes, or school districts) which then have the authority to re-allocate or award the funds to eligible groups and uses.
- **Tax Credits** reduce the amount of tax an individual or business owes to the federal government. The Inflation Reduction Act (IRA) created new tax credits and modified existing tax credits to help incentivize clean energy technologies and to be a vehicle for fostering economic opportunities, private investment, and job creation in energy communities. Several IRA tax credits also provide a bonus for energy communities. In a major shift from prior law, the IRA makes it possible for governments, nonprofits, and rural electric cooperatives to receive the value of the tax credits as cash payments from the federal government, even though they don't pay taxes; this process is called "elective or direct pay."
- **The Funding Clearinghouse** allows tracking across all categories. It lists funding opportunities created by the Bipartisan Infrastructure Law, the Inflation Reduction Act and others.

All IWG's search engine tools include filters helping users to narrow their search. In addition to searching by keyword, the primary filters include:

- Status, letting users search for funding opportunities that are currently open, planned or closed.
- Funding type (e.g. grant, loan, technical assistance),
- Funding source (e.g. BIL, IRA, ongoing appropriation), or
- Program purpose (e.g. economic development, environmental clean-up) and
- Eligible recipients (e.g. local government(s), non-profit(s)).

To make sure that you don't miss a funding opportunity, we would recommend to always start your search with the [Funding Clearinghouse search tool](#).¹²³

Also check this short [IWG Clearinghouse Demonstration Video](#) for a good introduction to the Funding Clearinghouse.¹²⁴

The IWG Navigator Tool

Another tool offered by the IWG that supports energy communities is the IWG Navigator. If you or your community needs help navigating federal agencies and their funding opportunities, you can contact the [IWG's navigator team](#). A team member will get back to you within two business days and will keep in touch with you if your inquiry needs additional research. [You can contact the navigator team here](#).¹²⁵

If you want to check [other federal funding trackers](#), ReImagine Appalachia introduces four trackers (including the IWG tracker) in [this blog post](#).¹²⁶

6.3 Programs for Coal Plant Redevelopment

6.31 Tax Credits

6.32 Loan Programs

6.33 Grant Programs

Disclaimer: *All tax credit information given on this website is a mere introduction into a complex issue; the intent is to help communities decide which path to pursue in regard to tax credits. This information **does not** replace expert advice from a professional tax/financial planner or the Internal Revenue Service (IRS).*

Tax Credits

Tax credits offset the tax bill for developers and businesses. In so doing, they reduce the overall cost of development and make a project easier to finance and move forward. The Inflation Reduction Act (IRA) enacted several clean energy tax credits; here, we introduce four tax credits that can be particularly beneficial when redeveloping shuttered coal plant sites:

The Investment Tax Credit

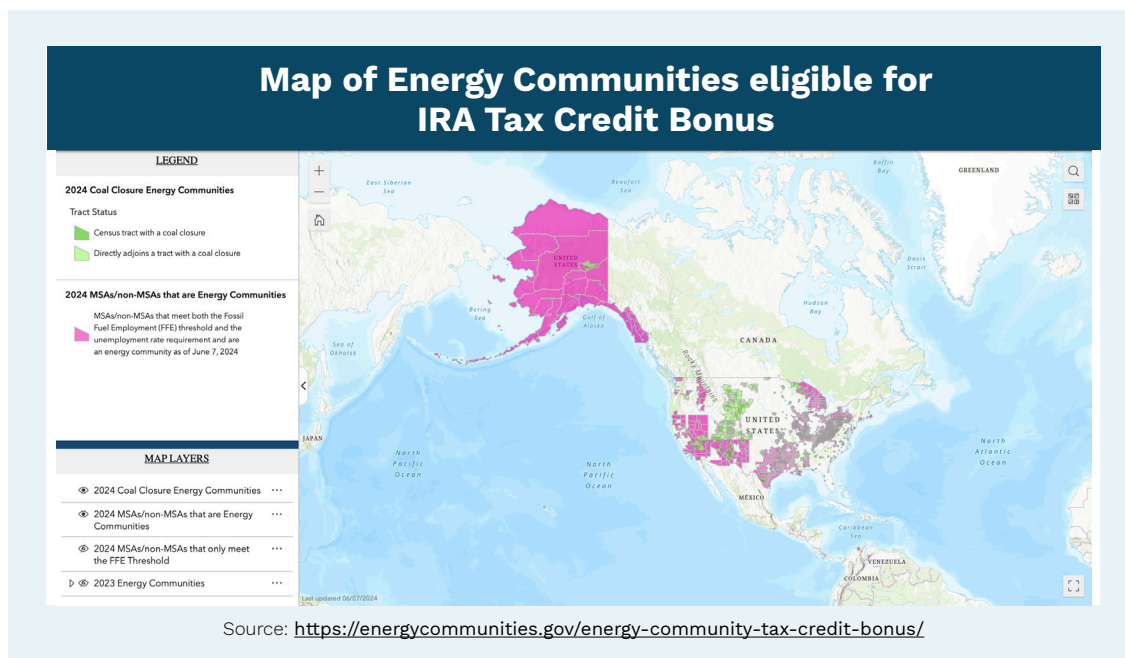
The Investment Tax Credit (ITC) (§ 48 and 48E of the tax code) provides a credit for investments in renewable energy projects, such as solar, small wind, energy storage, fuel cells, microgrid controllers, and combined heat and power technologies. The ITC is for the owner of the clean energy asset to claim. It provides a one-time tax credit on the investment in an energy-related asset during the tax year. As

an example, the taxpayer invests in a solar project upfront and claims the tax credit on the investment when filing for their taxes. The ITC can increase its value by five times (from 6% to 30% of the cost of the project) when the project meets prevailing wage and registered apprenticeship requirements. A Tax Credit Bonus of 10 percentage points (assuming wage and apprenticeship requirements are satisfied) is added on to the ITC for projects located in designated energy communities as defined by the government. A separate bonus, also worth up to 10 percentage points, can be earned by using specified levels of domestic material and manufactured components.¹²⁷

The Production Tax Credit

The Production Tax Credit (PTC) (§ 45 and 45Y of the tax code) provides tax credits for a 10-year period for the electricity produced from renewable energy sources. The PTC is for the owner of the clean energy asset. An asset owner may claim either the ITC or the PTC for a project, but not both types of credits. Deciding which tax credit is more beneficial needs to be done on a case-by-case basis. Generally speaking, an ITC makes more sense for smaller projects, while a PTC is more beneficial for larger projects. The PTC can increase its value by five times, from \$6 per MWh to \$30 MWh for 2024 credits, when the project meets prevailing wage and registered apprenticeship requirements. An individual project collects the credit for each MWh of energy produced and sold for 10 years. A Tax Credit Bonus of 10 percent (assuming wage and apprenticeship requirements are satisfied) is added on to the PTC value for projects located in designated energy communities as defined by the government.¹²⁸

Figure 25



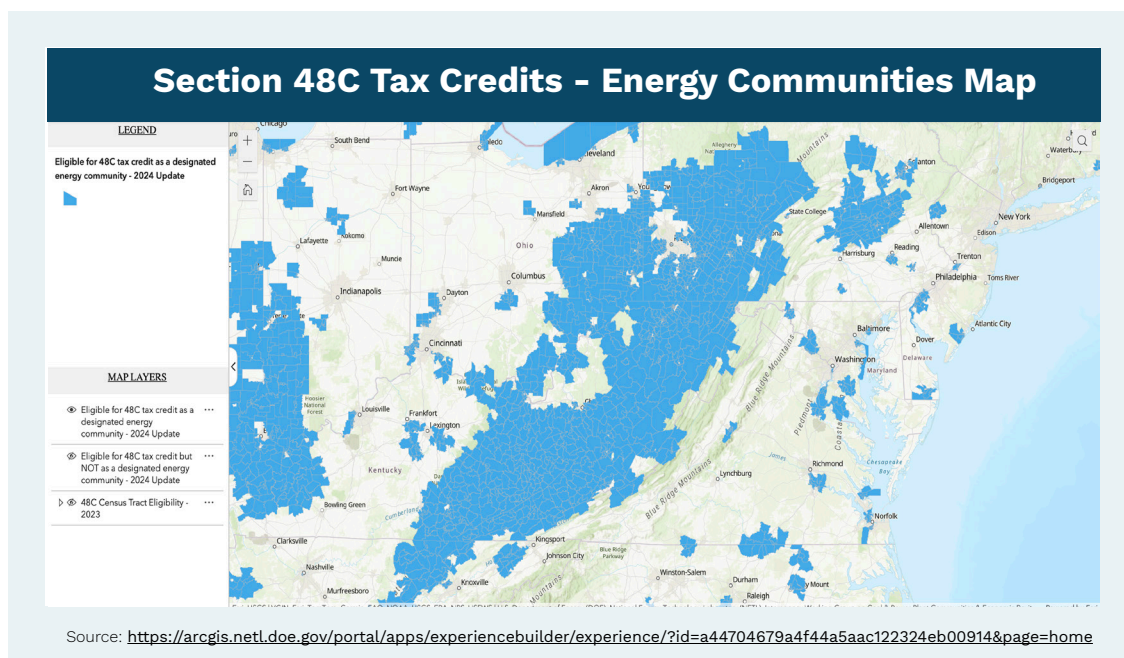
Advanced Manufacturing Production Tax Credit

The Advanced Manufacturing Production Tax Credit (§45X of the tax code) - The 45X Advanced Manufacturing Production Tax Credit **applies to manufacturers** of clean energy components such as photovoltaic components, batteries and certain critical minerals. It is a per-unit tax credit for each clean energy component domestically produced and sold by a manufacturer. It is claimed on federal corporate income taxes. There is no special consideration of energy communities.

Qualifying Advanced Energy Project Credit

The Qualifying Advanced Energy Project Credit (§48C of the tax code) program aims to advance clean energy manufacturing and recycling projects, and to help reduce greenhouse gas emissions. The Inflation Reduction Act provided \$10 billion in new funding under the 48C tax credit, with at least \$4 billion reserved for projects in designated [energy communities](#).¹²⁹ Projects selected under this tax credit span across large, medium, and small businesses and state and local governments. This is a tax credit that is competitive. At this point the initial funds under the Section 48C tax credit program have been exhausted, and the future of the program remains unclear.

Figure 26



Miscellaneous Tax Credits For Clean Tech And Clean Energy

For a comprehensive list of IRA clean energy tax credits and deductions, check this IRS website of [“Credits and Deductions under the Inflation Reduction Act of 2022.”](#)¹³⁰

Elective Pay (Direct Pay) Option For Tax-Exempt Entities to Take Advantage of IRA Tax Credits

For several IRA tax credits ([see list here](#)¹³¹), state and local governments as well as other tax-exempt entities can now access tax incentives directly (i.e., without the need to contract with a for-profit asset owner) under a provision called Elective or Direct Pay. Direct Pay allows tax-exempt entities to receive cash payments from the federal government for the value of the tax credits claimed.

Lawyers for Good Government provides excellent information on their [Elective Pay & IRA Tax Incentives Resources Page](#).¹³² The page is regularly updated and offers a wealth of information from recorded webinars that explain what direct pay is, to resources that help you with the filing process with the IRS. It truly is a one-stop-shop for help with direct pay. The Internal Revenue Service (IRS) also has several web resources that provide useful information about elective or direct pay. A good place to start is the [IRS’s elective pay and transferability page](#).¹³³ Lastly, ReImagine Appalachia hosted a webinar with Amy Turner,

Director of the Cities Climate Law Initiative at Columbia's Sabin Center, diving into the nuts and bolts of direct pay. You can find her presentation on the ReImagine website under Events and Grant of the Month Club.¹³⁴

Loan Programs

Federal (and state) loan and loan guarantee programs are another option for financing the redevelopment of a shuttered coal power plant, especially when private loans are difficult to secure. On the federal level, the Department of Energy's Loan Program Office (LPO) is a public lender offering debt financing for energy and manufacturing projects. The LPO works with the private sector to provide a "bridge to bankability," that is, they help finance clean energy projects at scale to demonstrate that these projects can be commercially deployable in the United States.

For your projects, please contact:

Tom Hucker, Senior Consultant
Loan Programs Officer (LPO)
U.S. Department of Energy
Mobile: 240-481-4825
Email: tom.hucker@hq.doe.gov

State and local governments, port authorities, economic development districts and other quasi-public development entities can also offer low-cost capital support for redevelopment of retired coal plant sites.

Department of Energy - LPO's Title 17 Clean Energy Financing Program

Under its [Title 17 Clean Energy Financing Program](#),¹³⁵ the LPO has access to tens of billions of dollars in financing support that can help the redevelopment of shuttered coal power plants in Appalachia and beyond. The goal of the program is to accelerate the deployment of clean energy and decarbonization projects resulting in reduced greenhouse gas emissions and decreased air pollution. This will create jobs and strengthen energy supply chains.

Program categories

There are four project categories for which businesses or governments can apply within the Title 17 Clean Energy Financing Program:

- **Innovative Energy (Section 1703):** Financing for commercial-scale projects that deploy a "New or Significantly Improved Technology that is technically proven but not yet widely commercialized in the United States."
- **Innovative Supply Chain (Section 1703):** Financing for commercial-scale projects that employ a "New or Significantly Improved Technology in the manufacturing process for a qualifying clean energy technology, or manufacture a New or Significantly Improved Technology."
- **State Energy Financing Institutions (SEFI):** Entities selected as SEFI can use federal funds under this program to match clean energy technology projects they finance. Lists of "eligible projects" include many new technologies; prerequisites include that the project deploys at least one or more eligible technologies such as pollution control equipment, energy storage technologies, or industrial

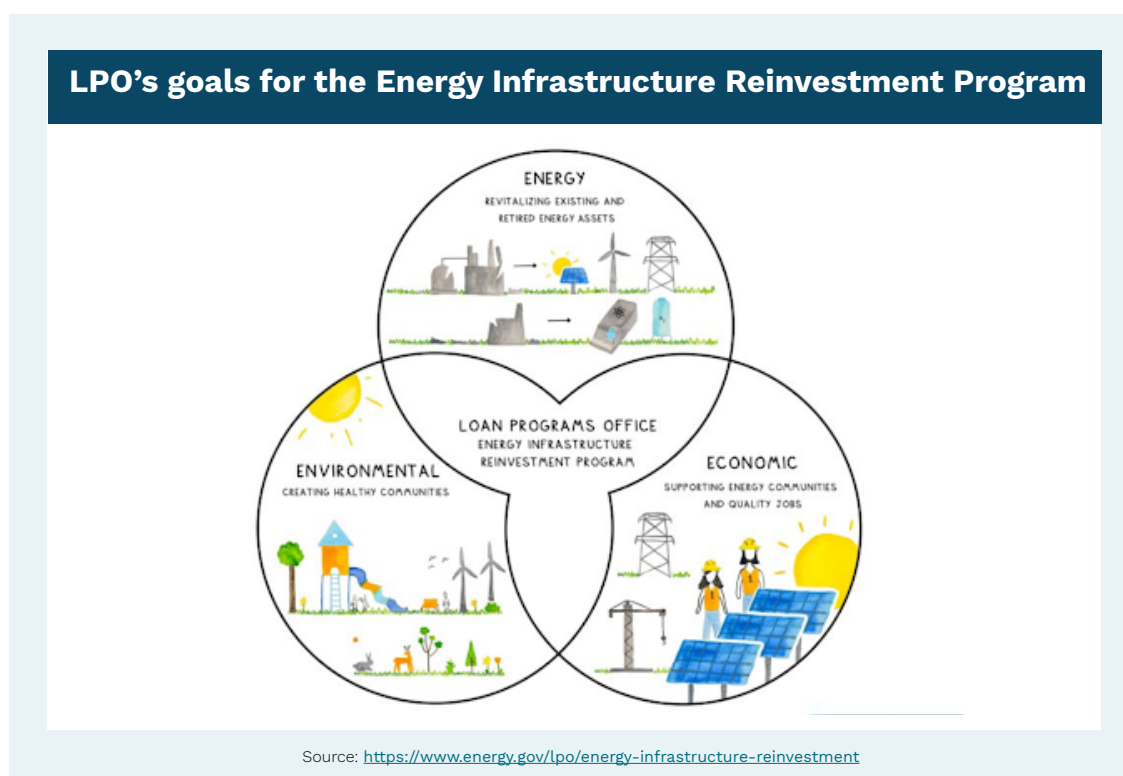
decarbonization. The technology does not have to be innovative. State Energy Financing Institutions (SEFI) in Central Appalachia include:

- [Ohio Air Quality Development Authority \(OAQDA\)](#)¹³⁶
- [Pennsylvania Energy Development Authority \(PEDA\)](#)¹³⁷
- [West Virginia Public Energy Authority](#)¹³⁸

Note that the list of State Energy Financing Institutions is far from complete. The LPO encourages organizations to become a SEFI to help provide financial support or credit enhancement for clean energy projects that do not meet the technical innovation requirement. The LPO has a [State Energy Financing Institution \(SEFI\) toolkit](#)¹³⁹ explaining the steps qualified state organizations need to take to become a SEFI.

- **Energy Infrastructure Reinvestment (EIR)**¹⁴⁰: Financing for projects that “retool, repower, repurpose, or replace existing energy infrastructure (facilities used for electric generation or transmission, or facilities used for fossil fuel-related production, processing, and delivery) that has ceased operations; or enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or emissions of greenhouse gasses. EIR projects are not required to employ innovative technology.” In short, EIR is a program tailor-made for communities with retired or retiring coal power plants.

Figure 27



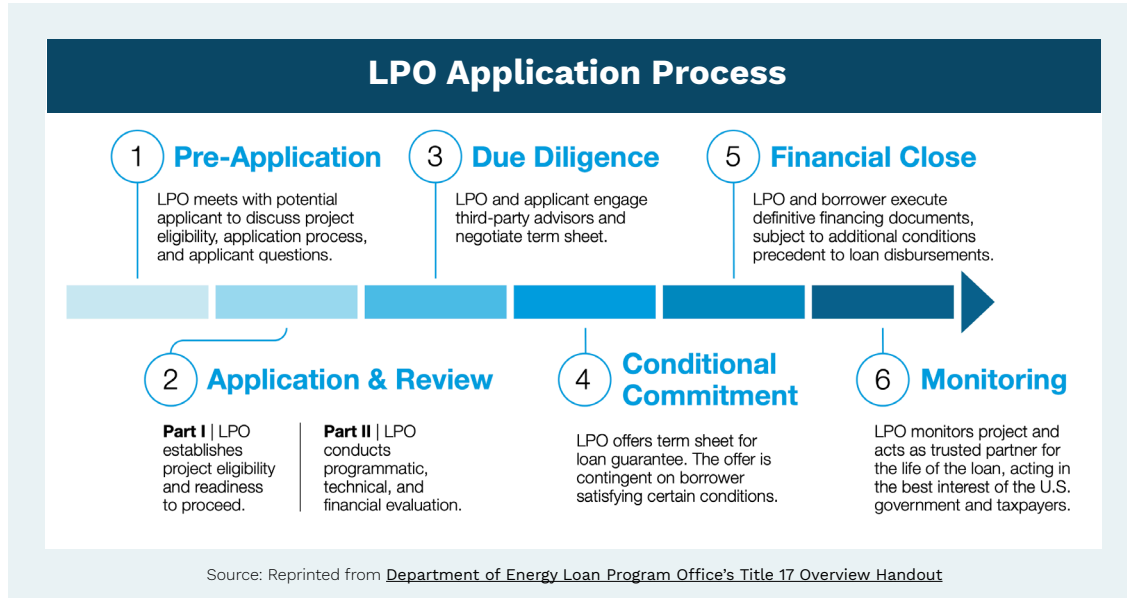
Check this [LPO document](#)¹⁴¹ providing tips on how to prepare a strong application for your Energy Infrastructure Reinvestment project.

Program Guidance

Loan and loan guarantees offered under the DOE's LPO Title 17 Program have, generally speaking, the following basic characteristics ([Program Guidance](#)¹⁴²):

- **Size:** A project funded through the DOE Loan Program Office (LPO) does not have to be above a minimum loan size, although typically an LPO loan guarantee is no less than \$100 million. The program can provide subsidized loan funds for very large projects.
- **Terms:** The program can guarantee up to 80 percent of eligible project costs, though many LPO guaranteed projects end up being in the 50 to 70 percent range. The term may be up to 30 years or the life of the asset.
- **Eligibility** requirements include:
 - a project must be energy related,
 - it must achieve significant and credible greenhouse gas reductions, and
 - it must involve technically viable and commercially ready technology.
 - It must include a Community Benefits Plan
 - It does not accept federal grants as a match in most cases.
- **Process:** The LPO will help with no-cost [pre-application consultation](#)¹⁴³ assisting applicants to get their project eligible for financing. Here is an overview of the entire application process:

Figure 28



In 2023, the Pacific Northwest National Laboratory published a report on “[Federal Support Opportunities to Remediate and Redevelop Energy Assets](#)” which outlines how the Department of Energy’s Loan Program Office Title 17 Clean Energy Financing Program can be coordinated with IRA tax credits and federal brownfield grants to help redevelop or repurpose energy infrastructure.

Electric Infrastructure Loan & Loan Guarantee Program

The US Department of Agriculture's [Electric Infrastructure Loan and Loan Guarantee Program](#)¹⁴⁴ supports nonprofit and cooperative associations, public bodies, and other utilities with insured loans and loan guarantees in rural communities (check eligibility requirements). The electric loan program has been expanded and now finances the construction of electric distribution, transmission, and generation facilities. It can also be used to finance energy efficiency and renewable energy systems. Rural Development's Electric Infrastructure Loan Programs provide financing support through loans and loan-guarantees "for the maintenance and improvement of electric infrastructure in areas where commercial capital is not available."

Program Awardees

In 2023 USDA invested in four Ohio projects that helped to expand and modernize the electric grid and to enhance grid security for nearly 149,000 rural Ohioans. Among other things, the loan supported rural electric cooperatives by financing the installation and upgrade of smart grid technologies increasing economic opportunity and quality of life in 36 Ohio counties.

Grant Programs

Grants (and cooperative agreements) give federal money for public or community purposes. The Inflation Reduction Act (IRA) and particularly the Bipartisan Infrastructure Law (BIL) fund a host of different grant programs, from transportation and infrastructure projects to projects addressing pollution and environmental justice. Many of those grants are competitive and applicants need to closely follow application requirements as well as reporting (and other) requirements once a grant is awarded. Also, check the application windows and deadlines for the grant programs since many grants accept applications only once a year. Finally, grants often don't fund the entire cost of the project but require a cost share from the applicants in order to receive the grant. In some cases, a cost share is not required or might be waived; always closely check the application requirements before you apply.

Department of Energy's Energy Improvements in Rural or Remote Areas Program

The [Energy Improvements in Rural or Remote Areas \(ERA\)](#)¹⁴⁵ program aims "to improve the resilience, reliability, and affordability of energy systems in communities across the country with 10,000 or fewer people." Through the ERA program, communities can receive financial investment, technical assistance, and other resources to advance community-driven projects that apply new energy systems and deliver measurable benefits to customers. Eligible projects include:

- Overall cost-effectiveness of energy generation, transmission, or distribution systems;
- Siting or upgrading transmission and distribution lines;
- Reducing greenhouse gas emissions from energy generation by rural or remote areas;
- Providing or modernizing electric generation facilities;
- Developing microgrids; and
- Increasing energy efficiency

The Bipartisan Infrastructure Law provides \$1 billion in funding for the ERA program; it offers three funding opportunities with the intent to support community-driven new energy projects of various sizes.¹⁴⁶ Two funding opportunities provide support for small community-driven projects (between \$100K and \$5 million per project), and the third funding opportunity supports projects that benefit one or more

Figure 29



communities (17 projects for award negotiations have been selected for \$366 million in funding).

For **no-cost technical assistance** for State, Local, and Tribal Governments regarding ERA, [please check here](#).¹⁴⁷

Department of Agriculture's (USDA) Empowering Rural America (New ERA) Program

The goal of the US Department of Agriculture's [Empowering Rural America](#)¹⁴⁸ (New ERA) program is to help rural Americans transition to clean, affordable, and reliable energy. New ERA program funding is **available to member-owned rural electric cooperatives**, which play an important role in many areas of Appalachia.

The program offers **loans, grants, or a combination** of both, and its emphasis is greenhouse gas reduction and not the promotion of a specific technology. With this flexible approach rural electric cooperatives can, for instance, receive **funding for renewable and zero-emission systems that eliminate aging or obsolete infrastructure such as a shuttered coal or gas power plant**. New ERA's budget is almost \$10 billion, and applicants were encouraged to think ambitiously.

6.4 Funding for Remediation of Brownfield Pollution

6.41 EPA Brownfield Financial And Technical Assistance

6.42 EPA Regional Brownfield Offices

The EPA defines brownfield sites as “a property where expansion, redevelopment or reuse may be complicated by the presence or potential presence of a hazardous substance, pollutant or contaminant” (CERCLA § 101(39)). Due to contamination associated with coal-fired power plants, shuttered plant sites are often considered a brownfield. The [EPA's Brownfield Program](#)¹⁴⁹ offers various funding options as well as technical assistance that support the assessment and clean-up of a brownfield site. Eligible entities of such funds are typically public entities or non-profit organizations. Entities that are liable for the contamination at the site (e.g. original plant owners) are not eligible for brownfield grants.

EPA Brownfield Financial And Technical Assistance

The EPA offers a host of different types of financial support, from assessment grants to revolving loan funds, as well as technical assistance. For more information on technical assistance offered by each state in the ReImagine Appalachia area, check Chapter 3, Brownfield Remediation. Here's an overview of [EPA Brownfield funding types](#).¹⁵⁰

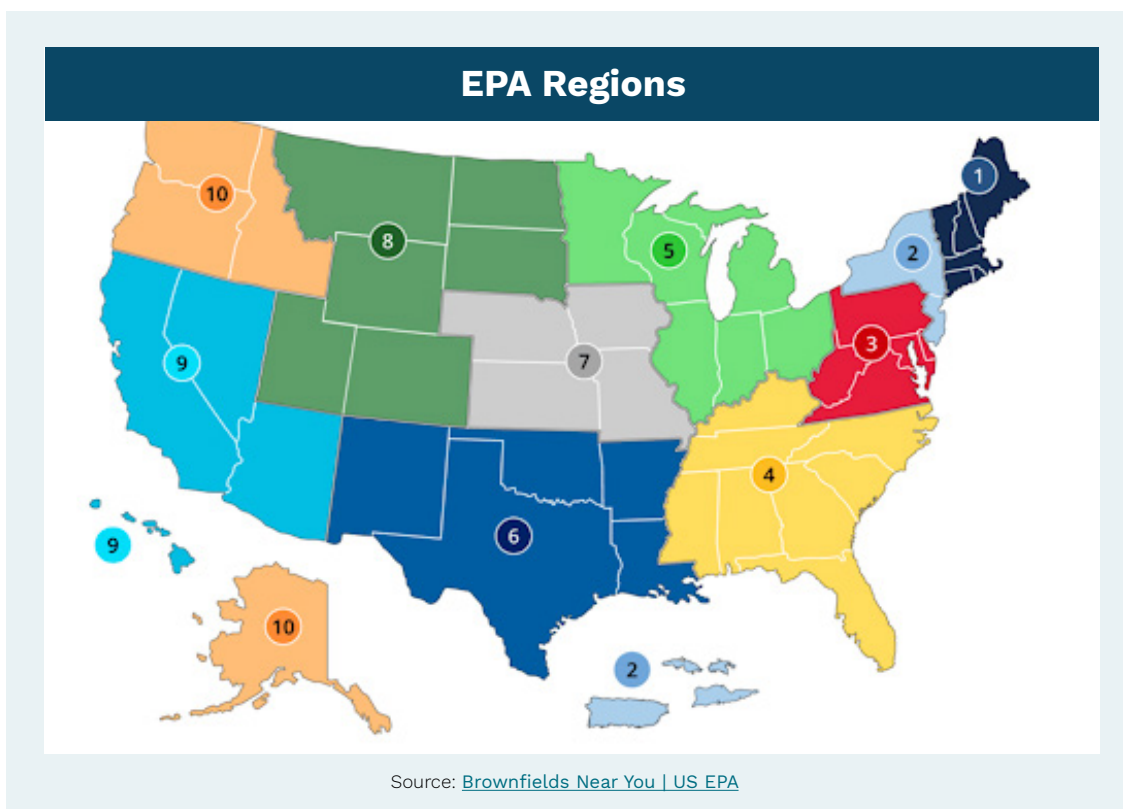
- **Assessment Grants** - Assessment grants assist with brownfield inventories, planning, environmental assessments and community outreach. Assessment grants are generally geared towards communities and other local government entities. These grants are appropriate for communities that are beginning to address their brownfield challenges, as well as for communities that have ongoing efforts to bring sites into productive reuse. Applicants may request up to \$500,000 to assess sites contaminated by hazardous substances, pollutants, contaminants, or petroleum. The performance period is up to 4 years in most cases. A \$2 million community-wide assessment is only available to states, federally recognized Tribal Nations and eligible native corporations in Alaska.
- **Clean-Up Grant** - Clean-up grants fund the clean-up of a brownfield. Applicants must own the brownfield site to be eligible. The performance period is up to 4 years. Applicants may request up to \$500,000, up to \$2 million or up to \$5 million to address one or more brownfield sites contaminated by hazardous substances, pollutants, contaminants or petroleum.

- **Multipurpose Grants** - Multipurpose grants address brownfield assessment, brownfield clean up, and/or the revitalization of the brownfield site/s. When clean-up is part of the project, the applicant must be the site/s owner. The target area may not include communities in distinctly different geographic areas. Applicants can apply for up to \$1 million and should demonstrate how grant funds will result in at least one of the following: Phase II environmental site assessment, site cleanup, overall revitalization that includes a feasible reuse plan for one site, eligibility determinations for site-specific assessment and cleanup activities will be made after award and throughout the project period. Grant recipients may be required to provide a \$40,000 match in the form of a contribution of money, labor, materials or services for eligible costs.
- **Revolving Loan Fund (RLF)** - This program provides funding for a grant recipient to capitalize a revolving loan fund and to provide loans and subgrants to carry out cleanup activities at brownfield sites. When loans are repaid, the loan amount is returned to the fund and re-lent to other borrowers, providing an ongoing source of capital within a community.
- **Job Training Grants** - Job training grants allow nonprofits, local governments and other organizations to recruit and train unemployed and underemployed residents in areas affected by the presence of brownfield sites to secure full-time, sustainable employment in various aspects of hazardous and solid waste management and within the larger environmental field.

EPA Regional Brownfield Offices

The EPA divides the United States into 10 regions and each EPA region has a brownfield regional office. Each office has a [Brownfield Programs representative](#) who can provide brownfield stakeholders with guidance regarding applicable laws and regulations, cleanup and redevelopment efforts and technical assistance. Central Appalachia is divided into three separate regions. Regarding the four Appalachian states represented by the ReImagine Appalachia coalition, Pennsylvania and West Virginia belong to [EPA Region 3](#),¹⁵¹ Kentucky belongs to [EPA Region 4](#),¹⁵² and Ohio belongs to [EPA Region 5](#).¹⁵³ Each EPA region has a webpage (follows links or footnotes) with region-specific brownfield information and contact information.

Figure 29



6.5 Community Programs

Programs Supporting Community And Small Business Development

6.51 EPA's Greenhouse Gas Reduction Fund

6.52 Economic Development Administration's Assistance to Coal Communities Program

6.53 State Economic Development Programs

The retirement of a coal-fired power plant does not only affect the site and its employees, it impacts the entire community. Therefore, we included a host of federal and regional financing resources that help support community revitalization efforts and community clean energy projects with strong workforce development components. For programs more specific to the redevelopment of a shuttered coal plant site, please see section 3. Redevelopment Programs.

EPA's Greenhouse Gas Reduction Fund

The [Greenhouse Gas Reduction Fund](#)¹⁵⁴ (GGRF) is a \$27 billion federal investment that supports clean energy projects designed “to reduce greenhouse gas emissions; reduce other air pollutants; deliver benefits to communities; meet the requirement that it may not have otherwise been financed; mobilize private capital; and support only commercial technologies.” To award its funds, the GGRF was divided into three different competitions, the National Clean Investment Fund (NCIF), the Clean Communities Investment Accelerator (CCIA), and Solar for All. Awardees for all three competitions were selected in the summer of 2024.

Under the **National Clean Investment Fund (NCIF)**, the EPA selected three awardees to help finance clean technology projects in community development and small business, housing, and expanded green banking. The focus is on low-income and disadvantaged communities. These nationwide institutions can play an important role in community and regional development that should accompany the redevelopment of a shuttered coal plant site. The three awardees for the NCIF are:

- **The Coalition for Green Capital**¹⁵⁵, which received \$5 billion, has particular emphasis on raising funds for and creating green banks and lending programs. It will be participating in public-private investing in clean technology projects and will leverage the existing and growing national network of green banks as a key distribution channel for investment—with at least 50% of investments in low-income and disadvantaged communities. [This program may offer the best support for coal site redevelopment.](#)
- **Climate United Fund:** This new nonprofit has almost \$7 billion to invest in harder-to-reach market segments like consumers, small businesses, small farms, community facilities, and schools—with at least 60% of its investments to be made in low-income and disadvantaged communities, 20% in rural communities, and 10% in Tribal communities. It was formed by Calvert Impact and two Community Development Financial Institutions (CDFIs), Self-Help Ventures Fund and Community Preservation Corporation.
- **Power Forward Communities:** This nonprofit coalition's \$2 billion is focused on the household decisions that can be influenced to reduce carbon emissions. Partners include Enterprise Community Partners, LISC (Local Initiatives Support Corporation), Rewiring America, Habitat for Humanity, and United Way. They will lead a national financing program providing customized and affordable solutions for single-family and multi-family housing owners and developers with at least 75% of investments in low-income and disadvantaged communities.

Under the **Clean Communities Investment Accelerator (CCIA)**, the EPA funds five financing hubs to provide funding and technical assistance to community lenders working in low-income and disadvantaged communities. The goal is to establish a network of local community lenders to build the financing capacity for clean technology projects in underserved communities. Note that 100 percent of the capital under the CCIA will go to low-income and disadvantaged communities.

- **Appalachian Community Capital**¹⁵⁶ is using \$500 million in federal EPA funds to launch the [Green Bank for Rural America](#),¹⁵⁷ which will deliver clean capital and capacity building assistance to hundreds of community lenders working in coal, energy, underserved rural, and Tribal communities across the United States.
- **Opportunity Finance Network** will use its almost \$3 billion funding award to enhance capital and capacity building for a national network of 400+ community lenders—predominantly U.S. Treasury-certified Community Development Financial Institution (CDFI) Loan Funds—which serve all 50 states, the District of Columbia, and several U.S. territories.
- **Inclusiv** (\$1.87 billion award) is a Community Development Financial Institution (CDFI) lender that provides capital and capacity building for a national network of credit unions—which include CDFIs, and financial cooperatives in Puerto Rico—that collectively manage \$330 billion in assets and serve 23 million individuals across the country.
- **Justice Climate Fund** network of community lenders will use the \$940 million from the federal EPA to fund smaller-scale renewable energy, clean transportation, and energy-efficient homes and buildings, resulting in reduced pollution, improved climate resilience and better lives.
- **Native CDFI Network** will use its \$400 million USEPA fund to strengthen CDFIs creating access to capital and resources for Native peoples.

Under the **Solar for All** Program, the EPA provides funding directly to the states for energy efficiency and housing initiatives. It is a great engine for the creation of thousands of living wage jobs in construction trades. This \$7 billion fund will support 60 organizations that will create new or expand existing low-income solar programs, which will enable over 900,000 households in low-income and disadvantaged communities to benefit from distributed solar energy.

Economic Development Administration's Assistance to Coal Communities Program

The [EDA's Public Works and Economic Adjustment Assistance Program](#)¹⁵⁸ (which includes [Assistance to Coal Communities](#)¹⁵⁹) intends to stimulate economic growth in distressed coal communities by leveraging existing regional assets and supporting the implementation of economic development strategies. The program assists applicants by providing investments that support planning, construction of infrastructure, technical assistance, and revolving loan fund projects.

State Economic Development Programs

States can be critical partners in the redevelopment of retired coal power plants, as well as in community and business development. Here are key state entities that support such efforts:

- **Ohio** - [JobsOhio](#);¹⁶⁰ [Ohio Department of Development](#);¹⁶¹ [Ohio Air Quality Development Authority](#)¹⁶²
- **Pennsylvania** - [Reducing Industrial Sector Emissions in Pennsylvania \(RISE PA\) Program](#);¹⁶³ [Pennsylvania Department of Community and Economic Development](#);¹⁶⁴ [Coal-Fired Power Plant Redevelopment Playbooks](#);¹⁶⁵
- **West Virginia** - [West Virginia Economic Development](#)
- **Kentucky** - [Kentucky Cabinet for Economic Development](#)¹⁶⁶

6.6 Appalachian Regional Commission(ARC)

6.61 ARC's Local Development Districts

6.62 ARC's Partnerships for Opportunity and Workforce and Economic Revitalization (POWER) Initiative

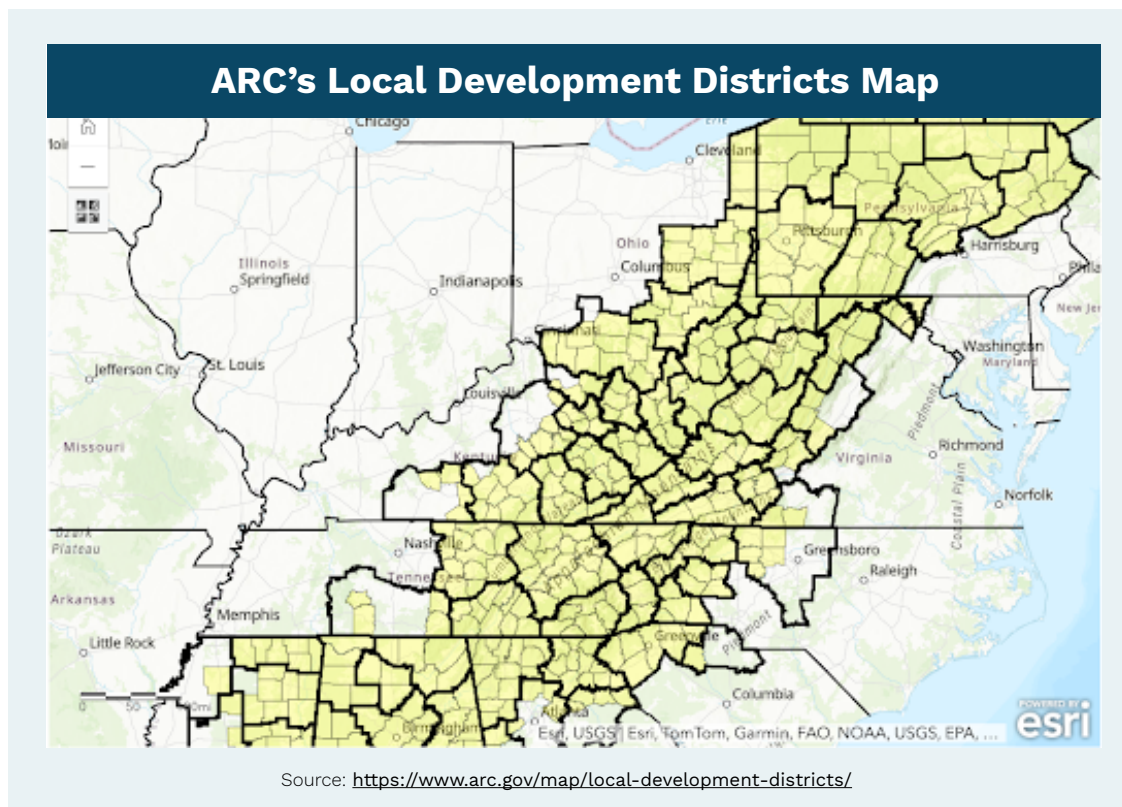
6.63 ARC's READY Initiative

The Appalachian Regional Commission (ARC) is an economic development partnership between the federal government and 13 state governments with Appalachian counties. Its focus is on building strong communities and fostering economic growth to help the region achieve socio-economic parity with the nation. You can learn more about the ARC program in each state, including contact information, state-specific stats, ARC impact data, state strategies and more on their [state specific websites](#).¹⁶⁷

Appalachian Regional Commission's Local Development Districts

[Local Development Districts](#)¹⁶⁸ (LDDs) are multi-county planning organizations that connect communities to facilitate regionally driven economic development. LDDs support local partnerships and connect stakeholders to possible funding sources and expertise that can help with redevelopment efforts in their region.

Figure 30



ARC's Partnerships for Opportunity and Workforce and Economic Revitalization (POWER) Initiative

With the [Partnerships for Opportunity and Workforce and Economic Revitalization](#) (POWER) Initiative,¹⁶⁹ the Appalachian Regional Commission (ARC) provides funding for coal communities and regions that experienced job losses based on America's changing energy economy. Since 2015, ARC has supported over 500 projects with over \$400 million in funding to create and retain jobs, train workers and students, and leverage additional private investments to help revitalize coal communities.

ARC's READY Initiative

The Appalachian Regional Commission's [READY Initiative](#) offers up to nine weeks of virtual no-cost training, cohort-based learning and funding (no match required) for leaders of nonprofits, community foundations, local governments, and Local Development Districts (LDDs).¹⁷⁰

There are four different programs under the READY Initiative, each track tailored to the participating entities (nonprofits, community foundations, local governments, or LDD). Potential participants need to apply for this program, which is a combination of training and grant money. [Check the website](#)¹⁷¹ for application deadlines and to see which program is currently open. An excellent [video describing the program may be accessed here](#).¹⁷²

READY Local Government trains local government officials to better identify, secure, manage, and implement federally funded projects. After completing the training program, participants can receive up to \$50,000 in funding (no match required) to implement internal capacity-building projects to help them better serve communities. Eligible participants under the READY Local Government can come from any borough, city, county, municipality, parish, town, township, or federally-recognized Indian tribe in the Appalachian Region. Municipalities that serve groups with these characteristics are strongly encouraged to participate:

- Distressed county and census tract
- Historically underserved and marginalized populations
- Energy Communities IWG priority communities, or
- Rural Partners Network Community Networks communities

You can find more information about the program [here](#).¹⁷³

READY Local Development District (LDD) is offering up to \$100,000 to Appalachian Local Development Districts to hire staff and more effectively help clients, including local governments and nonprofits, access and manage federal funding. So far, the program has awarded nearly \$4 million supporting 41 Local Development Districts in Appalachia. You can find more information about the program [here](#).¹⁷⁴

READY Non-Profit helps leaders of Appalachian nonprofits build skills in federal grant application and management, financial management, fundraising, employee recruitment and retention, marketing, and operations. After completing the training program, participants can apply for up to \$25,000 in funding (no match required) to implement internal capacity building projects that will help them better serve Appalachian communities. Nonprofits focused on communities with these characteristics are strongly encouraged to participate:

- Distressed county and census tract
- Historically underserved and marginalized populations
- Energy Communities IWG priority communities, or
- Rural Partners Network Community Networks communities

READY Community Foundation offers a six-week no-cost virtual training that helps participating organizations to strengthen their operations, programming and fundraising.¹⁷⁵ After completing the training program, participants can apply for up to \$25,000 in funding (no-match required) to implement internal capacity-building projects and bolster their organizations as critical local funding sources. Community Foundations that serve communities with these characteristics are strongly encouraged to participate: Distressed county and census tract; Historically underserved and marginalized populations; Energy Communities IWG priority communities, or Rural Partners Network Community Networks communities, which are communities that are supported by the [Rural Partners Network](#), an initiative run by the Department of Agriculture.¹⁷⁶

6.7 Technical Assistance

6.71 Interagency Working Group (IWG) Technical Assistance Resources

6.72 EPA Technical Assistance Programs

6.73 Other Technical Assistance Programs

With the Inflation Reduction Act and the Bipartisan Infrastructure Law, we are experiencing unprecedented funding moving the United States toward a new clean energy future. This is all very exciting, but finding the right funding program and making it through the application process can be intimidating and overwhelming. Technical Assistance provided by federal and state agencies, by universities, foundations and many others offer assistance from locating suitable funding opportunities to grant management.

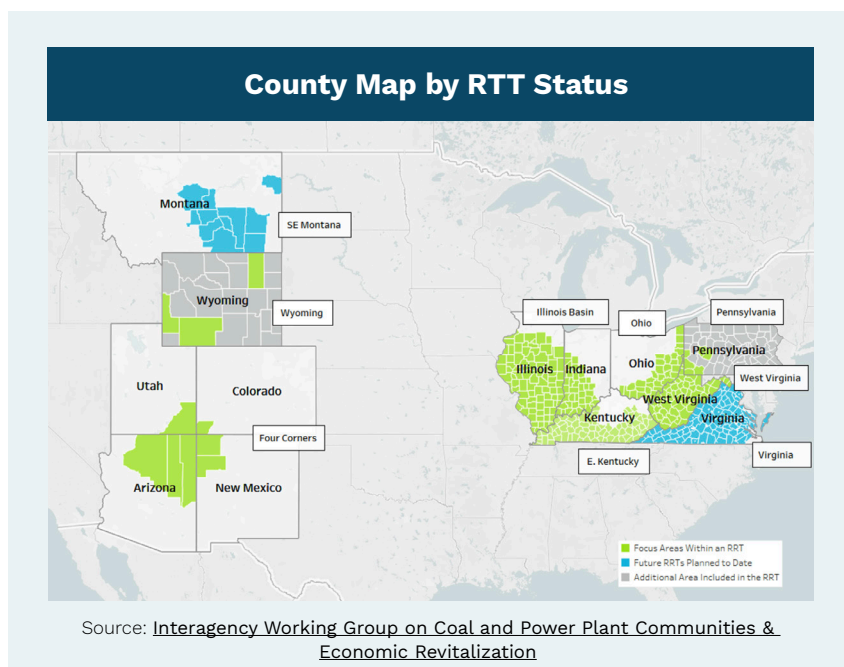
Interagency Working Group (IWG) Technical Assistance Resources

The Energy Community Interagency Working Group (IWG) compiled lists of technical assistance provided by federal departments and agencies. Their website includes lists for three different types of assistance: funding, services (help from people), and educational resources. To get to the IWG's technical assistance resources, [click here](#).¹⁷⁷ The IWG also has a good [4-minute video](#)¹⁷⁸ demonstrating their technical assistance resources.

IWG Navigator Team - Community stakeholders that need help navigating federal agencies and their funding opportunities for energy communities can contact the IWG's navigator team. A team member will get back to them within two business days and will keep in touch if the inquiry needs additional research. You can [contact the navigator team here](#).¹⁷⁹

IWG Rapid Response Teams - Another resource that can be found under the IWG's technical assistance tab is their Rapid Response Teams (RRTs). The goal of each RRT is to "provide on-the-ground technical assistance using experienced regional staff to coordinate federal funding opportunities to assist energy communities dealing with past or imminent fossil energy asset transitions

Figure 31



such as coal mine and power plant closures.” If you want to contact a Rapid Response Team, email the Energy Communities IWG at contact@energycommunities.gov. The IWG team will respond to emails sent to this address and work to connect stakeholders with relevant RRT leads to match their requests.

EPA Technical Assistance Programs


The federal EPA offers various funds for technical assistance under its Environmental Justice Climate Programs, its Brownfield Program, and its Water TA Program. [This fact sheet](#) highlights current EPA Technical Assistance (TA) opportunities, including links for more detailed information. See the [Brownfield Section of Chapter 3](#) for more information about brownfield-specific technical assistance.

Figure 32


EPA Technical Assistance Programs Fact Sheet

U.S. EPA Technical Assistance Programs

*This form is periodically updated to highlight current TA opportunities.
Last update April 2024.*




United States
Environmental Protection
Agency



Who can apply for technical assistance?

Depending on the program, eligible entities include, but are not limited to, community-based organizations, nonprofits, local and state governments, tribes, faith-based organizations and institutes of higher education. Check out each program below to find out if you are eligible for technical assistance.



Are you new to grants and need help navigating the grants process?


Environmental Justice Thriving Communities Technical Assistance Centers (EJ TCTACs)

EJ TCTACs provide training and other assistance free of charge to help underserved communities build capacity for developing stronger grant applications and navigating grant application systems.


EJ TCTACs can provide communities:

- Training in writing grant proposals and managing grant funding.
- Guidance on community engagement, meeting facilitation and grant related translation and interpretation services.
- Direct access to environmental energy grant resources and information.

For more information, visit



www.bit.ly/EJTCTAC



Do you have a water infrastructure project in mind?


Water Technical Assistance (WaterTA)

Water Technical Assistance (WaterTA) provides free, direct support for communities to identify water challenges, develop plans to address them, prepare applications to finance projects and build technical, managerial and financial capacity.

WaterTA can help communities:

- Identify water infrastructure or water quality improvement needs.
- Plan for capital improvements.
- Build technical, managerial and financial capacity.
- Prepare for and develop application materials for financing a project.

For more information, visit



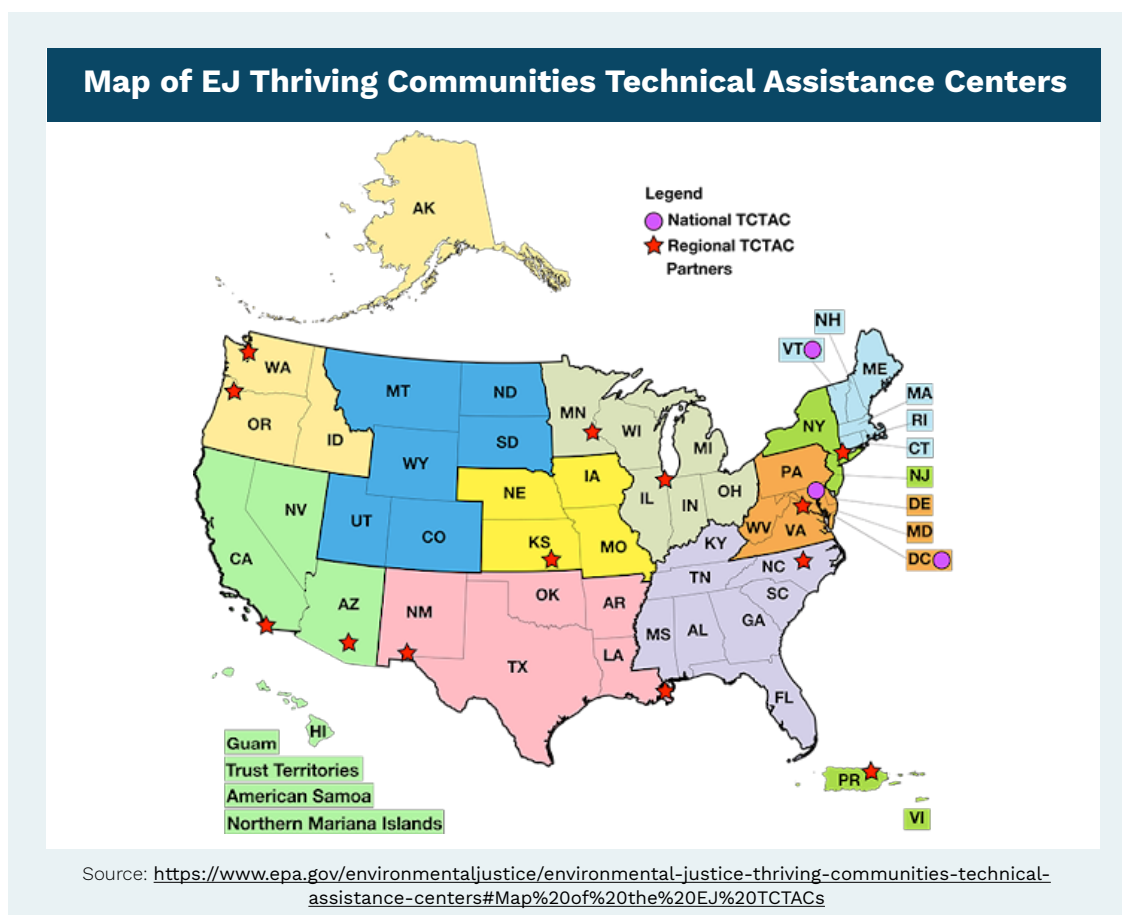
www.bit.ly/EPA-WaterTA

Source: Reprinted from: <https://www.epa.gov/system/files/documents/2024-05/u.s.-epa-technical-assistance-program-fact-sheet.pdf>

Environmental Justice Thriving Communities Technical Assistance Centers

The EPA has selected 16 Environmental Justice Thriving Communities Technical Assistance Centers (EJ TCTACs) in partnership with the U.S. Department of Energy to help underserved and overburdened communities across the country. Throughout the U.S. there are three national technical assistance centers and thirteen technical assistance centers for each EPA region. The centers provide training and other assistance to build capacity for navigating federal grant application systems, writing strong grant proposals, and effectively managing grant funding. For further information regarding the EJ TCTACs Program, [check here](#).¹⁸⁰

Figure 33



Thriving Community Services by State

- **Ohio:** EPA Region 5 has two Thriving Communities Technical Assistance Centers (TCTACs), one is hosted by the nonprofit [Blacks in Green](#)¹⁸¹ in Chicago and one is hosted by the [University of Minnesota](#).¹⁸² Both TCTACs have partners throughout EPA Region 5. One partner of the University of Minnesota is the [Ohio State University Extension](#),¹⁸³ which offers various programs (including in-person) to help with grant writing and sustainable development.
- **Kentucky:** EPA Region 4 has two Thriving Communities Technical Assistance Centers (TCTACs). One is hosted by the [Deep South Center for Environmental Justice](#)¹⁸⁴ (DSCEJ) in Louisiana, and one is hosted by the [Research Triangle Institute](#)¹⁸⁵ (RTI International) in North Carolina. Their regional

partner in Kentucky is the [University of Kentucky](#).¹⁸⁶

- **Pennsylvania** and **West Virginia**: EPA Region 3 has one Thriving Communities Technical Assistance Center (TCTAC) hosted by the nonprofit [National Wildlife Federation](#).¹⁸⁷ West Virginia State University and the nonprofit Appalachian Voices are regional partners. Unfortunately, both TCTAC partners have no TCTAC-specific information online as of yet.

Other Technical Assistance Programs

Just Transition Fund

The Just Transition Fund (JTF) is a national philanthropic initiative supporting the economic transition of mining and power plant communities in major coal-affected areas of the United States. In 2022, JTF launched the Federal Access Center, a one-stop resource hub that helps coal communities secure public funding for local economic solutions. The Center supports community organizations seeking federal grants to advance projects related to economic and workforce development, economic diversification, and broadband access and affordability. To support a project in your community, JTF offers two types of programs based on the project stage. Stakeholders that are still working to define and develop an economic development project and need more support before applying for federal funding should check the Coal Communities Get Ready! Challenge program. Stakeholders that are ready to apply for federal funding should check the Application Ready program.

- Under the [Coal Communities Get Ready! Challenge Program](#),¹⁸⁸ the Federal Access Center (described in the paragraph above) selects a cohort of 8-10 organizations to build readiness to apply for federal grants. The program offers a limited number of grants and technical assistance for early-stage planning projects that have a long-term goal of leveraging federal funding. It is designed for organizations that have little to no experience applying for federal funds. Each awardee will receive one-year grants of \$150,000 and customized technical assistance that will together help build readiness to apply for and manage federal funding. The application window is currently closed but interested organizations should check the Just Transition Fund's website for updates.
- Under its [Application Ready Program](#),¹⁸⁹ the Federal Access Center offers direct grants of up to \$100,000 to support a range of costs associated with developing applications, including hiring a grant writer or other experts, organizing community partnerships, and meeting matching funds requirements. The Center also provides technical assistance from the JTF's team of experts to help organizations identify funding programs, understand application requirements, build relationships with agency contacts, and see proposals through the final submission stage. They also share lessons learned back with agencies about barriers for communities applying to federal funds.

U.S. Conference of Mayors and the Local Infrastructure Hub

The U.S. Conference of Mayors and the Local Infrastructure Hub offers events such as webinars and learning sessions, as well as bootcamps to help small to mid-sized municipalities take advantage of the grant opportunities available through the Bipartisan Infrastructure Law and the Inflation Reduction Act.

The list of those no-cost bootcamps changes. Towns and cities participating in these programs will receive support to develop a robust federal grant application, including access to templates, example submissions, and other resources that make for a well-composed application. The program provides a range of support, including access to subject matter experts, individualized coaching sessions, office hours, and peer-to-peer learning where they can engage with a community of like-minded applicants aiming for infrastructure progress.

Participants will include mayors and municipal staff with job functions focused on finance, community engagement, and other relevant disciplines such as administrative and advisory affairs. A major emphasis will also be placed on helping communities understand federal priorities, such as equity and sustainability, and then incorporate these and other desired outcomes into submissions.

By the conclusion of the bootcamp, cities will be prepared to submit robust applications for federal funding opportunities in these programs. For more information regarding the bootcamps [please check here](#).¹⁹⁰

National Association of Counties: Building Resilience in Coal Communities

The Building Resilience in Coal Communities (BRECC) National Network is an open forum and peer network connecting coal community leaders representing local governments, regional organizations, community nonprofits, education and workforce providers, utilities, private businesses, and other local stakeholders. Community leaders can join the BRECC Online Community Platform which shares announcements for funding and technical assistance opportunities, resources and relevant reports as well as informational webinars. All BRECC National Network bi-monthly learning sessions will be recorded and saved to this platform. BRECC partners will create posts, providing opportunities for users to reply and ask questions. To join the BRECC Online Community Platform, [sign up here](#).¹⁹¹

Regional Technical Assistance and Community Building Resources

Next to the federal technical assistance resources, state agencies and other regional groups also provide valuable technical assistance help. Below is a list of regional organizations offering a host of different services to move forward projects in your community.

Fair Shake Environmental Legal Services

Fair Shake is a non-profit environmental law firm that offers a range of services from legal counsel to community planning and outreach. Fair Shake's Community Democracy Program supports environmental justice communities in the Ohio River Valley to harness their strengths and resources to drive what they want for their air, water, and places in ways that support their health, happiness, and wellbeing. At the same time, the program supports local decision-makers, municipalities, and county governments to reimagine how they engage with their constituents in decision-making processes, and to provide tools and support to help reach the community's vision. For more information about Fair Shake's Community Democracy Program, [check here](#).¹⁹²

West Virginia Community Development Hub

The [West Virginia Community Development Hub](#)¹⁹³ is a valuable resource for different West Virginia community leaders who wish to spark positive change in their hometowns and throughout the state. The Hub provides various services such as online courses for community organizing, coaching of community leaders, as well as the Community Collaborative Network for West Virginian communities to connect. First and foremost, the Hub offers five community coaching programs ranging from introductory to those that require long-term community buy-in and consensus. Amanda Workman Scott, the Hub's Director of Community Engagement or Stacy Thomas, the Community Coaching Programs Coordinator can help inform which capacity-coaching program is appropriate according to your needs. The Community Coaching Programs, with relevant applications and timelines, are on their website under "How We Work."

West Virginia Grant Resource Centers

The West Virginia Grant Resource Centers, located in Huntington and Morgantown, serve all 55 West Virginia counties with assistance during the pre-award process. The centers help eligible applicants from identifying funding opportunities to submitting a complete application package every step of the way. Special consideration is given to applicants that are located and serve distressed counties as identified by the Appalachian Regional Commission. For more information about the WV Grant Resource Centers [check here](#).¹⁹⁴

Southwestern Pennsylvania Municipal Project Hub

The Southwestern Pennsylvania Municipal Hub (The Hub) is a resource for local government officials in Southwestern PA who are looking for support in realizing their municipal project. The Hub is fairly new and still growing. Already, it provides project and technical support helping to connect municipalities, school districts and nonprofits with funding opportunities, direct technical assistance, and experts such as grant writers, engineers and project managers. The Hub also helps to establish strong community engagement and planning, since it believes to be a prerequisite for a project's success. Finally, the Hub offers research and resource support identifying the gaps, barriers and bottlenecks the region faces when pursuing a green and equitable economy. The Southwestern Pennsylvania Municipal Hub serves a 10-county region in Southwestern PA, including Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Washington, and Westmoreland Counties. For more information [check here](#).¹⁹⁵

Power a Clean Future Ohio

[Power a Clean Future Ohio](#) (PCFO)¹⁹⁶ is a nonpartisan coalition that works with Ohio communities to build a clean energy future. The nonprofit equips local leaders with tools and resources to create carbon reduction plans and implement them in ways that are achievable, equitable, and economical. Communities of the PCFO coalition have access to the group's Infrastructure Grant Assistance Program (IGAP). IGAP provides technical assistance and other resources as new grant programs and application deadlines are announced. Member communities are assisted at different steps of the way, from helping them to find the right funding opportunity to providing expert advice during the grant writing process. PCFO also offers an Inflation Reduction Act (IRA) Resource Hub assisting Ohio local governments and community members with the resources they need to take advantage of historic opportunities provided through this landmark legislation.

6.8 Conclusion

With the Bipartisan Infrastructure Law (BIL) and the Inflation Reduction Act (IRA), the U.S. government undertakes, for the first time, a systematic effort to move us towards a new clean energy economy while acknowledging the contributions and sacrifices coal communities have made to power this nation. Programs under the BIL and IRA spur the development, manufacturing and deployment of clean energy technology, they help finance infrastructure projects that address the challenges that come with climate change, and they support workforce development programs that put workers on a pathway to earning a living wage.

The goal of this chapter was to introduce several of the most relevant BIL and IRA programs that offer financing support and/or technical assistance to communities with shuttered (or shuttering) coal power plants. The future of many of these programs is uncertain under the Trump administration; and while several of the programs will be cut or changed, they won't all disappear. Consider applying to the many programs that can help your community and support the transition of your shuttered coal plant site.

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