



Pennsylvania at Epicenter of Low-Carbon Industrial Revolution *RISE PA Coalition Action Plan*

Executive Summary

Pennsylvania's \$396 million Reducing Industrial Sector Emissions Pennsylvania (RISE PA) program looms large within the universe of federally-funded climate action still intact in the United States. It is a rare opportunity to demonstrate U.S. progress on carbon emissions from 2025-2029 (roughly the five-year length of the current RISE PA program), while boosting U.S. industrial competitiveness, creating good jobs for diverse workers, and improving public health.

With funding from BuildUS and in light of the interest of other climate philanthropy in RISE PA, ReImagine Appalachia, Keystone Research Center, and partners formed a "RISE PA coalition" that met from March to December 2025 with a dual purpose:

- First, organizing convenings from June-August to increase Pennsylvania companies' interest in applying for RISE PA funds and to provide applicants with technical assistance, including on how to increase funding from RISE PA by delivering community benefits and complying with fair labor standards.
- Second, developing this RISE PA Coalition Action Plan with a menu of options that philanthropy can support to maximize the impact of RISE PA's (1) core decarbonization efforts and (2) community benefits and fair labor bonuses; and also (3) make RISE PA a model that other states and, in 2029, the federal government can replicate and adapt.

This Action Plan recommends the following.

1. Maximize effectiveness of RISE PA program.

- Enhance RISE PA staff capacity and effectiveness via ongoing feedback from stakeholders and national experts.
- Strengthen technical assistance (TA) for RISE PA grantees and applicants.
- Support state efforts to convene decarbonizing companies and TA providers to boost peer learning across sectors and technologies, spread effective practices, and spur innovation.
- Focus one component of convening and peer learning on unionized contractors and industries, capitalizing on worker voice and joint labor-management apprenticeship to boost industrial decarbonization.
- Create and maintain a public database of Pennsylvania industrial facilities to track and evaluate RISE PA progress, create a dashboard to motivate coordination to increase RISE PA impacts and target technical assistance.

- Help document and elevate the story of RISE PA's successes via traditional and social media, webinars, video stories.

2. Maximize effectiveness of the community benefit and fair labor bonuses as well as the apprenticeship utilization requirements.

- Support state effort to promote peer learning among companies, TA providers, community and labor groups engaged with bonus awards.
- Identify and share lessons/best practices from implementing CBB/FLB bonus awards.
- Elevate the RISE PA's bonus awards story with data & case studies.
- Boost compliance with RISE PA labor and community benefit provisions through technical assistance plus enforcement.

3. Expand RISE PA Program and Support Replication as a National Model

- Produce a research report and organize a convening on diverse financing options for industrial decarbonization available beyond RISE PA.
- Develop Pennsylvania and federal visions for industrial decarbonization and Blueprints for achieving that vision.
 - Map out phases of RISE PA from efficiency and other low-hanging fruit to innovative approaches that could yield more emissions and pollution reduction.
 - Profile the potential of renewable energy, including geothermal, to slash PA industrial emissions while also reducing costs and increasing competitiveness.
 - Explore the potential of behind the meter, joint energy generation—including geothermal and micro-grids—to cut emissions from large-load industrial electricity users, such as data centers, green steel, and eco-industrial parks.
 - Develop state and federal policy platforms *that promote industrial competitiveness through decarbonization*.
- Advocate for state and federal policy platforms, using the vision, messaging and action steps outlined in the blueprints

RISE PA 3-YEAR COALITION ACTION PLAN

Resources needed: \$250,000 per year for 3 years

1. Maximize Impact of Rise PA Program

Action	Action Step /Owner(s)	Budget	Impact
Directly support RISE PA staff with feedback, access to national experts, coalition backing.	Relmagine Appalachia, RISE PA working group and National Association of State Energy Officials	\$75,000, including convening costs	Expand RISE PA capacity, integrate national best practices, distill lessons for replication
Support state's effort to convene grant recipients, community/labor partners, technical assistance groups (virtually and in person).			Accelerate peer learning, diffusion of effective practices, innovation
Map out technical assistance providers			Improve RISE PA implementation
Create and maintain a database of funded industrial facilities and conduct complementary case studies including to enhance the state of PA's planned "Industrial Playbook."	Synapse, Keystone Research Center, ORVI	\$125,000	Track and evaluate RISE PA progress Document present and future cost savings, toxics and emissions cuts, public health benefits
Share the story of RISE PA's successes via traditional and social media, webinars, videos.	RA, Rise PA working group	\$95,000	Tell and bolster the story of RISE PA success

2. Maximize Success of Community Benefits and Fair Labor Provisions

In partnership with State of Pennsylvania, promote peer learning on Community Benefit and Fair Labor bonus awards and build networks of TA providers, industry, community & labor groups	RA, Keystone Research Center, working group	\$100,000	Maximize community benefit and fair labor bonus impacts
---	---	-----------	---

Capture RISE PA CBB and FLB implementation , incl. scoring rubrics, challenges, enforcement experience, best practices, and other lessons learned			Extract lessons learned for future policy in PA and beyond Create a toolkit to facilitate replicability
Use technical assistance and enforcement to boost compliance with prevailing wage and apprenticeship utilization ; assess lessons learned	PA Foundation for Fair Contracting	\$50,000	Improve job quality on RISE PA projects and create high-paying construction careers for diverse local workers
3. RISE-ing Upward: Expand & Replicate RISE PA as a Model for Modernizing Decarbonizing Industry			
Map out long-term RISE PA vision and strategy in phases. Develop State of PA and federal policy platforms that promote industrial competitiveness through decarbonization: sharpen the case for cost and competitiveness benefits, refine platforms through listening sessions.	ReImagine Appalachia, ORVI, Keystone Research Center, RTC, Clean Air Council, NASEO, Moms Clean Air Force, RA working group, and academic partners	\$75,000	Encourage RISE PA focus first on efficiency/low hanging fruit but then shift to defined pathways for deeper decarb. Sustain RISE PA beyond 5 years and with dedicated state funding. Increase replication of RISE PA in other states and nationally.
Profile renewable energy potential for industry in PA and potential for partnership w/ Project Innerspace to accelerate use of geothermal		\$30,000	Help make PA a global leader in geothermal, boosting industry and emissions/ toxics reduction.
Identify, track and promote diverse financing options for industrial decarb; identify specific roles for philanthropic funds. Assess existing industrial decarbonization programs for expansion. Explore behind the meter joint renewable energy generation for large-load industrial electricity users. Ensure large load users don't drive up costs for residential consumers		\$75,000	Sustain momentum for industrial decarbonization in PA beyond RISE PA. Build the case for philanthropic investment in a \$10 million revolving loan fund for PA. Help programs/ funders of decarbonization avoid being siloes. Identify gaps for philanthropy to fill such as payments for audits, up-front costs, and energy service intermediaries
Advocate for state and federal policy platforms , using vision, messaging and blueprint action steps.		\$125,000	
TOTAL	3 YEARS	\$750,000	\$250,000 PER YEAR, FOR 3 YEARS

Pennsylvania at the Nexus of a New Low-Carbon Industrial Revolution

RISE PA Coalition Action Plan

Why RISE PA Matters

Over the past few years, the federal government committed more than \$2 trillion through the Inflation Reduction Act, the Bipartisan Infrastructure Law, and the CHIPS Act. These climate infrastructure investments represent more than just programs. They are a blueprint for creating a new economy, one with the potential to deliver progress on economic and climate objectives in a way that centers workers and communities. The federal policy landscape, however, has now shifted. Federal climate programs and federally-funded climate infrastructure projects have been or are being eliminated or cut. This makes Pennsylvania's RISE PA program even more important as a vehicle for demonstrating the payoff from landmark federal climate investments and continuing the nation's progress towards the new energy economy.

The RISE PA Program: Win-Win-Win: RISE PA is a \$396 million statewide industrial decarbonization grant program with enormous potential to increase the competitiveness of Pennsylvania industry, create thousands of well-paying jobs, slash toxic emissions and greenhouse gases from industrial facilities, and improve public health. RISE PA—funded via a US Environmental Protection Agency Climate Pollution Reduction Grant (CPRG) authorized under the Inflation Reduction Act of 2022—is the second largest federal grant in Pennsylvania history and the largest federal CPRG grant awarded.

With the RISE PA program, Pennsylvania is now uniquely positioned to lead the nation in preparing industry to compete in the low-carbon economy of the future.

Pennsylvania's industrial sector—defined by RISE PA to include manufacturing, coal mining (active and abandoned), natural gas production and distribution facilities, and agriculture—accounts for \$172 billion in state domestic product and 13.4% of jobs.¹ The sector also accounts for nearly 25% of the state's greenhouse gases (GHG) emissions. The manufacturing sector, the largest of industrial sectors, alone, contributes \$111 billion to the state's gross domestic product and provides close to 1 out of every 10 Commonwealth jobs, most of which pay relatively decently.

RISE PA can help:

- Prepare the region's industry to compete in the low-carbon economy, while also reducing energy costs, and establishing more reliable energy sources;

¹ The "industrial sector" as defined by RISE PA – and ordinarily in carbon emissions estimates –refers to manufacturing and the sectors that produce raw materials, including mining, agriculture, construction, and pipelines. GDP shares are based on Bureau of Economic Analysis data for 2024 available from <https://www.bea.gov/itable/regional-gdp-and-personal-income>.

- Create access to family-sustaining union careers and paid on-the-job training apprenticeship opportunities (apprentices on RISE PA projects must account for at least 15% of the total construction trades work hours);
- Reduce harmful air pollutants as well as greenhouse gas emissions to improve the health of our communities; and,
- Engage communities with funded projects to ensure that communities benefit.

Program implementation, however, is never simple and that is certainly true of a multi-dimensional program like RISE PA. Decarbonizing industry while ensuring the creation of high-quality jobs and maximizing benefits to communities requires alignment across state agencies, local governments, labor, community organizations, workforce developers, utilities, and private actors. By bringing these diverse stakeholders together, and providing them the tools and information they need, Pennsylvania can move faster, smarter, and better.

This RISE PA Coalition Action plan: a roadmap for maximizing RISE PA's impact.

ReImagine Appalachia's May 2025 [Proposal to BuildUS](#) committed to creating a RISE PA Coalition Action Plan spelling out a menu of options philanthropy could invest in to:

1. Maximize the effectiveness of RISE PA itself.
2. Maximize the success and demonstrate the value of the RISE PA Bonus Awards for fair labor practices and community benefits
3. Expand RISE PA program while making it a national model for decarbonizing industry in a way that creates high-quality jobs and pathways out of poverty.

The rest of this document fleshes out our menu of action steps in these three buckets. The table after the Executive Summary summarizes the action steps, specifies organizations that might lead implementation of each action, and provides a rough estimate of the budget needed for each action. We sought to keep the text and table in this action plan short, long enough to convey only the basic concept behind each action. Funders interested in fleshed out versions of any of these options should contact ReImagine Appalachia or Keystone Research Center.

Background

In spring of 2025, ReImagine Appalachia and Keystone Research Center, with support from Build US, formed a planning committee to organize a convening of diverse stakeholders—potential RISE PA applicants, program officials, community groups, philanthropy and labor leaders, among others.

The **planning committee** included ReImagine Appalachia, Keystone Research Center, the Ohio River Valley Institute, RMI, Renewable Thermal Collaborative, the Clean Air Council and the BlueGreen Alliance.

At our inaugural meeting in May of 2025, our group decided to convene people as soon as possible so that we could be helpful to first round RISE PA applicants facing August proposal deadlines. Moving quickly seemed particularly critical because the Commonwealth of Pennsylvania expected to allocate most or all of the monies for medium and large projects in this initial round of funding.

In just a few weeks, the planning committee pulled together a series of meetings that we affectionately refer to as a “digital sandwich.” We organized:

1. a virtual convening June 24th, “[RISE PA: Learn, Share and Collaborate on Project Concepts](#)”
2. An Pittsburgh in-person convening in mid-July on an evening followed by a full day program including networking and office hours at which RISE PA applicants received help from experts and RISE PA program staff.
3. A virtual convening August 7th, “[Tying it up: Final Feedback for Project Concepts](#).”
4. Listening Session in October, post application deadline, for the creation of a Rise PA Coalition Action Plan, “[Rise PA: A Model for Other States and the Nation](#).”

These convenings sought to catalyze and support more and stronger proposals, while also identifying needs and gaps in assistance that could become part of a coalition action plan outlining how to fully maximize RISE PA’s potential. We were thrilled to have help from the RISE PA team, including Louis Krak and Catherine Tully, to participate and recruit more applicants. We had some rich conversations, partially captured in notes online and videos available at <https://keystoneresearch.org/risepa/>.

1. Maximizing the Impact of RISE PA

Coalition Goal: Maximize investments in high-quality industrial decarbonization by providing support to RISE PA applicants, funded projects, and staff.

Action Steps

- Provide **RISE PA program's staff with coalition support** that can offer feedback, space for networking across stakeholders, and access to national experts.
- Strengthen **technical assistance to companies**. Identify and profile industrial decarbonization technical assistance providers. Support matchmaking between resource providers and companies. Build a network of resource providers to avoid duplication.
- **Convene decarbonizing companies**, along with technical assistance providers, to **boost peer learning** across sectors and technologies, spread effective practices, and spur innovation so that by the end of RISE PA (2029), Pennsylvania companies are on the cutting edge of global decarbonization. Seek to identify and adopt best practices for peer learning on industrial decarbonization such as [California's Regional Energy Networks](#).
- **Focus one strand of convening and peer learning on unionized industry and contractors**, capitalizing on worker voice and robust joint labor-management apprenticeship and training funds to improve industrial decarbonization. Along with convenings of unionized companies and contractors:
 - Survey **unionized contractors** (mechanical/HVAC, electrical, sheet metal etc.) **about their industrial decarbonization capabilities** and diffuse the findings, including by enhancing Keystone Research Center's map and downloadable database of unionized decarbonization contractors.²
 - Catalog **the industrial decarbonization related training programs** delivered by joint labor-management training partnerships.³
 - **Assess the willingness of unionized contractors and their labor partners to jointly invest in peer learning** and marketing to enhance these contractors' industrial decarbonization market share in PA.
- **Map out strategic phases of RISE PA implementation**, starting with efficiency first and accessing low-hanging fruit, but then exploring innovative approaches with potential for greater cost savings and emissions reduction.

² Building trades unions and their employer association partners negotiate many different types of labor-management training funds, the best known of which include joint apprenticeship and training funds and health and retirement benefit funds. "Market development" funds in some cases invest in marketing and business development research to help expand unionized contractors' market share. Industrial decarbonization funds could blend some skill building and peer learning with marketing to brand unionized contractors as the highest performing industrial decarbonization firms.

³ This handbook would flesh out the overview of such training online at <https://keystoneresearch.org/wp-content/uploads/RISE-PA-Training-Joint-App-Programs-2.pdf>.

- **Profile the renewable energy potential of Pennsylvania for industrial applications**, drawing on and synthesizing existing research where possible – for example, Penn State and Project Innerspace have already collaborated on an assessment of Pennsylvania’s geothermal assets (online at <https://celp.psu.edu/projects/pa-geothermal/>). This profile should map out how Pennsylvania might maximize use of renewable power for industrial uses, indicating where heat can be used directly, as well as identifying combined heat and power and waste heat recovery opportunities, and spelling out potential cost savings for each of these applications.
- Assess **the potential of a Pennsylvania partnership with Project Innerspace** to accelerate use of geothermal energy in PA for industrial uses.
- Explore **behind the meter, joint energy generation opportunities**—on-site, nearby, co-location—for large-load industrial electricity users (data centers, green steel etc.) and modernized industrial parks that can slash emissions at competitive costs without raising prices for non-industrial users.
- Communicate **to companies the competitive benefits of industrial decarbonization** and make it easier for them to bite the bullet.
 - Publicize company success stories.
 - Document the benefits, i.e. energy and cost savings, competitiveness advantages, community benefits.
 - Survey companies to better understand barriers to advancing industrial decarbonization projects.
- **Convene state and federal industrial decarbonization programs, utilities, and responsible investors to help PA companies’ access non-RISE PA industrial decarbonization finance** opportunities (capital stack). While \$396 million is a lot of money it’s a small fraction of the amount needed to reduce energy use and emissions as much as technically feasible in Pennsylvania’s industrial sector.
- Create and maintain **a public database of industrial facilities** (that integrates data from existing EPA, DEP, and other sources) and deploy it to:
 - **Assess** the need for foundations to invest in maintaining data collection in the event that EPA and the federal government stop collecting vital data.⁴
 - **Track** RISE PA progress accurately, **evaluate** RISE PA progress (on reducing emissions, co-pollutants, public health, etc.) and **create a dashboard** to help drive coordination across multiple programs and stakeholders to increase positive impacts of RISE PA.
 - Target **technical assistance to companies** that data indicate would deliver the biggest benefits from industrial decarbonization (emissions and

⁴ This assessment should start by evaluating how much existing efforts have already mapped out the need to both capture existing data and, critically, continue data collection. These efforts include <https://www.climate.us/>; the [Environmental Data & Governance Initiative – Environmental Data and Governance Initiative](#); and initiatives of the Sabin Center. Catherine Tulley of the RISE PA team provided this information regarding these existing efforts to evaluate potential data collection needs and gaps.

co-pollutant reduction, energy savings from heat pumps, community benefits, etc.) and also sectors and regions that underutilized the opportunity to access RISE PA funds impacts

- Elevate the story of **RISE PA's success** using data and case studies/"success stories." Partner with RISE PA to enhance and increase the visibility of the "Industrial Decarbonization Playbook" that PA's RISE PA CPRG award obligates the state to write.

2. Maximize Success of and Learnings from Bonus Awards for Community Benefits and Fair Labor Provisions and Apprenticeship Utilization Requirements.

Coalition Goal: Identify, assess, increase and elevate community benefits from industrial decarbonization projects, including creation of good jobs, local access to those jobs, particularly in disadvantaged communities, and capture these impacts to inform future PA, regional, and national policies.

Action Steps:

- Maximize **community benefit and fair labor bonus impacts** through:
 - peer learning and networks of industry partners, technical assistance providers, community and labor groups.
 - identification of challenges for CBB and FLB applicants and of solutions to address those challenges. Compile lessons learned for future CBB and FLB policies.
 - elevate the story and visibility of RISE PA's bonus awards using data and case studies/success stories, analogous to the state's development of an "Industrial Decarbonization Playbook."
- **Map** high-poverty communities.
- Boost compliance with **RISE PA labor and community benefit provisions through technical assistance and advocating for enforcement action** by the program:
 - Promote enforcement of commitments made by companies awarded CBB and FLB bonuses—companies that don't meet commitments should not get bonuses. Assess need for legally binding agreements and templates.
 - To make it easier for RISE PA awardees to comply with apprenticeship utilization requirements, map apprenticeship and training programs most relevant to industrial decarbonization, including contact information; and produce a simple explainer on how companies can hire apprentices affiliated with these programs.
 - **Customize a primer for RISE PA applicants and awardees on best-practice apprenticeship readiness** and other pre-apprenticeship programs. Include case studies and data that have resulted in growing diversity of Pennsylvania joint construction apprentices, and which

demonstrate the feasibility of complying with apprenticeship utilization and diverse local hiring requirements.

- **Secure technical assistance for RISE PA grantees to ensure compliance** with prevailing wage and apprenticeship utilization requirements.
- **Assess compliance and capture lessons for enforcement** beyond RISE PA.

3. RISE-ing Upward: Expand and Replicate RISE PA as a Model for Modernizing Industry Across the Region and the Country

Coalition Goal: Pennsylvania's RISE PA coalition and industrial decarbonization community of practice helps make Pennsylvania's industrial sector a national leader of the low-carbon economy, and sparks replication efforts in other states and nationally.

Action Steps

- Research **diverse financing options for industrial decarbonization**.
 - Assess promising financing options and combinations of options in a research report and convening that examine varied models including but not limited to the Pennsylvania Investment Authority (PennVEST), the Pennsylvania Energy Development Authority (PEDA); the Philadelphia Green Capital Corps; [NYSERDA's Commercial & Industrial Carbon Challenge](#); financing by industry through energy service companies; a union-friendly energy service fund within a socially responsible investment firm; financing by rural electric cooperatives (see this [CO initiative](#));
 - Identify roles philanthropic funds could play such as gap filling, seed funding, funding for convenings and peer learning.
- Develop **PA, state, and federal policy platforms** that promote industrial competitiveness through decarbonization.
 - Identify gaps or shortfalls in RISE PA and other industrial decarbonization programs, including federal ones operating in Pennsylvania.
 - In partnership with the National Association of State Energy Officers and its industrial decarbonization working group, assess and monitor on an ongoing basis current and proposed industrial decarbonization policies and legislation in other states and at the federal level.
 - Develop and test messaging that can attract bipartisan and business support for industrial decarbonization, including by emphasizing cost savings and the contributions to industrial competitiveness.
 - Informed by the above, by the experience of RISE PA, and by convenings organized with National Association of State Energy Officials (NASEO), develop PA-specific, state, and federal policy platforms. The state platform could include a \$10 million revolving loan fund for industrial decarbonization. The federal platform should include increased federal funding for Industrial Assessment Centers and Manufacturing Extension

Partnerships to conduct industrial energy assessments, and provide subsidies and access to capital for implementing recommended projects.

- **Advocate for the PA and federal policy platforms and assist with advocacy** in other states, at least within the 4-state Ohio River Valley region of Appalachia.
 - Conduct community listening sessions and public webinars to validate RISE PA benefits as well as surface community concerns.
 - Assess and distill in accessible materials the economic benefits of investment in industrial decarbonization.
 - Create publicly available educational materials and resources drawing from the RISE PA program Industrial Playbook, RISE PA evaluation data, convenings for RISE PA grantees, and best practice examples.
 - Develop a PA communications and advocacy campaign that:
 - engages local media and stakeholders and uses educational materials to increase community buy-in and support;
 - convenes advocates, policymakers, RISE Pa program officials and companies for legislative briefings; and
 - trains advocacy teams to meet with individual state legislators and Congress to advance the PA and federal policy platforms;
 - Create a RISE PA replication team that includes industry, program officials, PA legislators, labor, and other advocates and that is available virtually or in person to connect with and educate other states and for Congressional advocacy.

For More Information, Contact the RISE PA Coalition

If, after reading this action plan, you want more information or to explore how you can help implement some of our menu of options, please contact the co-directors of ReImagine Appalachia, Amanda Woodrum (amanda@reimagineappalachia.org; 330-780-8321) or Stephen Herzenberg (herzenberg@keystoneresearch.org; 717-805-2318).