

MANUFACTURING A DECARBONIZED FUTURE IN SOUTHWESTERN PENNSYLVANIA

October 12-13, 2022

Overall takeaways

- The manufacturing sector is increasingly responding to climate change, driven by state and federal policies, investor pressure, consumer demand, emerging carbon reduction standards for their products, and other factors. Businesses will need to adapt their operations to remain competitive, and regions who best equip businesses with the resources and enabling policies to meet these demands will enhance their ability to attract and retain manufacturers.
- SW Pennsylvania has long been a hub for critical manufacturing industries (such as steel, glass, and aluminum), and its infrastructure and expertise can be leveraged to make the region an epicenter for decarbonized, clean manufacturing to help the region, and the country, meet climate goals.
- SW Pennsylvania's legacy industrial sites, including coal plants and steel facilities, can be opportunities for zero-carbon, sustainable manufacturing and clean energy generation. These sites and their accompanying infrastructure are well suited for such uses, but targeted state policies and regional coordination are needed to successfully reclaim, remediate, and redevelop these properties.
- SW Pennsylvania has experienced generations of "boom and bust" cycles as large industries grow then decline, leaving many communities feeling left behind and distrustful. Successful decarbonization efforts must seek to heal that past, including by emphasizing economic diversification so communities do not over-rely on a single industry for their tax base and jobs.
- SW Pennsylvania is a diverse region with equally diverse decarbonization challenges. Strategies that work in Pittsburgh may not work in rural areas that lack basic infrastructure (i.e., broadband) and are more economically dependent on legacy industries. Decarbonization and economic development strategies need to be designed to meet the needs of the region's heterogeneous communities.
- Federal legislation has provided significant funding to help communities respond to climate change, but participants raised concern with SW Pennsylvania's ability to compete for funds given shortfalls in comprehensive regional strategic planning, state and local policies, and local capacity in rural areas.
- State policies and incentives to enable the clean energy transition (such as renewable energy and energy efficiency goals and requirements and green building standards) can remove barriers for businesses in these sectors, establish Pennsylvania as an attractive investment destination for climate-minded companies, and create a signal that spurs further private sector decarbonization.

Session 1: Becoming an investment destination for low-carbon manufacturing

- SW Pennsylvania needs to anticipate changes to existing industries and identify potential new growth industries to remain competitive. It also must ensure that workers and communities have equitable access to the skills and resources to take advantage of those opportunities.
- Participants expressed excitement about new manufacturing industries (e.g., solar and wind energy components, energy efficiency products, batteries, circular economy, plastics alternatives) that could be brought to SW Pennsylvania. Additional regional analysis is needed to understand the current state of these industries in the region, existing and potential future supply chain opportunities, and which industries could be best supported given the region's assets.
- Some heavy industry segments with significant presence in SW Pennsylvania are difficult to decarbonize. Energy efficiency, process electrification, and fuel switching are all promising first steps, and carbon capture may also be needed for emissions that cannot be otherwise abated.

- Participants were split on views of hydrogen. Some highlighted its economic potential and its potential to reduce emissions in otherwise difficult-to-decarbonize sectors. Others expressed concern with its potential environmental justice impacts and whether—in the case of blue hydrogen—it can reduce emissions relative to fossil fuels. Some noted that an over-emphasis on hydrogen may divert regional attention and investment from other decarbonization strategies.
- SW Pennsylvania’s skilled workforce, including its unions, is a critical resource for decarbonization and can help attract businesses to the region. Organized labor should be a partner in decarbonization discussions and efforts to help ensure their success.
- Rural areas face significant barriers to attracting investment in their communities, including lack of broadband, sewer and stormwater infrastructure, and other challenges. A more competitive policy environment in neighboring states (West Virginia and Ohio) may also stymie investment in rural Pennsylvania, especially in areas directly bordered by these states.

Session 2: Economic revitalization through decarbonization

- SW Pennsylvania has a strong research and innovation ecosystem, buoyed by major universities, national labs, and private sector facilities. More investment in technology commercialization and deployment can translate that ecosystem into concrete economic opportunity. Successful efforts for other industries (e.g., automation, life sciences) can be replicated or expanded to support regional decarbonization, particularly in advanced manufacturing.
- SW Pennsylvania’s workforce is adaptive and accustomed to industry shifts, but leadership from policymakers is needed to help the workforce access resources to prepare for and seize new economic opportunities emerging as a result of climate change.
- Workforce development efforts need to focus both on preparing existing workers for growth industries and cultivating requisite skills among young people entering the workforce. In-school education, job shadowing opportunities, pre-apprenticeships, and apprenticeships can all help young people imagine and prepare for careers in new industries.
- Successful workforce training programs must be informed by regional job market analysis and include strong employer partnerships to ensure trainees cultivate skills matched to business needs. Organized labor must have a prominent role in training and skills development programs.
- A just transition that succeeds at both decarbonization and economic revitalization in Pennsylvania will require measurement of equity, public health, environmental justice, and other priority metrics, as well as conventional economic indicators, to ensure accountability.
- Increasing emphasis has been placed on community engagement, community benefits, and equity in federal funding programs (i.e., through the Justice40 initiative and other means). These aims are important, and Pennsylvania could similarly ensure positive local impact through state funding opportunities by implementing application scoring criteria that emphasize community involvement in projects, and by prioritizing investment in underserved communities.
- Many rural areas face government staffing shortages and may lack capacity and resources to apply for federal funding opportunities, which could undermine federal attempts to support local communities.
- Environmental justice and other disadvantaged communities have faced multi-generational burdens to their health and the environment. It will take significant investment to first mitigate those negative impacts, then create positive impacts that can be sustained intergenerationally to eliminate inequities.
- Organizing meaningful community engagement through regional learning networks (including between urban and rural communities) and resource sharing and capacity building opportunities for disadvantaged communities can promote a coordinated and successful approach to address the region’s decarbonization, economic, and equity challenges.