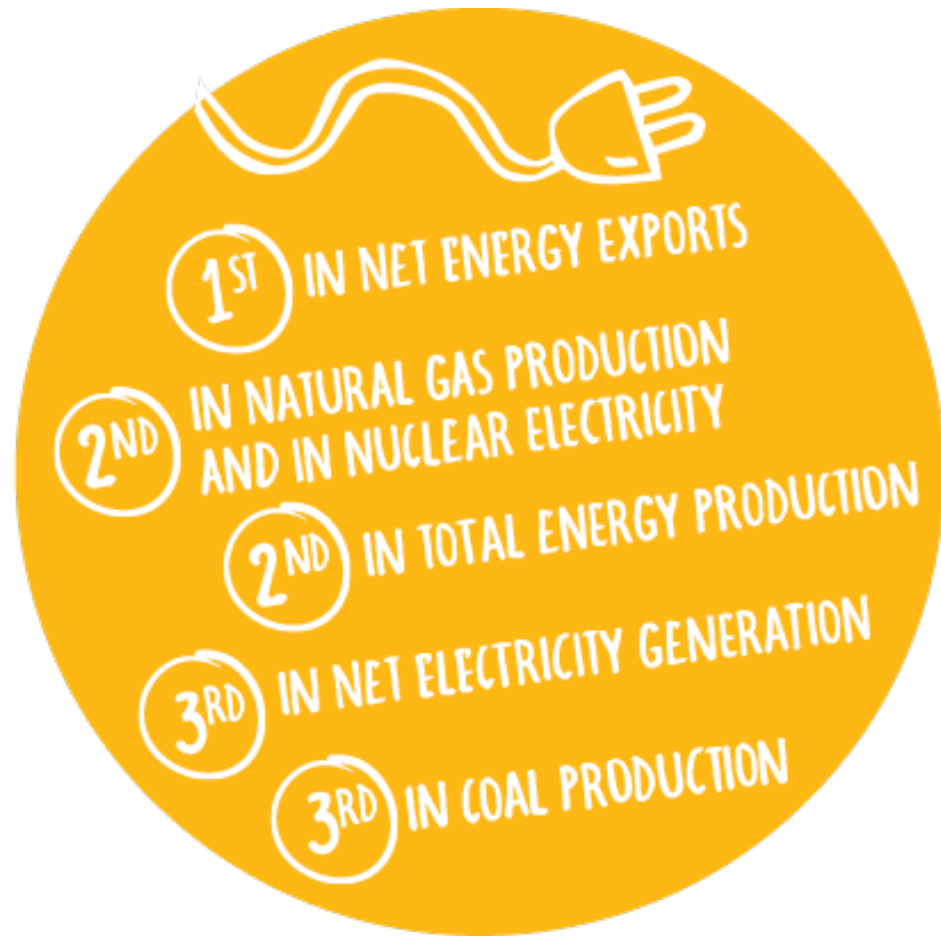


Charting Pennsylvania's Path for Leadership in Energy Transition

Adam Walters
Senior Energy Advisor
Pennsylvania Department of Community and Economic Development
adwalters@pa.gov

POWERING PENNSYLVANIA'S ECONOMY



Our abundance of natural resources gives Pennsylvania the opportunity to play an important role in national energy production and positions us for unparalleled growth in the energy and manufacturing sectors.

PA DCED SUPPORTING ENERGY DEVELOPMENT: PENNSYLVANIA AS A LEADER

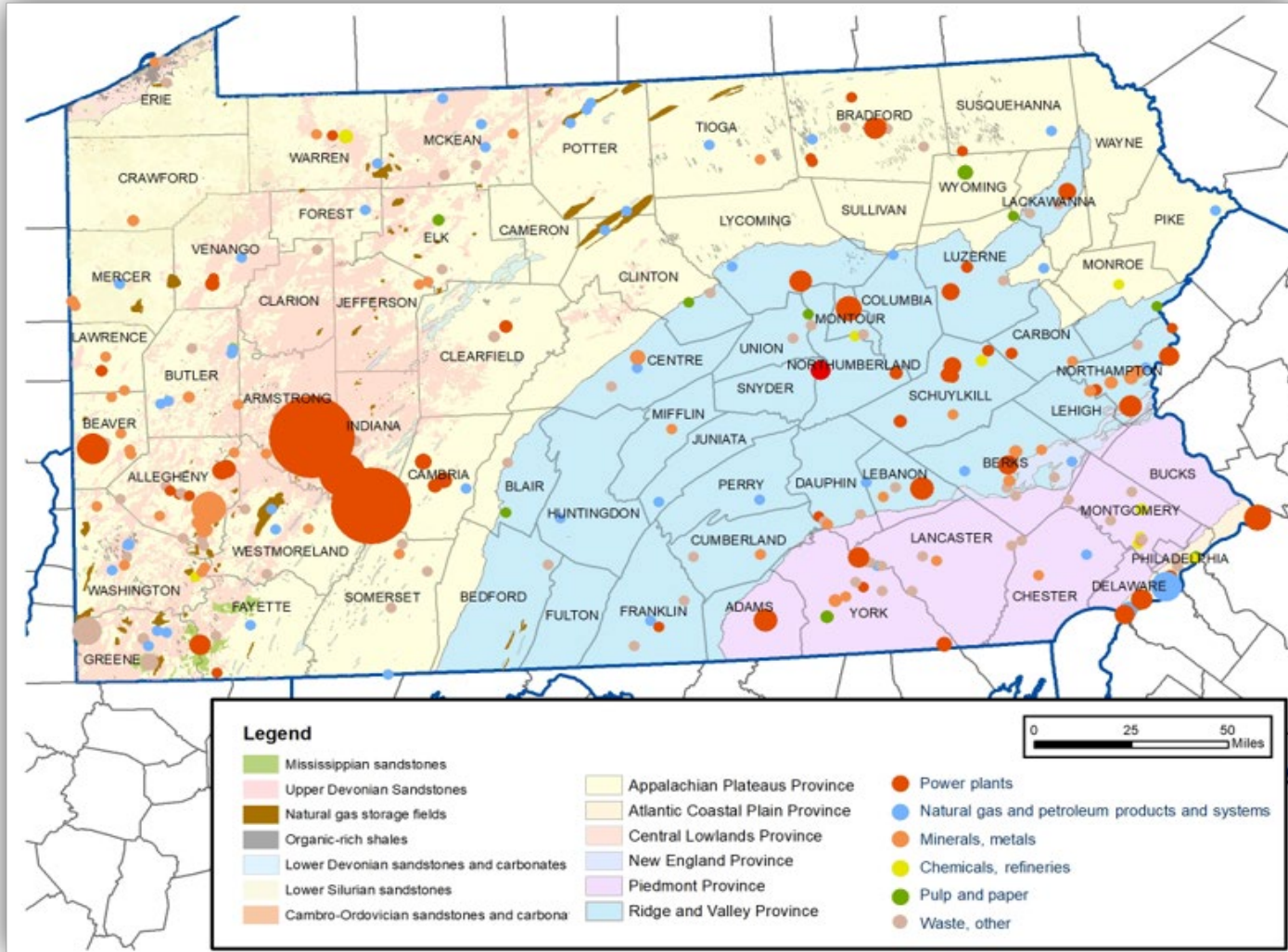


- Further Renewable Energy Deployment
- Distributed Generation for Economic Development
- Redevelopment Playbooks for Priority Brownfield Sites
- Carbon Capture, Utilization, and Storage
- Hydrogen Production and End-Use

CCUS HAS BEEN STUDIED IN THE COMMONWEALTH FOR MANY YEARS

- Work out of the Pennsylvania Geological Survey housed in the Dept. of Conservation and Natural Resources (DCNR)
- Research and education around the potential for CCUS in the state/region
- Governor Wolf's CCUS Interagency Workgroup
- *Regional Carbon Dioxide Transport Infrastructure Action Plan (2021)*
 - Coordination among 8 states and PA
 - Recommendations for path forward include policy, regulatory, financial

PENNSYLVANIA'S STORAGE POTENTIAL



Source: PA DCNR Geological Survey

- Hundreds of point source emissions across multiple industry sectors
- Varying 'physiographic provinces' underpinned by a diversity of subsurface geology
- Western PA and Northern Tier offer potential to store significant volumes of CO₂
- Technical certainty will need to be determined
- Emphasis placed on alignment of sources to sinks

A HYDROGEN/CCUS FUTURE: PENNSYLVANIA'S APPROACH



Successful Deployment of Carbon Management and Hydrogen Economies in the Commonwealth of Pennsylvania

ROADMAP ON CARBON MANAGEMENT AND HYDROGEN DEVELOPMENT IN PENNSYLVAINA

- Responded to DOE's H2Hubs RFI
 - Proximity to energy resources
 - Diversity of end-users
- Strong support from administration
- Pennsylvania Energy Horizons Cross-Sector Collaborative
 - Focused on multi-sector decarbonization
 - Hydrogen and CCUS as technology enablers
 - Driven by business and industry
 - First step towards durable public-private partnership
- Carbon management 'blueprint' for PA

LOOKING AHEAD: WHERE DO WE GO FROM HERE?

- Collaborative will continue to advance this work
 - Great Plains Institute 'Blueprint' for Pennsylvania
 - Promoting a positive narrative
 - Understanding market dynamics
- Pennsylvania is open for business and will be engaged in this work for the long-term
- Leverage our nationally relevant position in energy production to lead in the energy transition
- We have everything we need here
 - Natural resources and a large energy sector
 - Capable workforce
 - Aggressive decarbonization goals