

Growth in the Shale Gas Upstream Sector Creates Opportunities for Appalachian Manufacturers, Finds New Report

Natural gas exploration and production depend on a robust supply chain

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-- Natural gas extraction from shale rock formations is expected to grow significantly due to increased electricity demand, driven by new digital infrastructure, such as AI data centers.

The Energy & Manufacturing in Appalachia (EMA) initiative today released a [new report](#) detailing how Appalachian manufacturers can supply

key components for well site construction, drilling, completions, and surface operations.



The EMA initiative is led by [Catalyst Connection](#), southwestern Pennsylvania's economic development organization, along with the following regional partners: Alliance for Manufacturing and Technology (AMT), Innovative Manufacturers Center, Magnet, Manufacturers Resource Center, MANTEC, Maryland MEP, Northeastern PA IRC, Northwestern PA IRC, Reimagine Appalachia, and West Virginia University.

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The upstream natural gas industry is a cornerstone of the Appalachian economy, and our manufacturers can supply the equipment, materials, and technologies needed to increase production.”

Petra Mitchell, President and CEO of Catalyst Connection

“The upstream natural gas industry continues to be a cornerstone of the Appalachian economy,” said Petra Mitchell, President and CEO of Catalyst Connection. “Regional manufacturers can grow with the industry, supplying the equipment, materials, and technologies needed to increase production.”

Increased Electricity Demand Driving Growth in Natural

The shale gas upstream sector extracts natural gas and oil by combining horizontal drilling techniques with hydraulic fracturing to create pathways for the oil and gas to migrate into the wellbore for production. The first commercial shale gas well went into production in 2004, and since then, production has increased significantly over the past two decades.

Natural gas remains the largest source of electricity generation in the United States, providing 43 percent of total power in 2023. The Marcellus and Utica shale formations, located primarily in Pennsylvania, West Virginia, and Ohio, account for nearly one-third of the nation's natural gas output. In 2023, the region produced more than 36 billion cubic feet of natural gas per day, a figure that has stabilized in recent years due to infrastructure and market constraints but continues to underpin regional job growth and manufacturing demand. Due to statewide bans on hydraulic fracturing, New York and Maryland do not currently produce shale gas.

Upstream Natural Gas Supply Chain Opportunities

Upstream natural gas development involves exploration, well drilling, completions, and production activities that require a vast network of materials, equipment, and specialized services. EMA's Natural Gas: Upstream report identifies opportunities for small and medium-sized manufacturers to supply key components such as:

- Pipe fittings, valves, and pumps used in drilling and production systems.
- Cement, sand, and chemical additives used in well completions and casing.
- Tanks, pressure vessels, and compressors for surface operations.
- Sensors, meters, and control systems for safety and environmental compliance.

The report also provides an overview of the upstream production process, a breakdown of typical well-site components, and a list of trade organizations, NAICS codes, and regional suppliers supporting the sector.

[Read the full report.](#)

About Catalyst Connection

Catalyst Connection is a southwestern Pennsylvania economic development organization dedicated to serving manufacturers. For more than 35 years, Catalyst has operated with a focus on powering potential through delivering technical assistance and management consulting services and developing long-standing partnerships across the region. Catalyst maintains a deeply held commitment to modernizing manufacturing and enabling opportunity across business enterprises, individuals, and throughout communities.

Catalyst Connection is supported, in part, by the Pennsylvania Department of Community and Economic Development and the National Institute of Standards and Technology Manufacturing

Extension Partnership (NIST MEP). As such, we are an affiliate of the Pennsylvania Industrial Resource Center (IRC) and the MEP National Network in southwestern Pennsylvania.

About the Energy & Manufacturing in Appalachia Initiative

The Energy & Manufacturing in Appalachia (EMA) initiative provides technical assistance and business support to small and medium manufacturers and enterprises in 156 counties of Maryland, New York, Ohio, Pennsylvania, and West Virginia seeking to expand business, production, and jobs in the energy supply chains or to be more energy efficient.

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