Utica Shale Opportunities in Appalachian Ohio

The "Shale Revolution" has already made the United States of America the largest producer of natural gas and oil in the world. Over the next 20 years, the United States is expected to not only become energy independent, but also an exporter.[i]

Shale gas is expected to be the source of two-thirds of America's natural gas production.[ii]

Ohio's Strategic Advantages

Companies can profit from Ohio's position atop and next to 35 percent of America's known natural gas reserves in the Marcellus and Utica shales.[iii]

Nearly 20 billion cubic feet (bcf) per day of natural gas is being produced in the Marcellus and Utica. Production is projected to reach 40 bcf.[iv]

Unlike the dry gas in Pennsylvania, much of Ohio's Utica Shale is full of valuable natural gas liquids (NGLs), such as ethane, propane and butane.

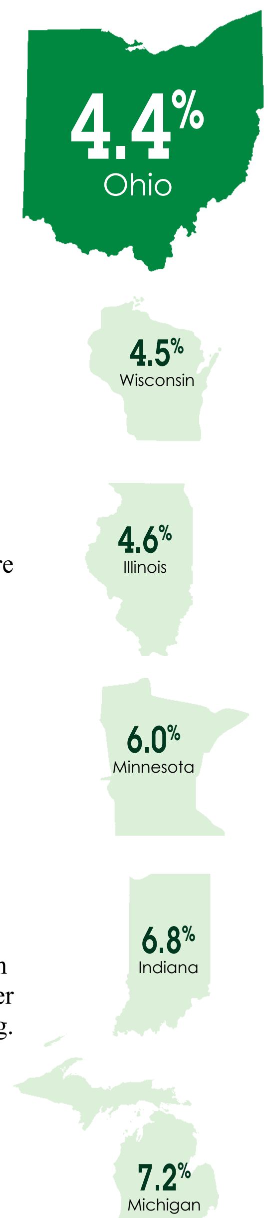
Ohio is near to end-use markets, within 600 miles of 60 percent of North American manufacturing capacity and over 50 percent of the U.S. population.

Conducive Environment

Abundant and affordable hydrocarbons are just one of Ohio's advantages. Ernst & Young found Ohio had the third lowest tax on new capital investment of any state in the nation.[v]

- No tax on machinery and equipment investments.
- No inventory tax
- No corporate income tax
- No tax on products sold outside of Ohio
- No tax on gross receipts under $1 million
- No tax on R&D investment

Percentage of tax on new capital investment



Markets are accessible and close. As a highly industrial state, Ohio's extensive pipeline, rail, barge, Great Lakes shipping channels and highway infrastructure make getting products to market more feasible than more remote shale plays. Petrochemical feedstock transit routes are short since Ohio ranks second in the U.S. in value of plastics and rubber production and first in polymer production.

Companies will find a capable work force in Ohio to run their facilities. Ohio employs more than 80,000 people at more than 1,100 companies that develop or manufacture polymers, rubber and plastics.

Skilled workers can be found among Ohio's more than 600,000 manufacturing workers and students from 200+ four-year colleges and universities.

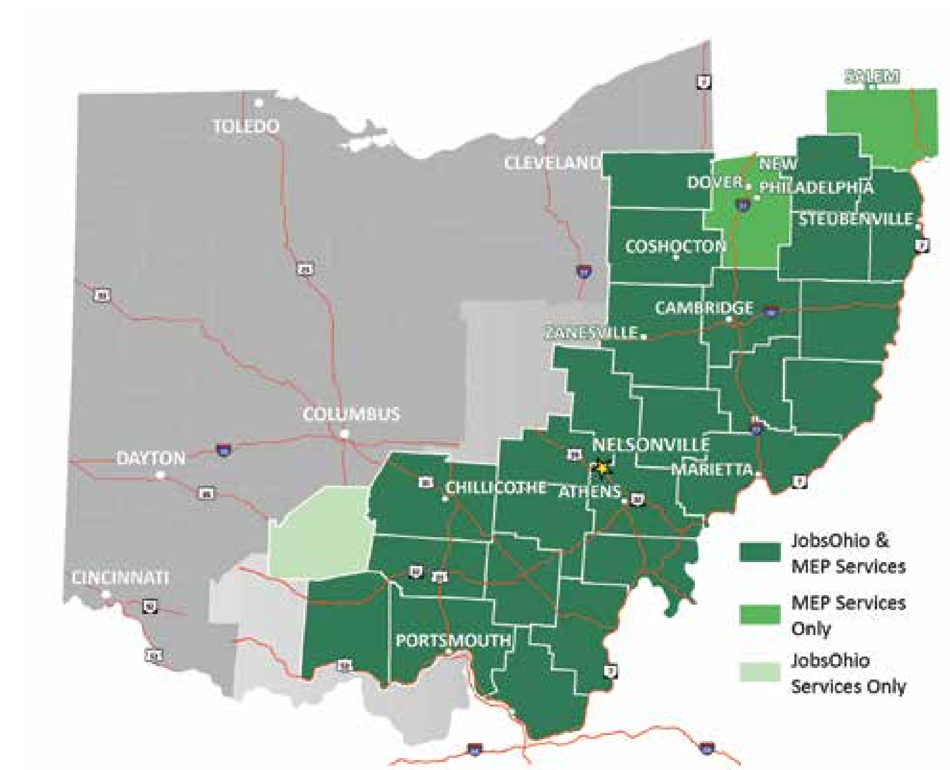
Ohio's Downstream Competitive Edge

Abundant supply and inadequate pipeline takeaway capacity have resulted in regionally stranded shale gas being consistently priced well below Henry Hub prices. Low prices are projected well into the future.

These below-market prices of Utica gas and NGLs are a competitive advantage for manufacturers needing hydrocarbon feedstocks and affordable power. Low costs incentivize further polymer, petrochemical, methanol and fertilizer manufacturing.

The biggest example of such downstream petrochemical development is PTT Global Chemical, which announced in April of 2015 plans for world-scale ethane cracker at a site in Belmont County.

i BP Energy Outlook 2035
ii BP Energy Outlook 2035
iii Potential Gas Committee, April 8, 2015
iv Energy Information Administration
v Competitiveness of state and local business taxes on new investment ranking states by tax burden on new investment, Ernst & Young, 2011



The **Appalachian Partnership for Economic Growth** is the newest and largest of the six JobsOhio regional partners covering 14,000 square miles. APEG project managers have current, comprehensive information on the region's available sites and buildings and critical data that can lead to a profitable business location decision.

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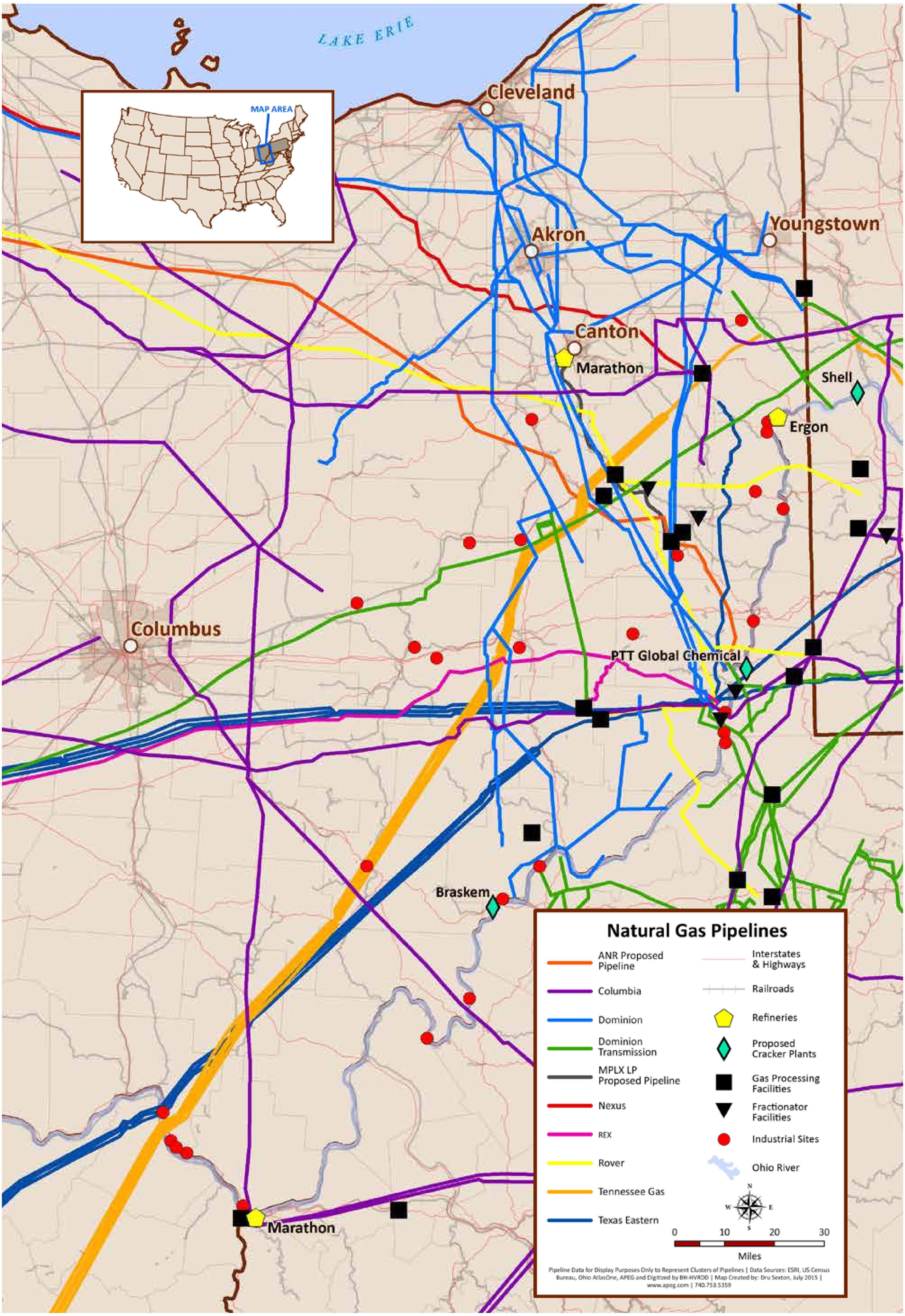

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