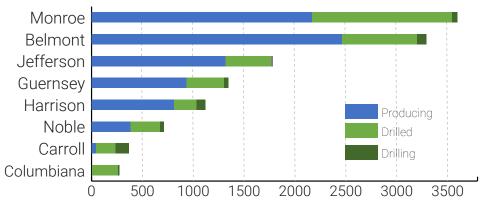
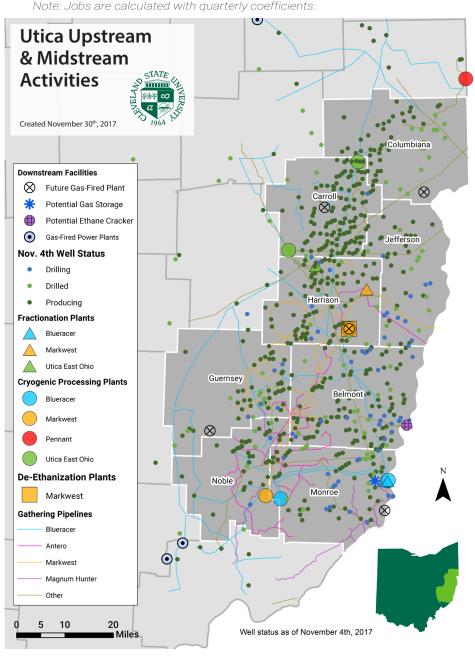
Eastern Ohio Shale Dashboard

December 1st, 2017

Potentially Created Jobs by County



Source: ODNR, CSU Center for Economic Development; as of November 4th, 2017 Note: Jobs are calculated with quarterly coefficients



Source: ODNR, CSU Center for Economic Development

Shale Indicators

Q2'17 - Q3'17 Quarter 3 Year Change*

New Well Count

+2%

+40%

Employment

118

ó

-0%

12,482

+30%

WTI Oil Price per Barrel

Source: EIA on September 29th, 2017

+12%

\$51.67

+8%

Sales Tax

Source: OH Department of Taxation

+4%

\$18.5 m

+10%

Shale Insights

- Saudi Arabia and Russia push to extend an agreement to limit petroleum production. The OPEC cartel and non-OPEC producers are developing a pact to cut output throughout 2018 and reduce global oil oversupply.
- WTI crude oil prices have fluctuated dramatically in late October and November among news of political unrest and stockpile adjustments. Prices hover around \$56 per bbl as of Nov. 17th, near its two-year high.
- EIA forecasts record-breaking US crude oil production in 2018, at 9.9 million barrels per day, breaking the previous record of 9.6 million set in 1970. US dry natural gas production in 2018 is projected to be 78.9 bcf/d, which is 5.4 higher than 2017.
- The NEXUS natural gas pipeline is starting construction in 2017, after receiving permission from the Federal Energy Regulatory Commission in October 2017. Construction is expected to take ten months.
- Shell ethane cracker development in Beaver County, PA under construction; PTT Global signs memorandum of understanding on Oct. 2nd with JobsOhio regarding potential Belmont County, OH ethane cracker

*Note: Year changes are calculated from the current quarter to the same quarter the year before.

Belmont Carroll Columbiana Guernsey Harrison Jefferson Monroe Noble