

Ohio's Shale Economy: Executive Summary

This report presents findings from an investigation into shale-related investment in Ohio. The investment estimates are cumulative from July through December 2022. Prior investments have been included in previous reports that are available from Cleveland State University.¹ Subsequent reports will estimate additional investment since the date of this report. Investment in Ohio into the Utica during the second half of 2022 can be summarized as follows:

Total Estimated **Upstream** Utica Investment in Ohio

July - December 2022

| Estimated Investments | Total Amount |
|--|------------------------|
| Lease Renewals and New Leases | \$71,628,000 |
| Drilling | \$538,560,000 |
| Roads | \$7,845,420 |
| Lease Operating Expenses | \$150,205,856 |
| Royalties | \$1,606,755,000 |
| Total Estimated Upstream Investment | \$2,374,994,276 |

Total Estimated **Midstream** Investment in Ohio

July - December 2022

| Estimated Investments | Total Amount |
|--|---------------------|
| Gathering Lines | \$14,184,000 |
| Gathering System Compression and Dehydration | \$26,751,000 |
| Total Estimated Midstream Investment | \$40,935,000 |

Total Estimated **Downstream** Investment in Ohio

July - December 2022

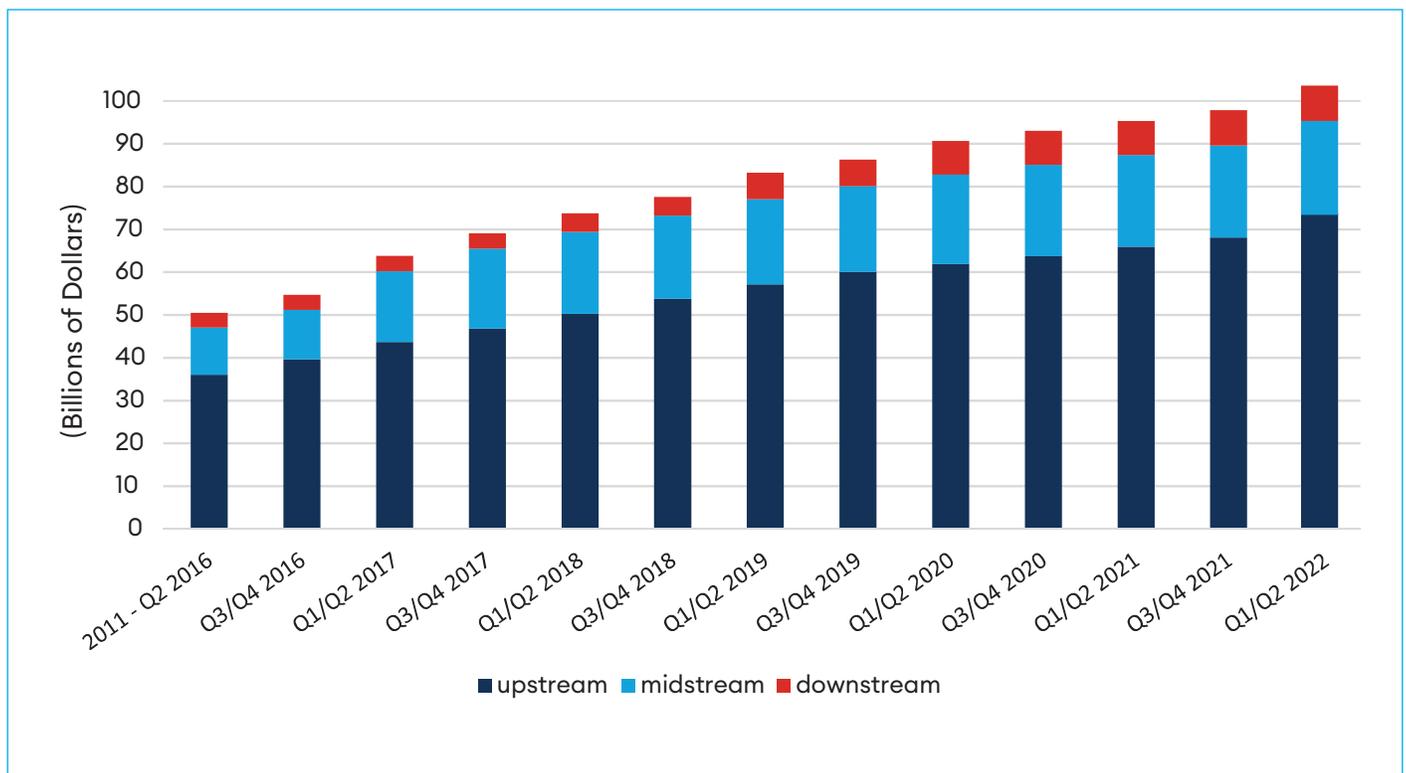
| Estimated Investments | Total Amount |
|--|---------------------|
| Petrochemical Plants | \$44,000,000 |
| LPG Stations | \$1,800,000 |
| Total Estimated Downstream Investment | \$45,800,000 |

¹The eleven previous reports on shale investment in Ohio up to December 2022 can be found at https://engagedscholarship.csuohio.edu/urban_enpolc/



Total investment from July through December 2022 was approximately \$2.5 billion, including upstream, midstream, and downstream. Indirect downstream investment, such as development of new manufacturing as a result of lower energy costs, was not investigated as part of this Study. Together with previous investment to date, cumulative oil and gas investment in Ohio through December of 2022 is estimated to be around \$103.1 billion. Of this, \$73.2 billion has been in upstream, \$21.5 billion in midstream, and \$8.4 billion in downstream industries. ² Figure 1 shows the growth in cumulative shale-related investment for Ohio since the release of the first Shale Dashboard.

Figure 1. Cumulative Shale Investment in Ohio Over Time



Overall upstream investments were down by about \$78 million in the second half of 2022 compared to the first half of 2022, reflecting continued improving cost efficiencies for drilling. As determined from Ohio Department of Natural Resources Division of Oil and Gas (ODNR) data for shale well drilling, 86 new wells were drilled during the third and fourth quarters of 2022, 12 greater than the number drilled in the first half of 2022. ODNR production data also indicated that the total volume of gas-equivalent shale production in the second half of 2022 was 2% greater than overall production in the first half of 2022. Jefferson County had the highest number of new wells with 23, followed by Belmont and Carroll Counties, which each had 16 new wells, and Columbiana County, which had 13 new wells. No other county had more than 10 new wells drilled for the second half of 2022.

²Numbers may not add up precisely due to rounding.



Overall upstream investments were down by about \$396 million in the second half of 2022 compared to the first half of the year, reflecting a decline in the number of new wells drilled that has accompanied falling natural gas prices while inflation has applied upward pressure on input costs.

As outlined by EIA, this market uncertainty led operators across all U.S. shale basins to focus less on drilling new wells and more on completing existing wells. Based on an analysis by the Study Team of ODNR drilling data, this trend has likewise been reflected in the Ohio Utica, where the second half of 2022 simultaneously saw the lowest number of new wells drilled but the highest number of wells completed for any 6-month period over the last two years. (See Figure 2.) The number of new wells has since rebounded, with 75 being drilled in the first half of 2023, which will be captured in the next shale report.

¹ The thirteen previous reports on shale investment in Ohio up to June 2022 can be found at: https://engagedscholarship.csuohio.edu/urban_energypolc/

² Numbers may not add up precisely due to rounding.