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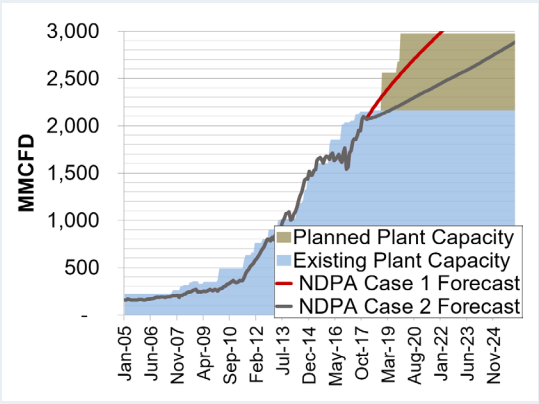
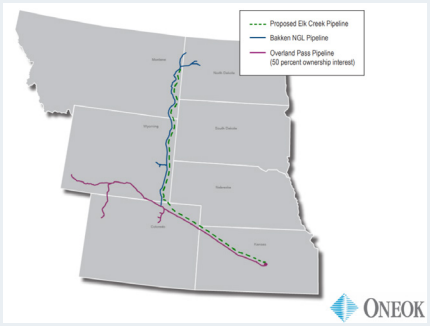
FULLY ADDRESSING NORTH DAKOTA'S GAS CAPTURE NEEDS

In order to fully address natural gas capture requirements in North Dakota, there are three major categories of infrastructure that need to be in place. The first, and arguably the most pressing, is the construction of gas gathering pipelines that provide transportation from the wellhead to a gas processing plant. During the early years of Bakken development, the pace at which new wells were being drilled was faster than the gas gathering community could plan and construct the required pipeline infrastructure. Largely through better producer-gatherer communication and planning, the number of wells being connected to gas gathering pipelines each month keeps pace with new producing wells.



The second category of infrastructure that needs to be in place is gas processing. Currently, North Dakota has the ability to process 2,150 million cubic feet per day (MMCFD). The processing industry has responded to expected gas production growth with plans to construct or expand five processing facilities in the state. These five projects would increase North Dakota's processing capabilities to 2,965 MMCFD by the end of 2019. The included chart provides a visual reference for existing (blue) and planned (brown) gas processing capacity. The chart also includes historical gas production and two of the Pipeline Authority's forecast scenarios that clearly show the need for expanded processing capacity in the region. Not shown in the chart is the expectation for gas production to reach 3,500 – 4,500 MMCFD in the coming decades, requiring even further processing capacity in 2020 and beyond.

Transmission pipeline capacity is the third category of infrastructure that needs to be in place to adequately address gas capture. The transmission category can be separated further into "dry" or "residue" gas transmission and natural gas liquids (NGL) transmission. The most immediate gas capture transmission need for the state is NGL capacity. One industry solution proposed to address NGL capacity constraints is the ONEOK Elk Creek pipeline. The $1.4 billion project (map included) could initially connect 240,000 barrels per day of NGLs from the Williston Basin to further NGL infrastructure in Kansas (expandable to 400,000 barrels per day).



The dry gas transmission pipeline network is currently the least pressing issue facing the gas capture supply chain. However, in the next 7-10 years, the NDPA expects dry gas production from the region's processing facilities to exceed the existing transmission pipeline capacity, requiring additional capacity to be added with new or expanded transmission systems.

Header image courtesy of the North Dakota Department of Commerce.

NORTH DAKOTA — Production Numbers

Average Daily Oil Production, BOPD		
Nov. 17	Dec. 17	Jan. 18
1,196,976	1,182,836	1,175,638

Average Daily Gas Production, MMCFD		
Nov. 17	Dec. 17	Jan. 18
2,096	2,085	2,068

Average Rig Count		
Nov. 17	Dec. 17	Jan. 18
54	52	56

As of March 22, 2018, there are 60 active rigs in North Dakota.

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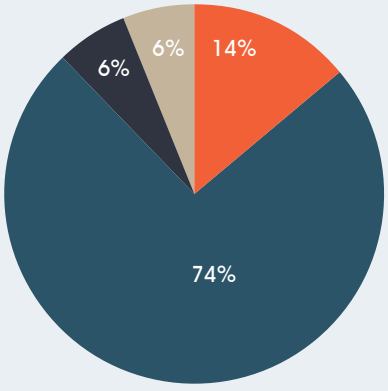
FACTOID

Recent work by the NDPA revealed that higher oil prices in 2018 means that roughly 44% more geographic area in ND could be targeted for development than a year ago. One interesting development to watch will be the application of new technology in portions of the Williston Basin that have not seen development activity since the slowdown. For more details and new maps showing the updated NDPA breakeven analysis, please visit the "Presentations" page on our website.

Estimated Williston Basin Oil Transportation



January 2018 estimates

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