

North Dakota Petroleum Council Annual Meeting

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September 19, 2019

Natural Gas Update



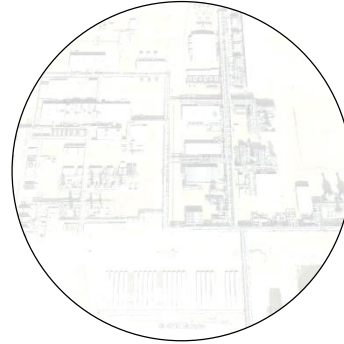
Production

- Technology
- Markets



Gathering

- Capacity
- Connections



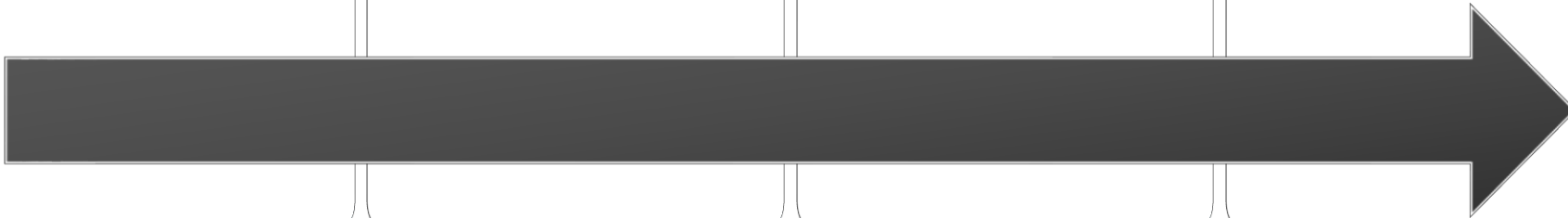
Processing

- Capacity
- Location



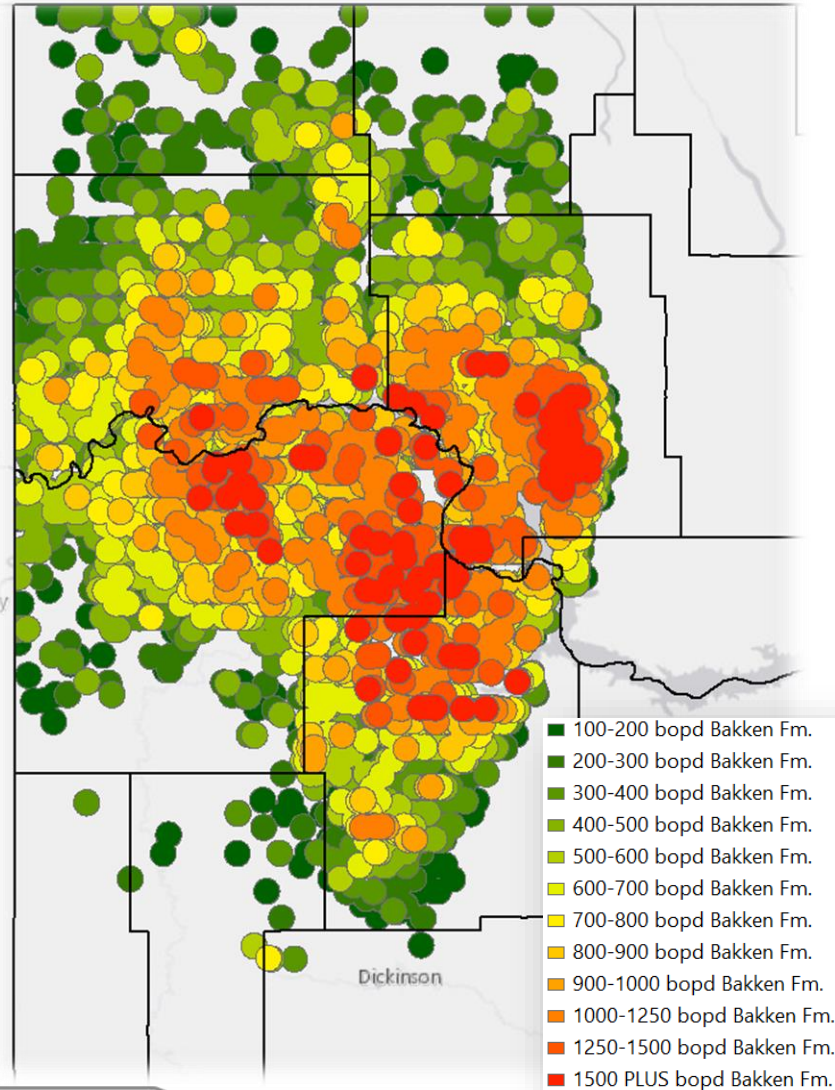
Transmission

- Dry Gas
- Natural Gas Liquids

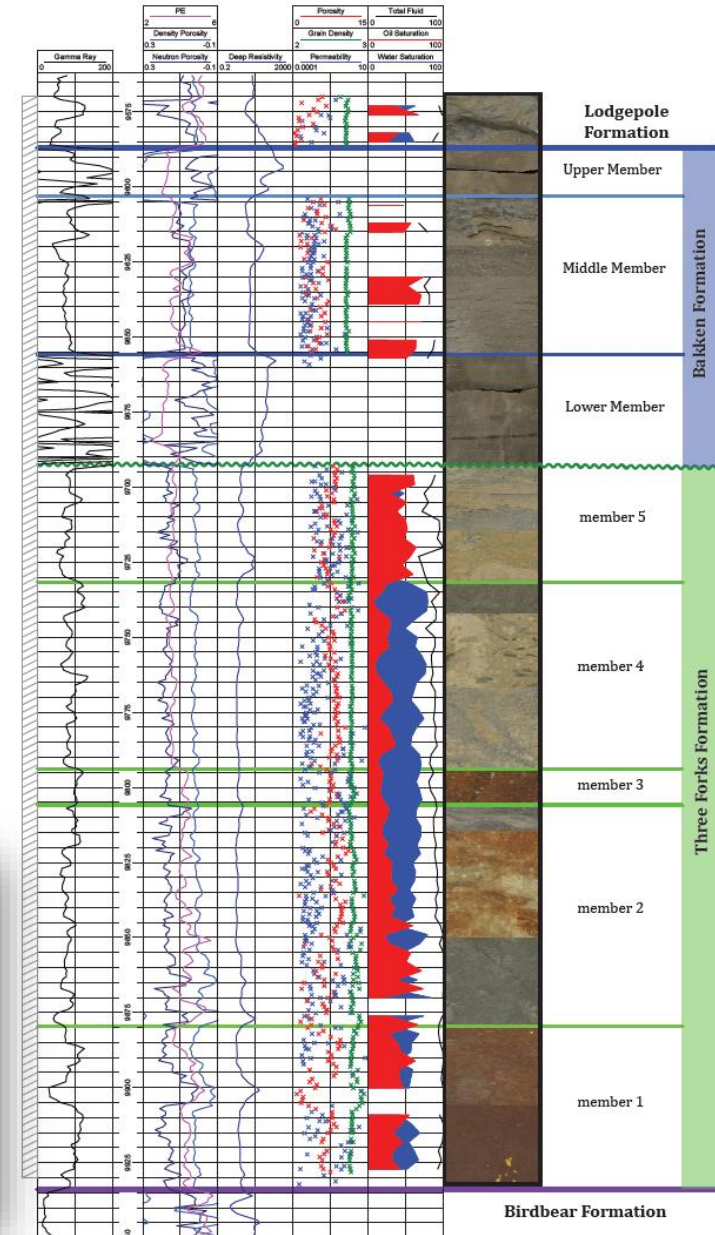
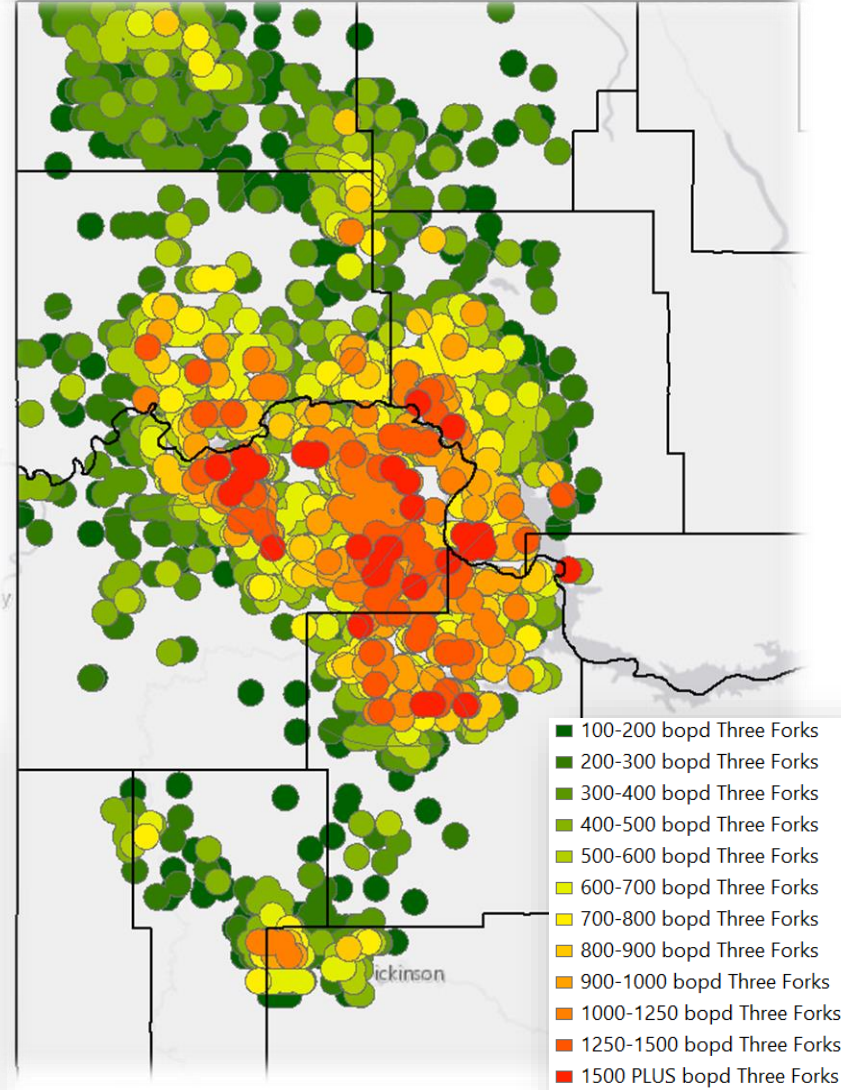


Bakken & Three Forks Formations

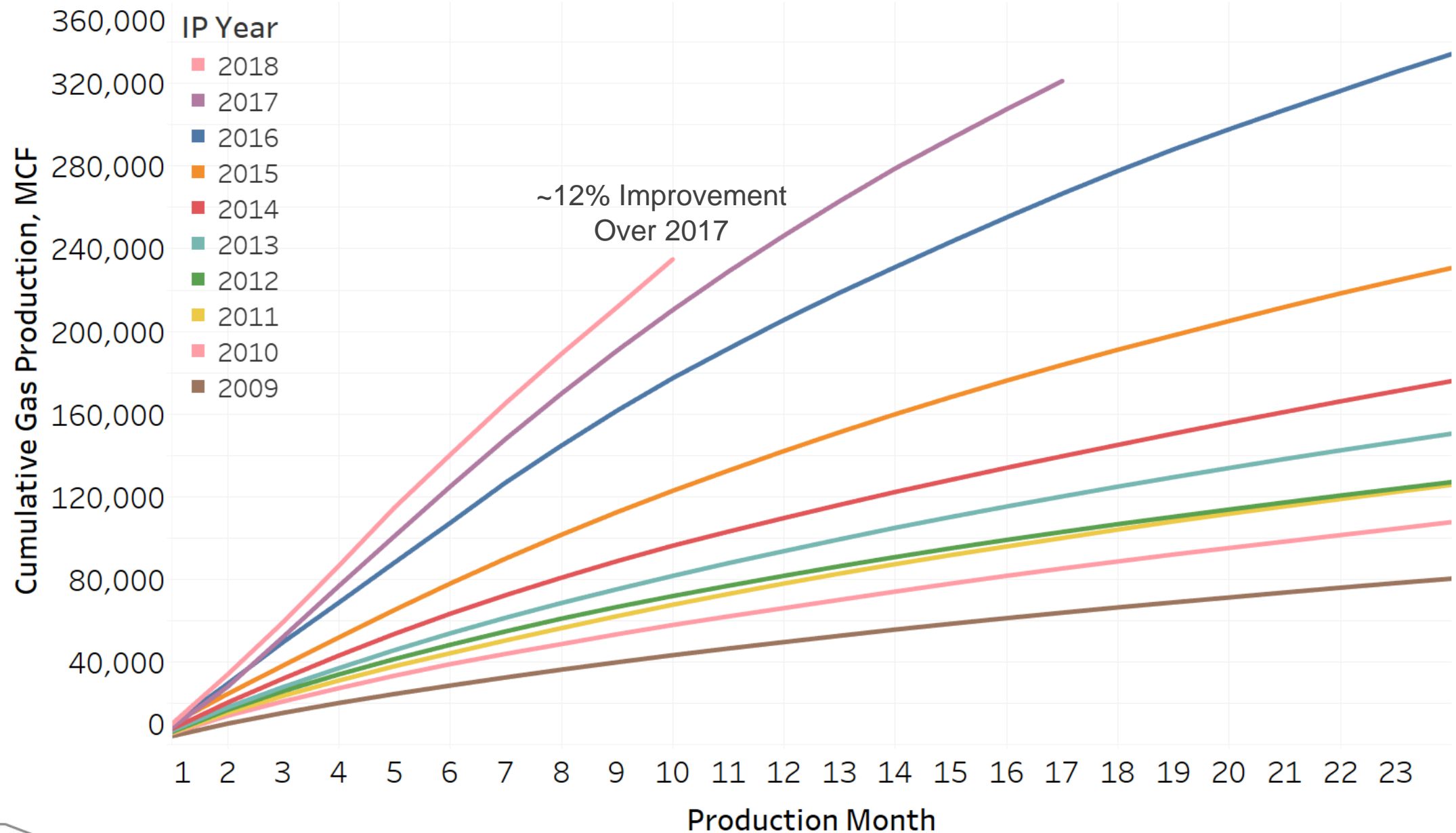
Bakken Formation



Three Forks Formation

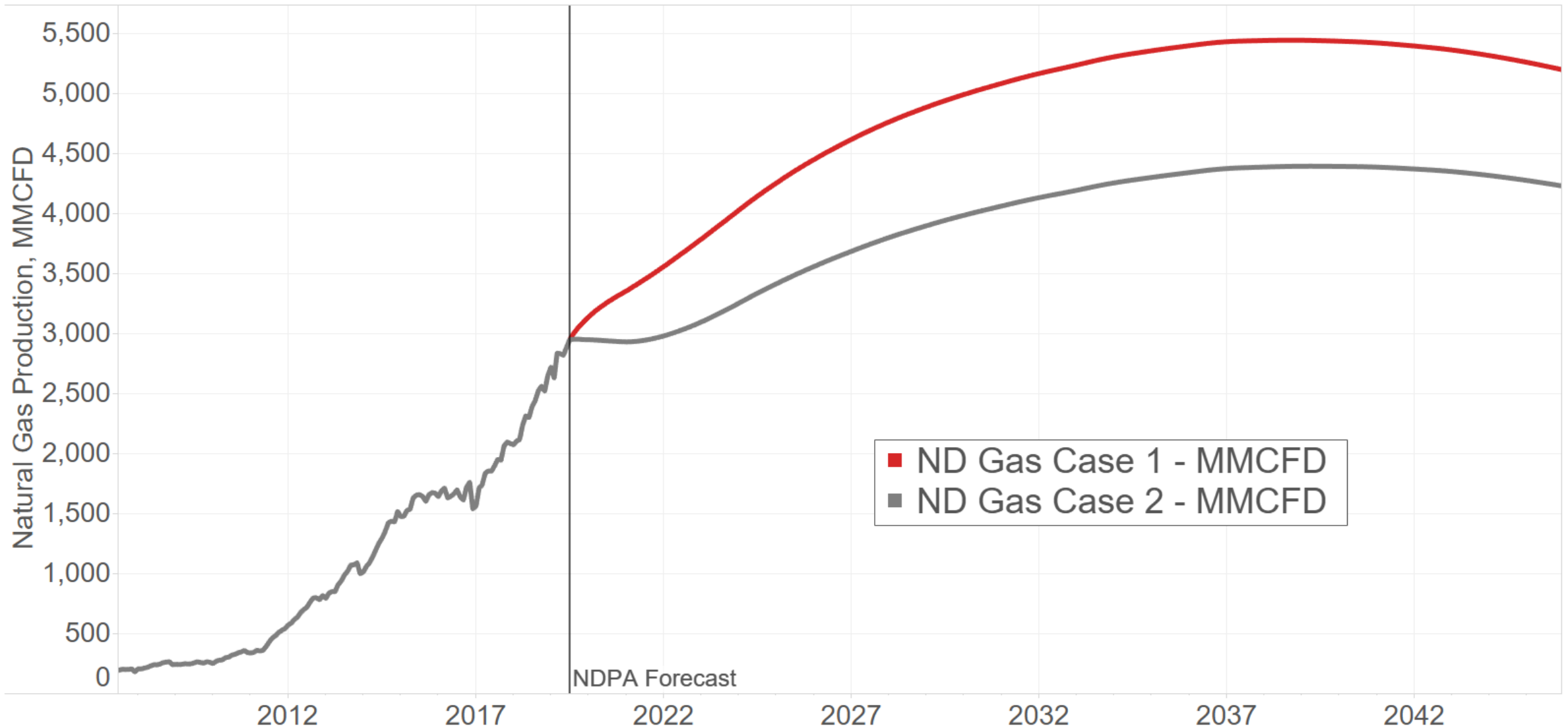


Statewide Gas Performance

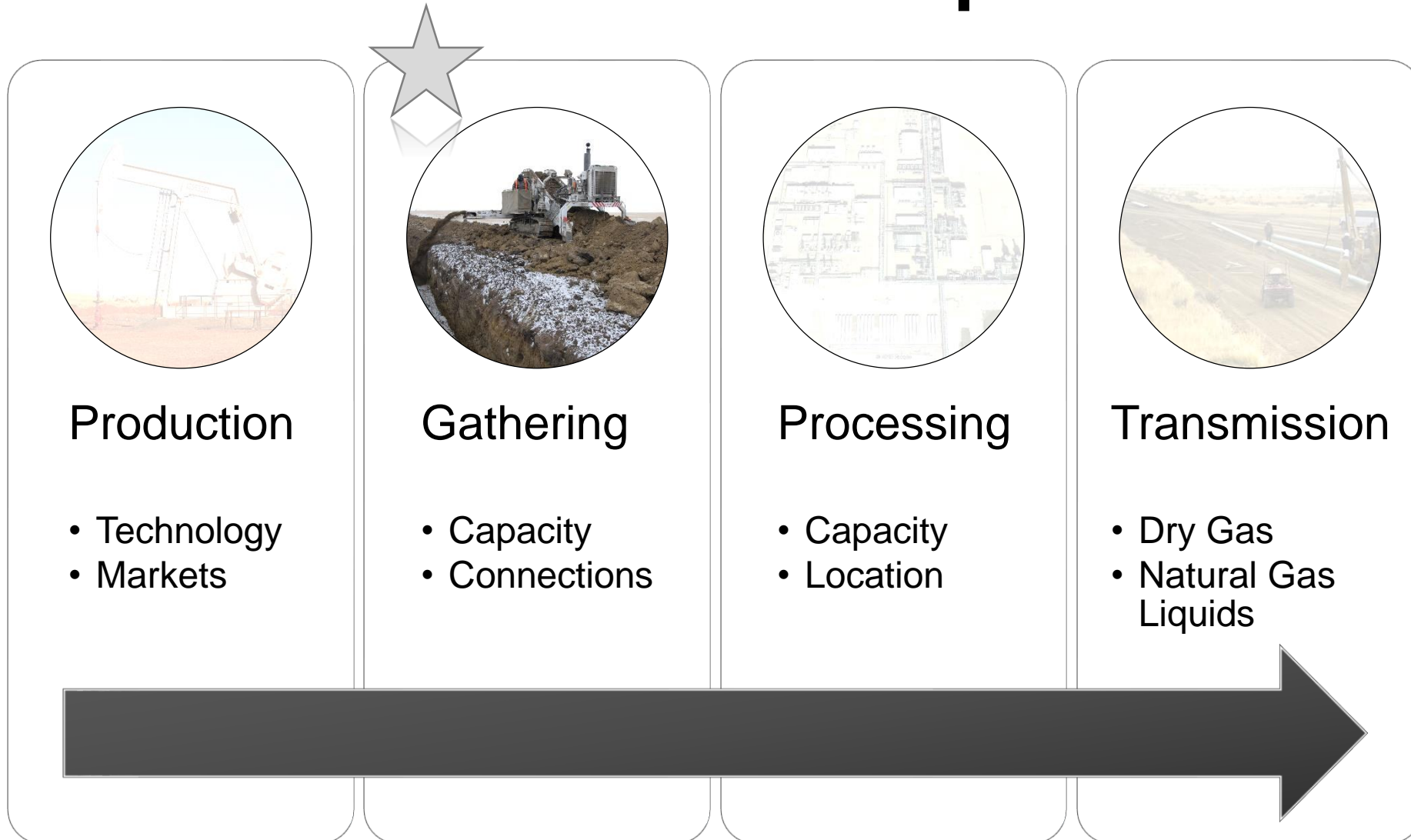


North Dakota Gas Production Forecast

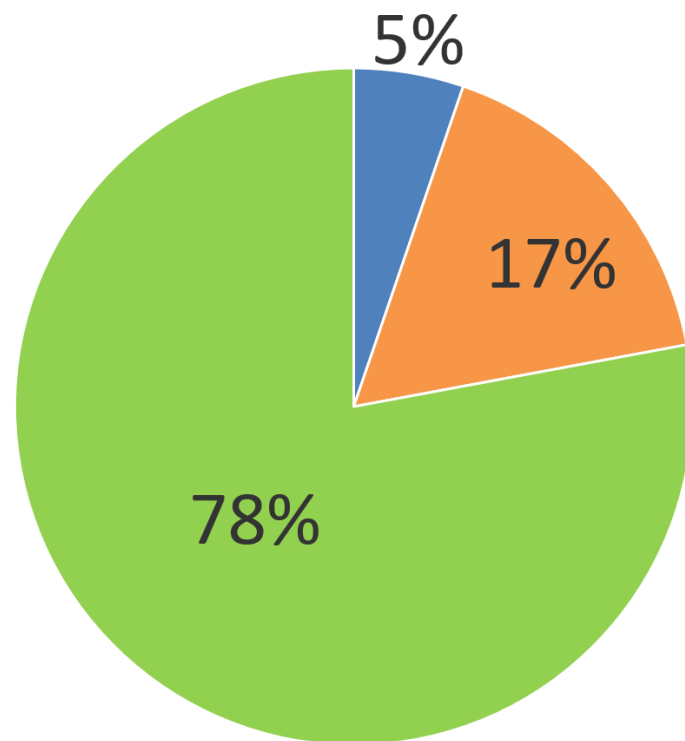
Assumes Current Technology – Enhanced Oil Recovery Not Included



Natural Gas Update



Solving the Flaring Challenge



Statewide

GREEN – % of gas captured and sold
Blue – % flared from zero sales wells
Orange – % flared from wells with at least one mcf sold.

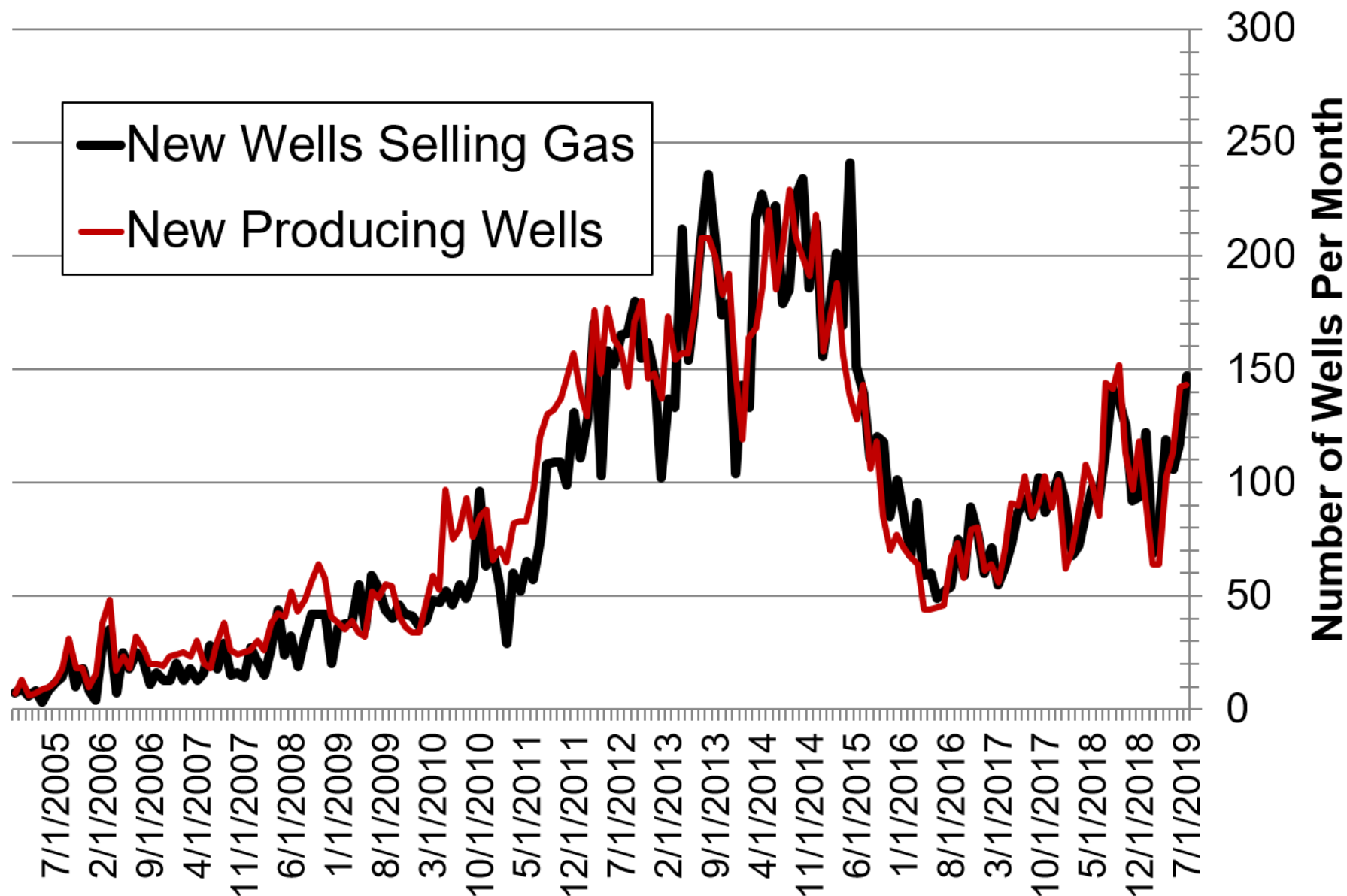
Simple Terms

Blue – Lack of pipelines
Orange – Challenges on existing infrastructure

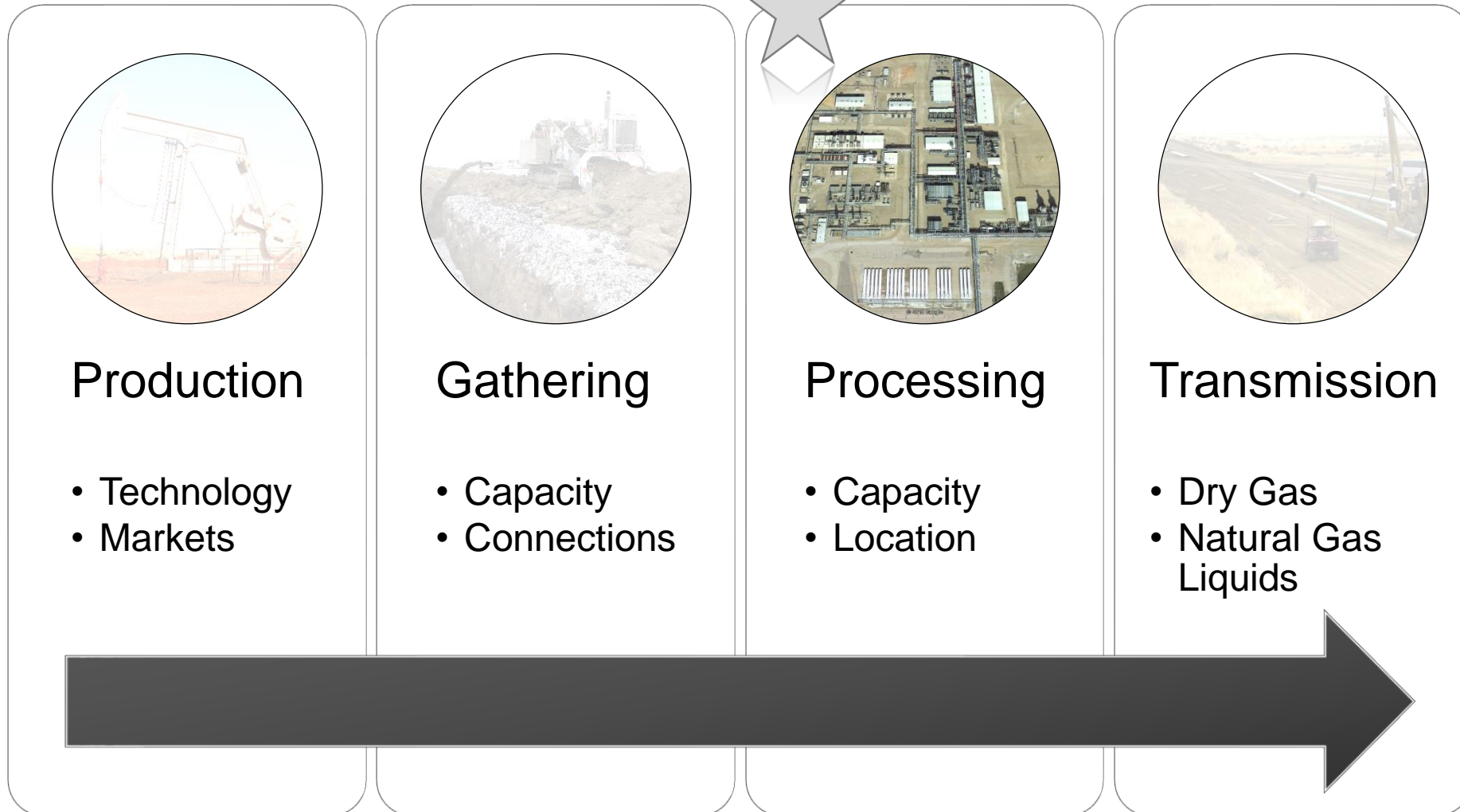
July 2019 Data – Non-Confidential Wells



Solving the Flaring Challenge

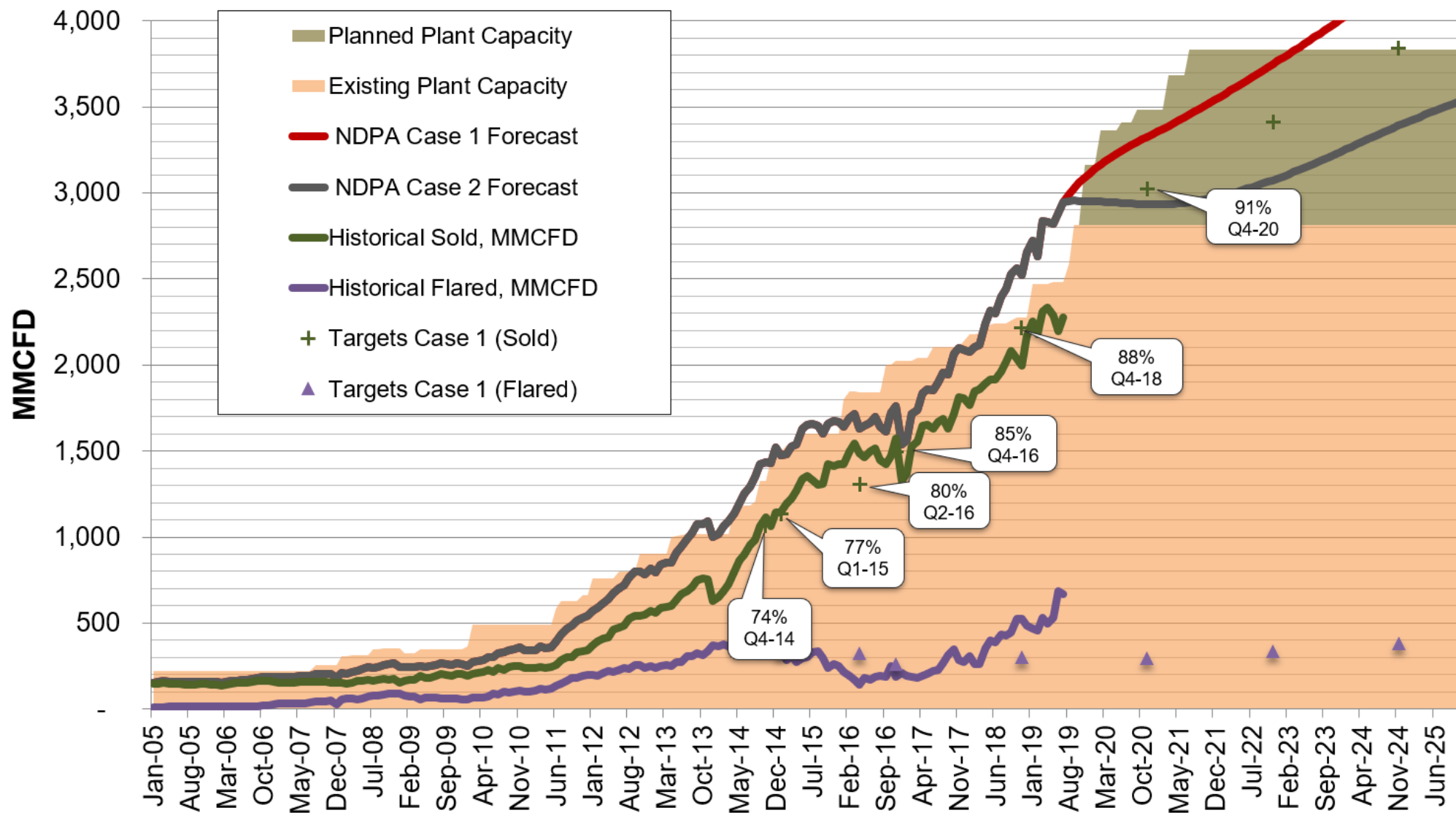


Natural Gas Update



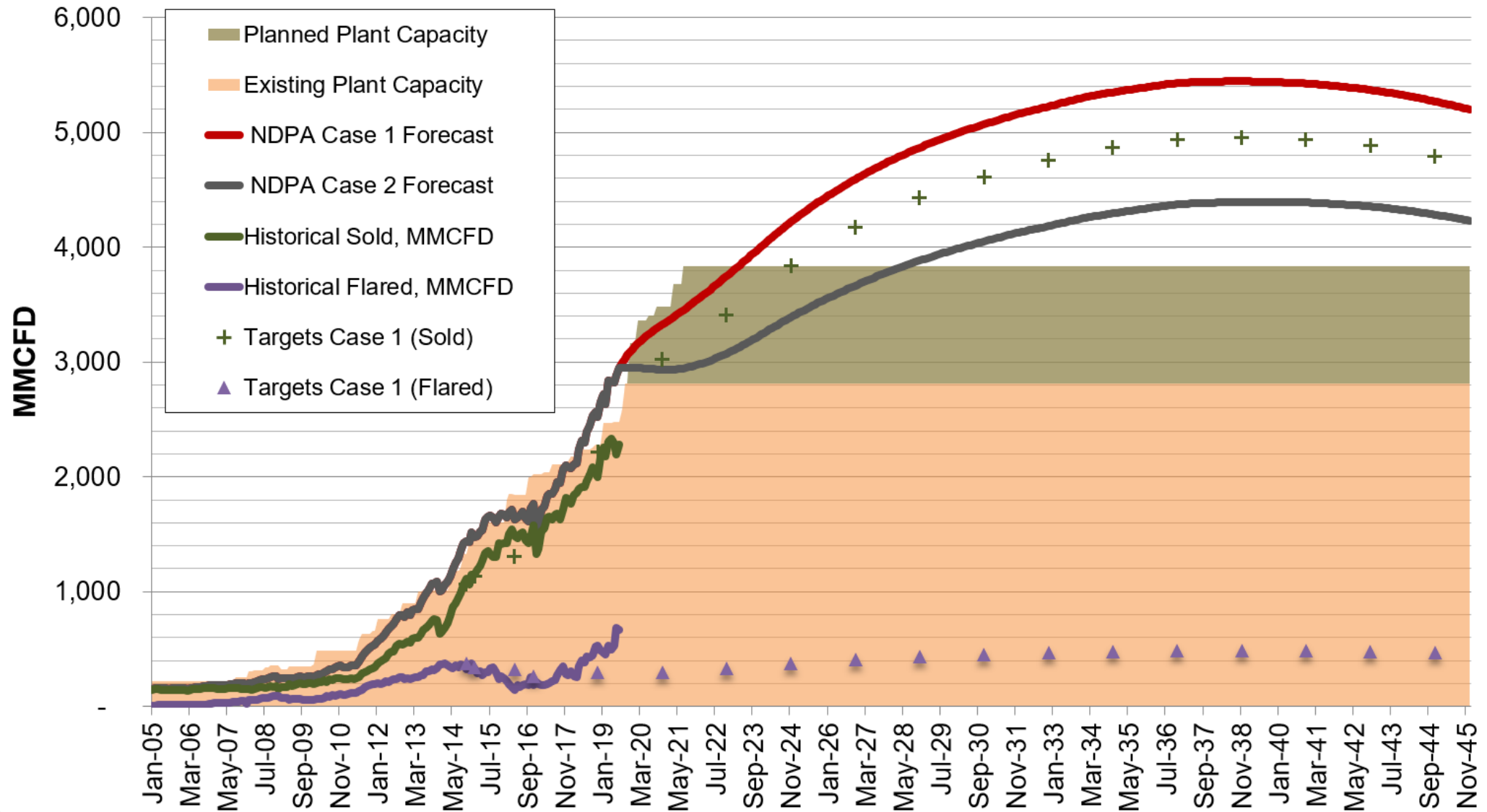
Solving the Flaring Challenge

Assumes Current Technology – Enhanced Oil Recovery Not Included

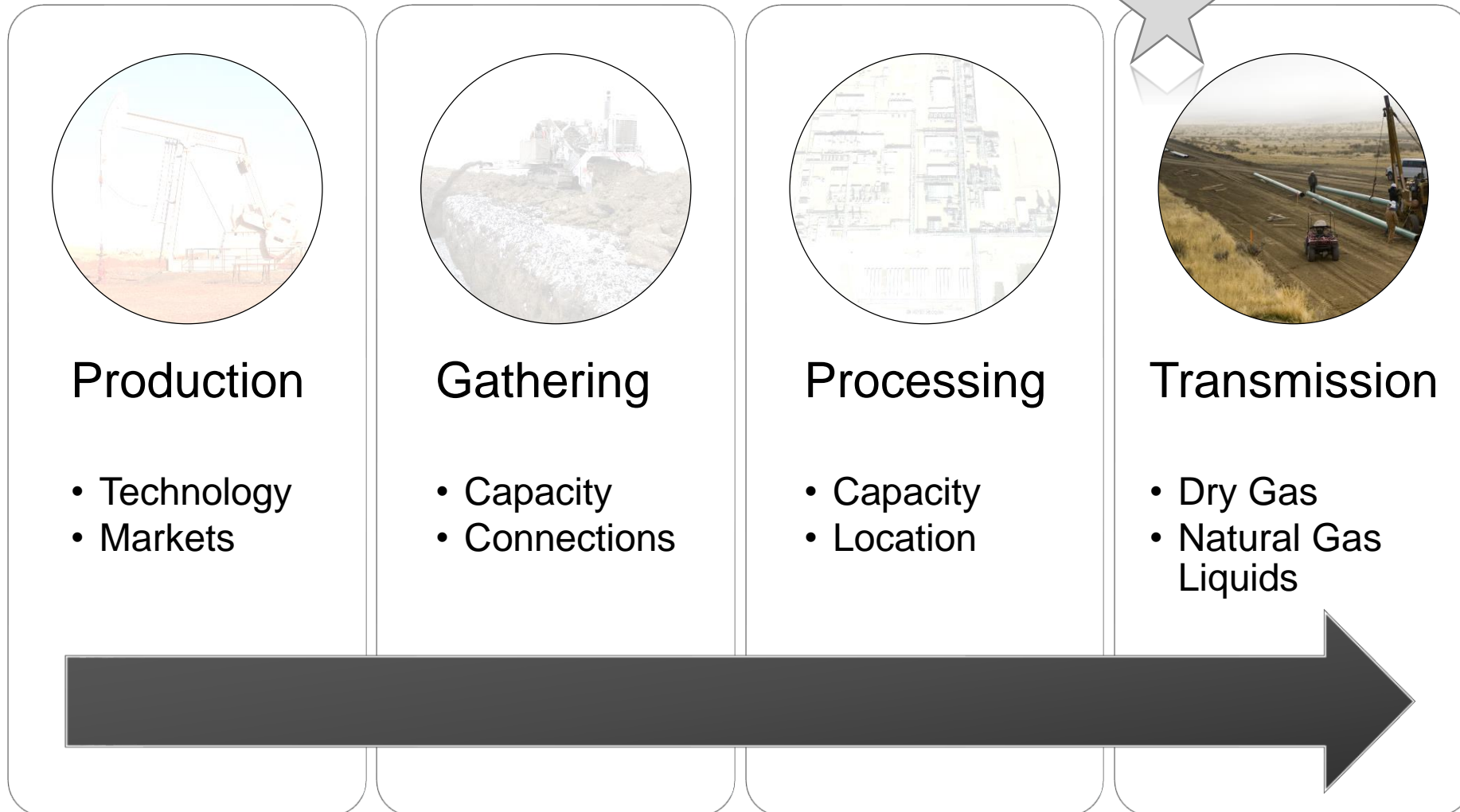


Solving the Flaring Challenge

Assumes Current Technology – Enhanced Oil Recovery Not Included

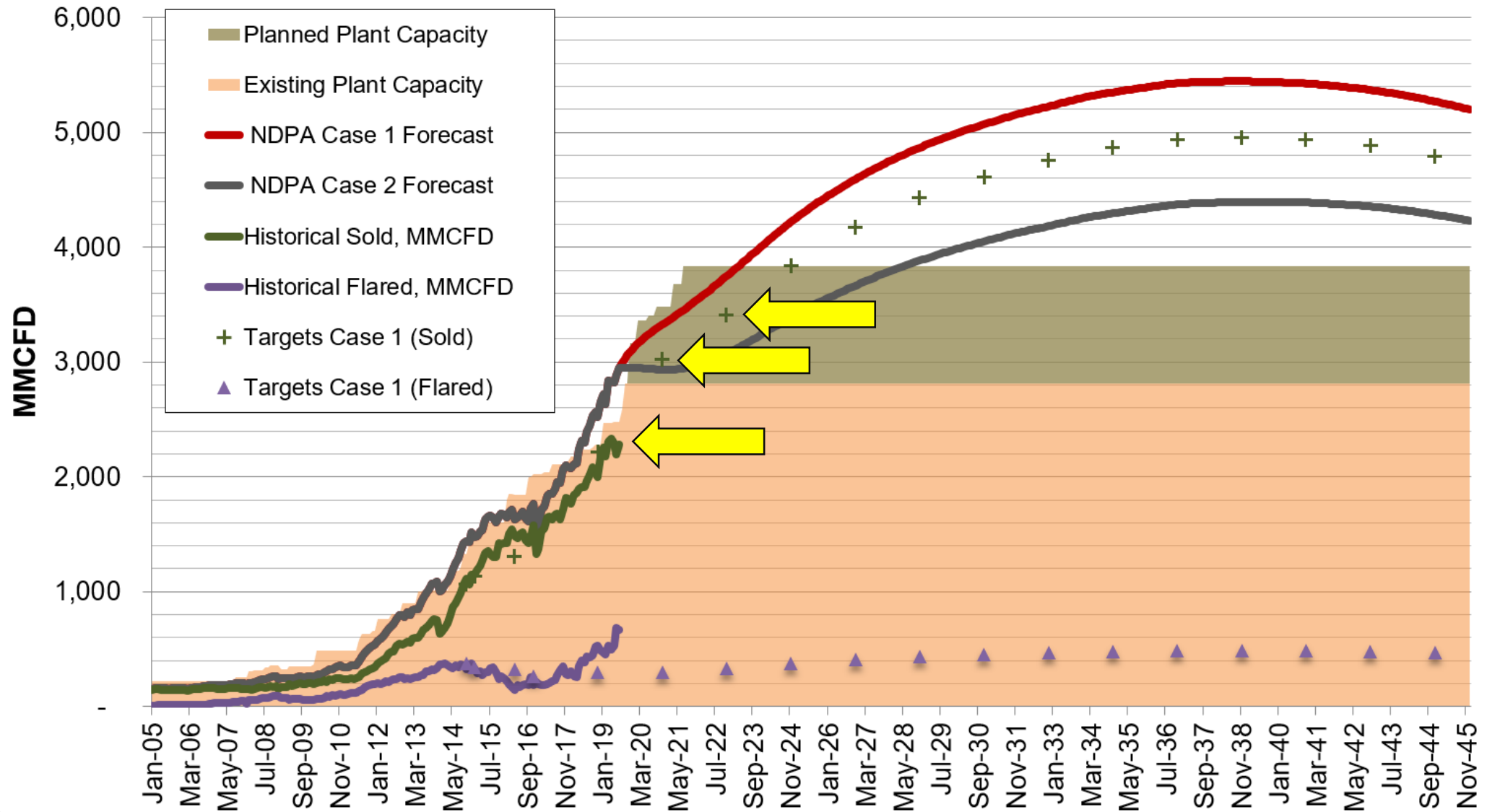


Natural Gas Update

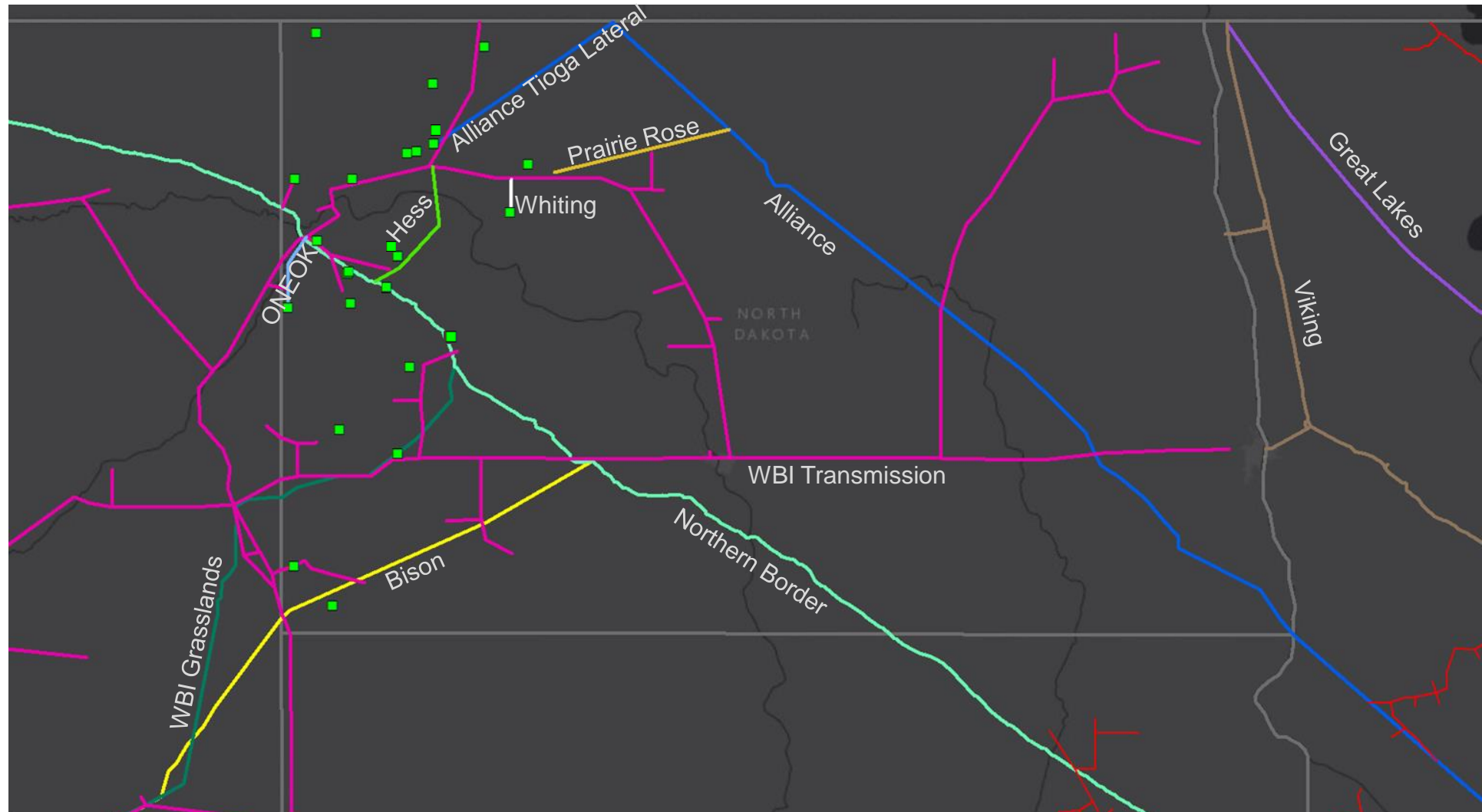


Solving the Flaring Challenge

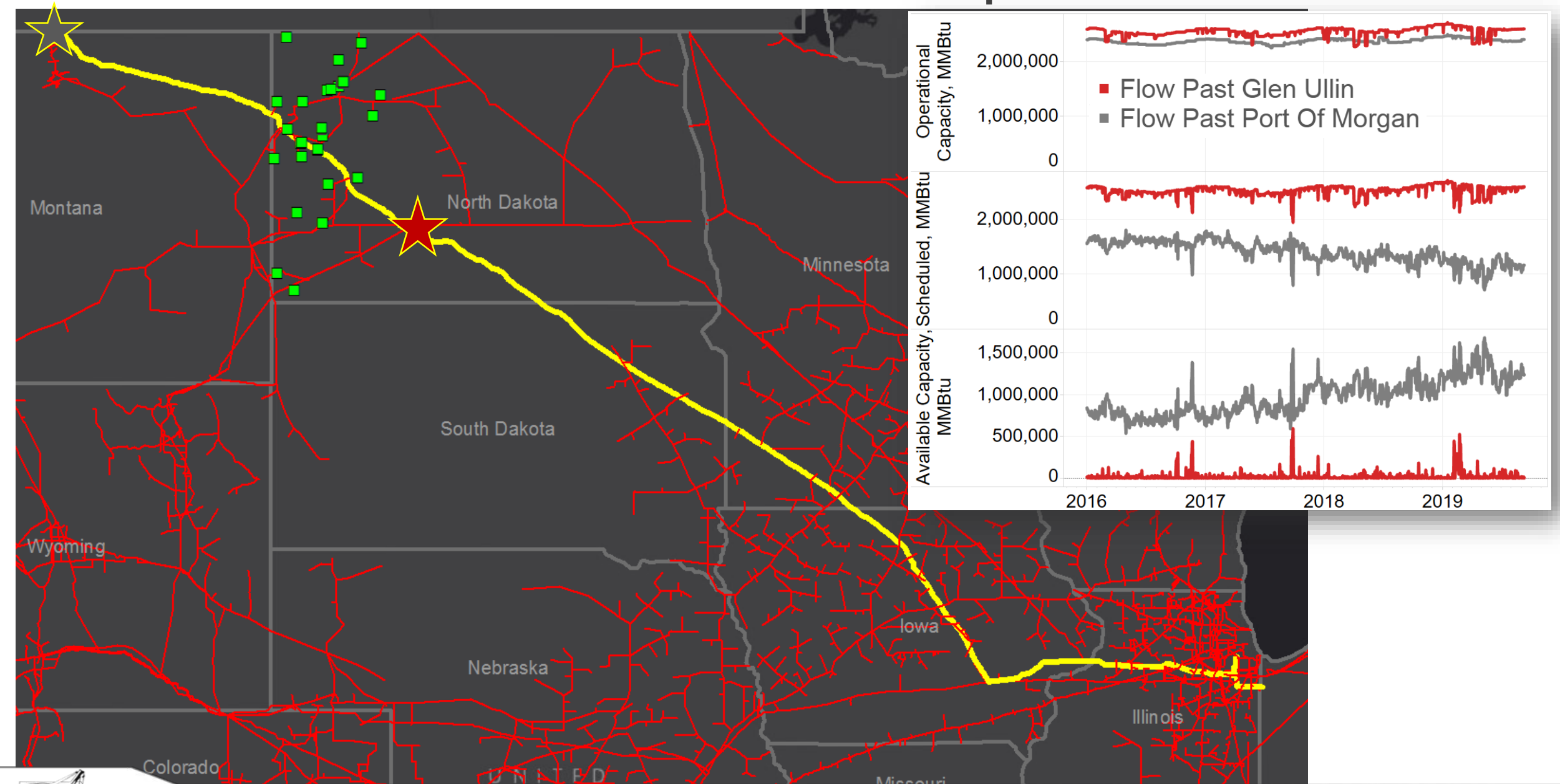
Assumes Current Technology – Enhanced Oil Recovery Not Included



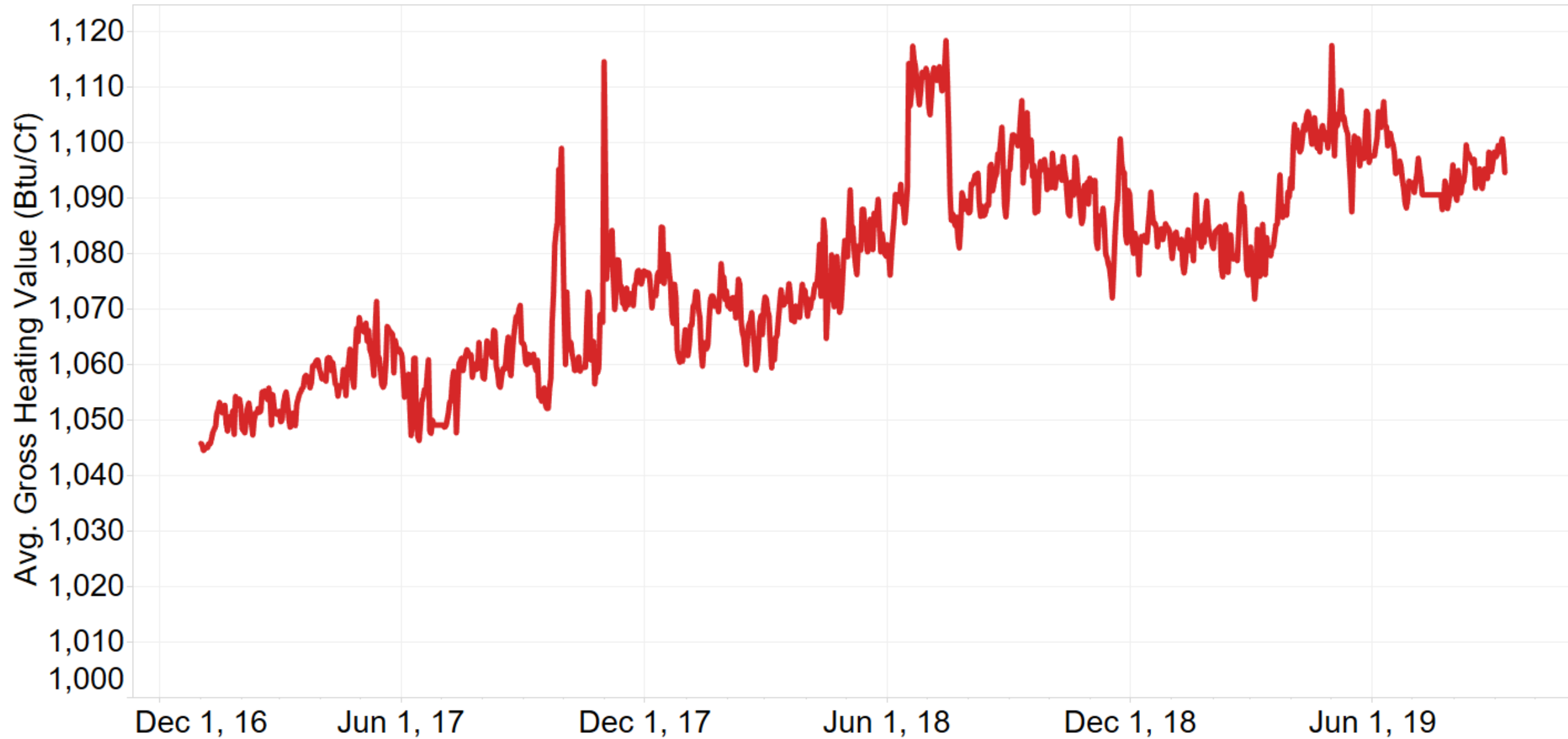
Major Gas Pipeline and Processing Infrastructure



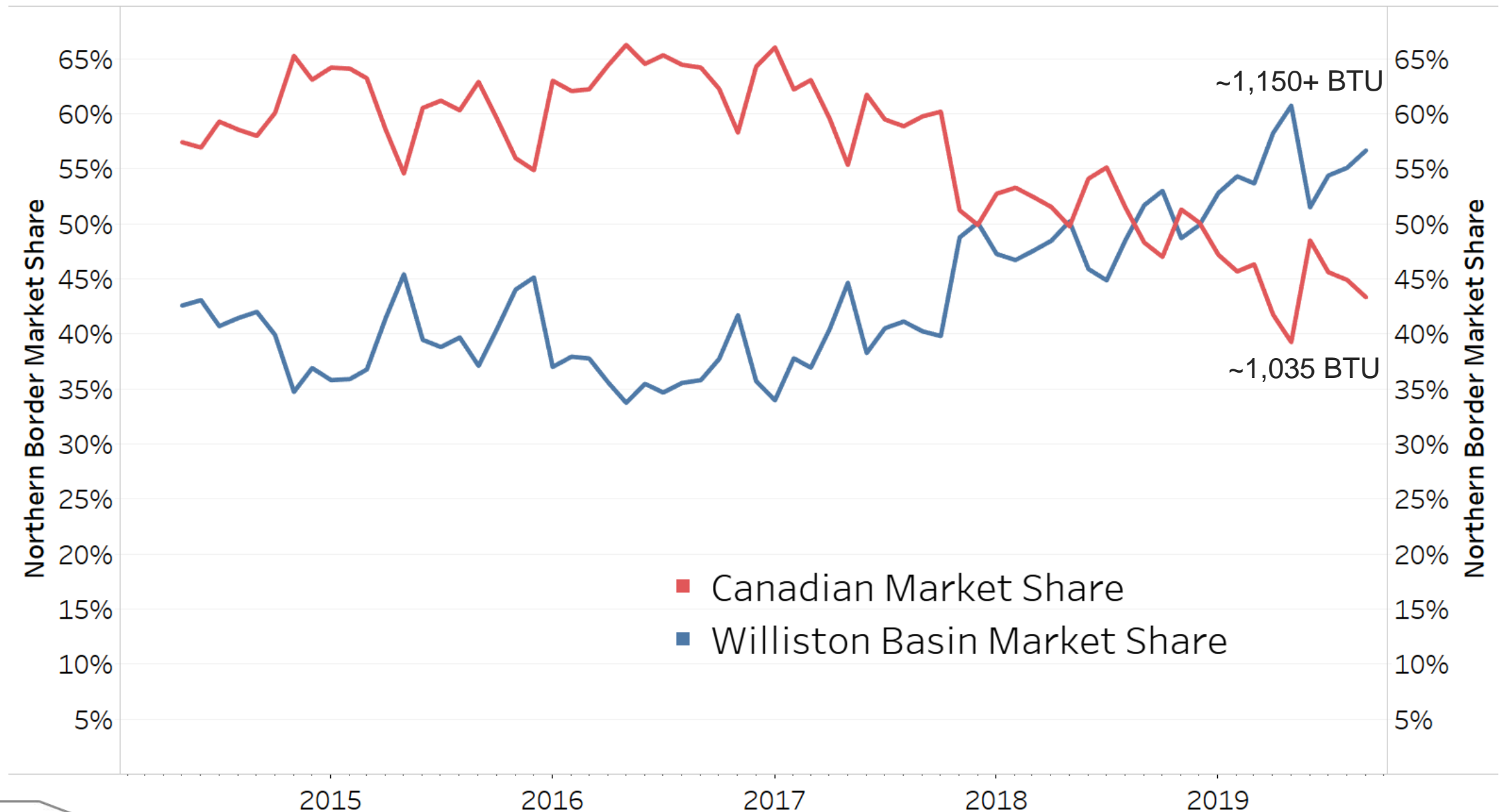
Northern Border Pipeline



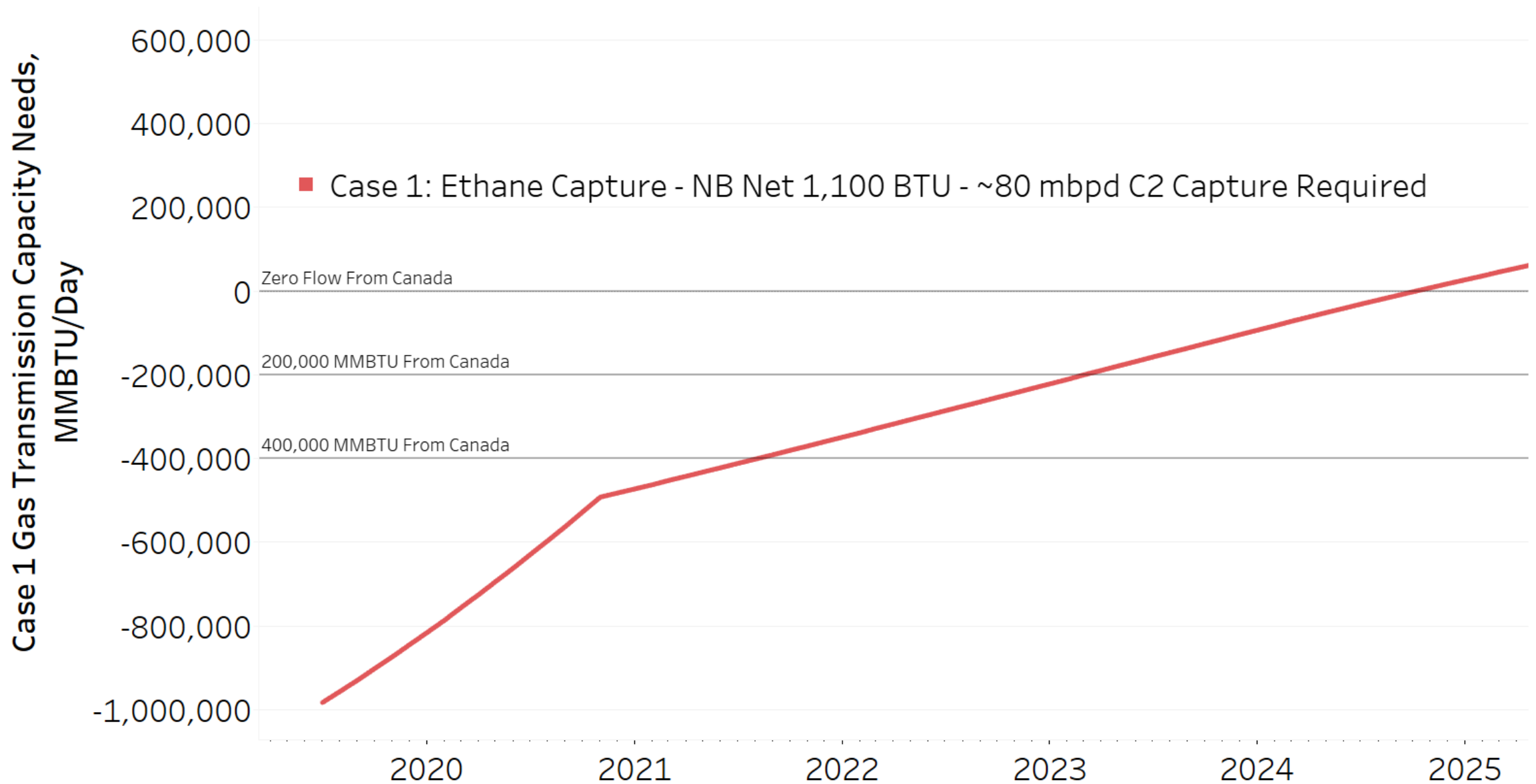
Northern Border BTU at Glen Ullin, ND



Northern Border Pipeline Market Share

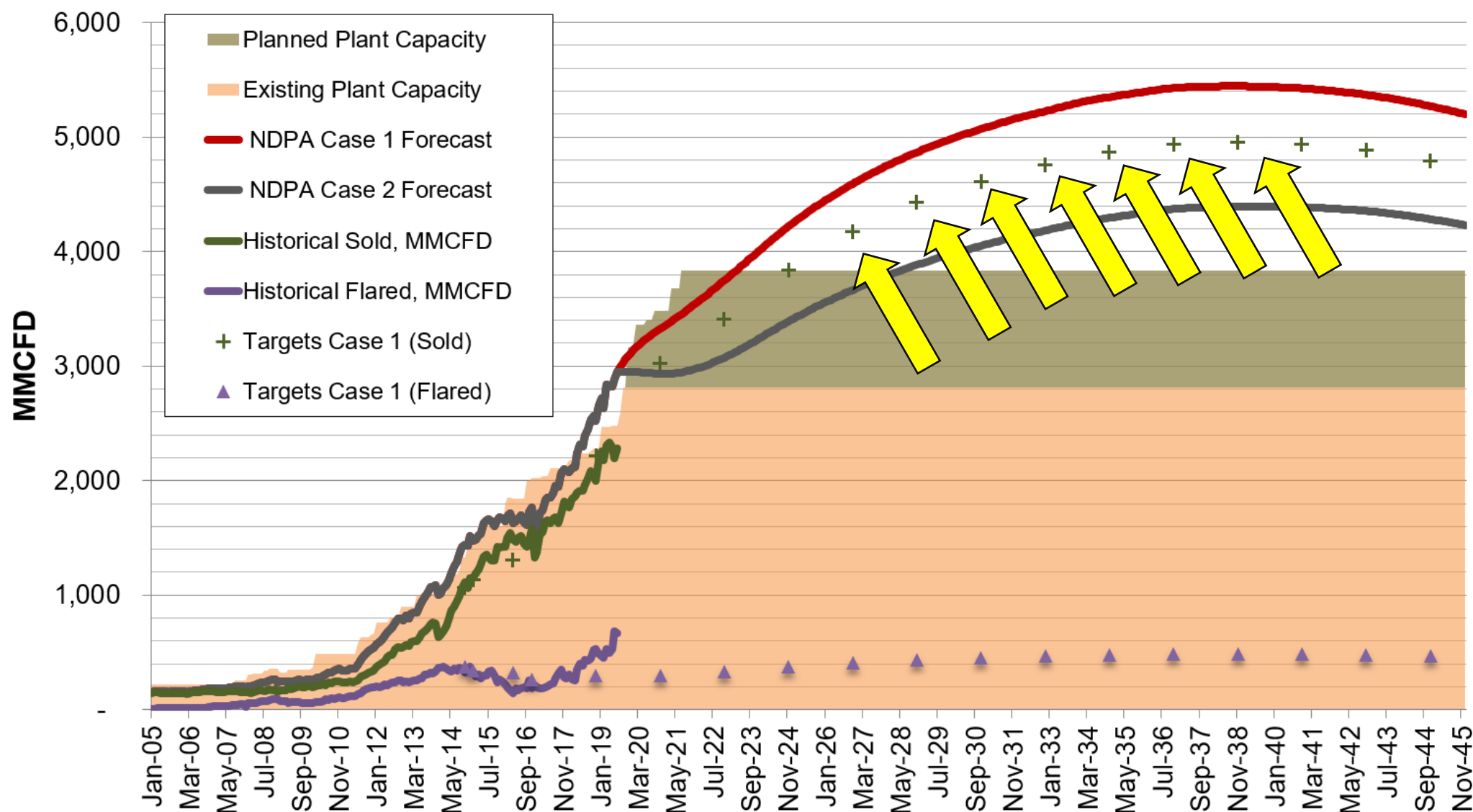


Northern Border – BTU Calculations*

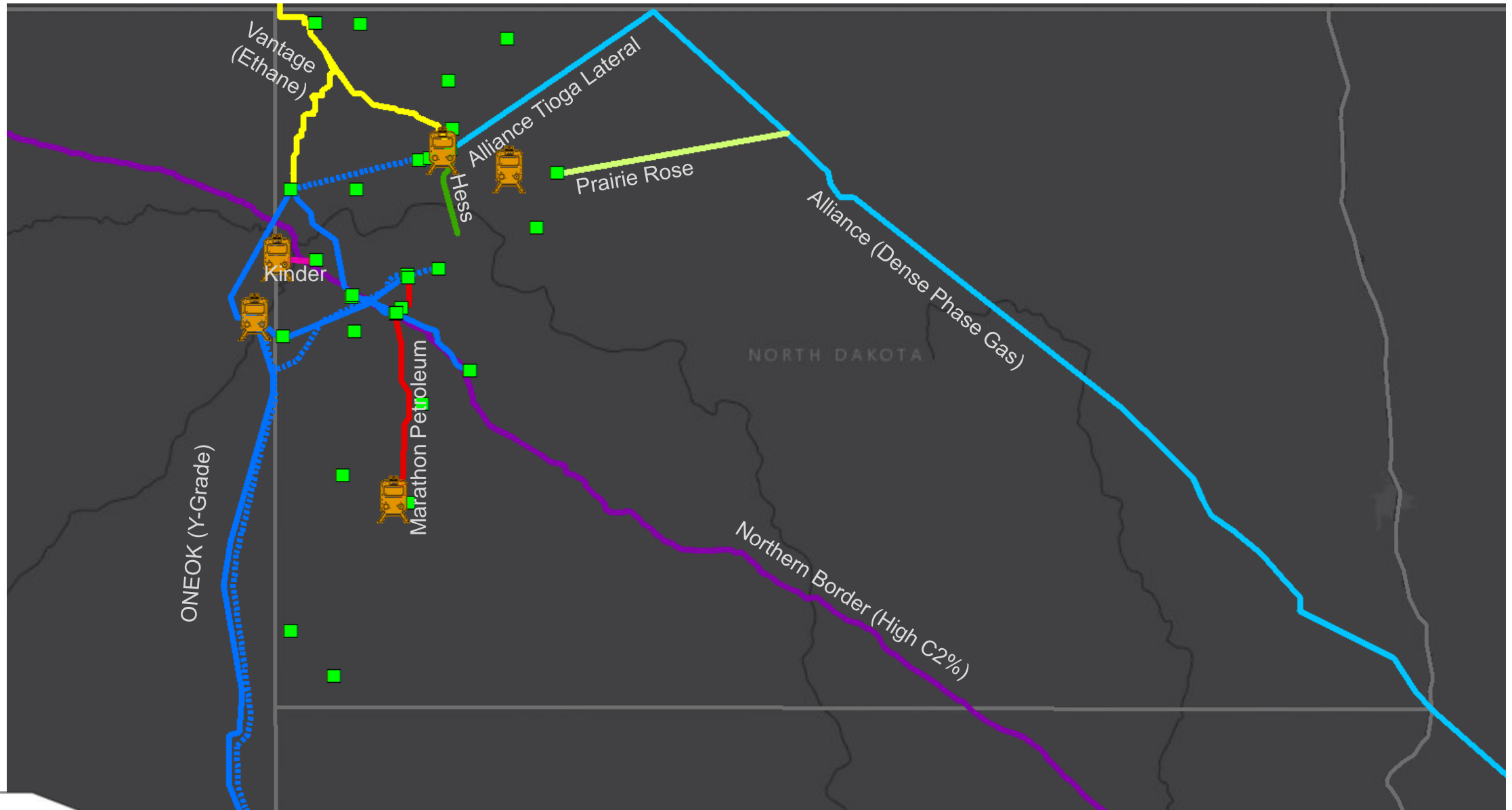


Solving the Flaring Challenge

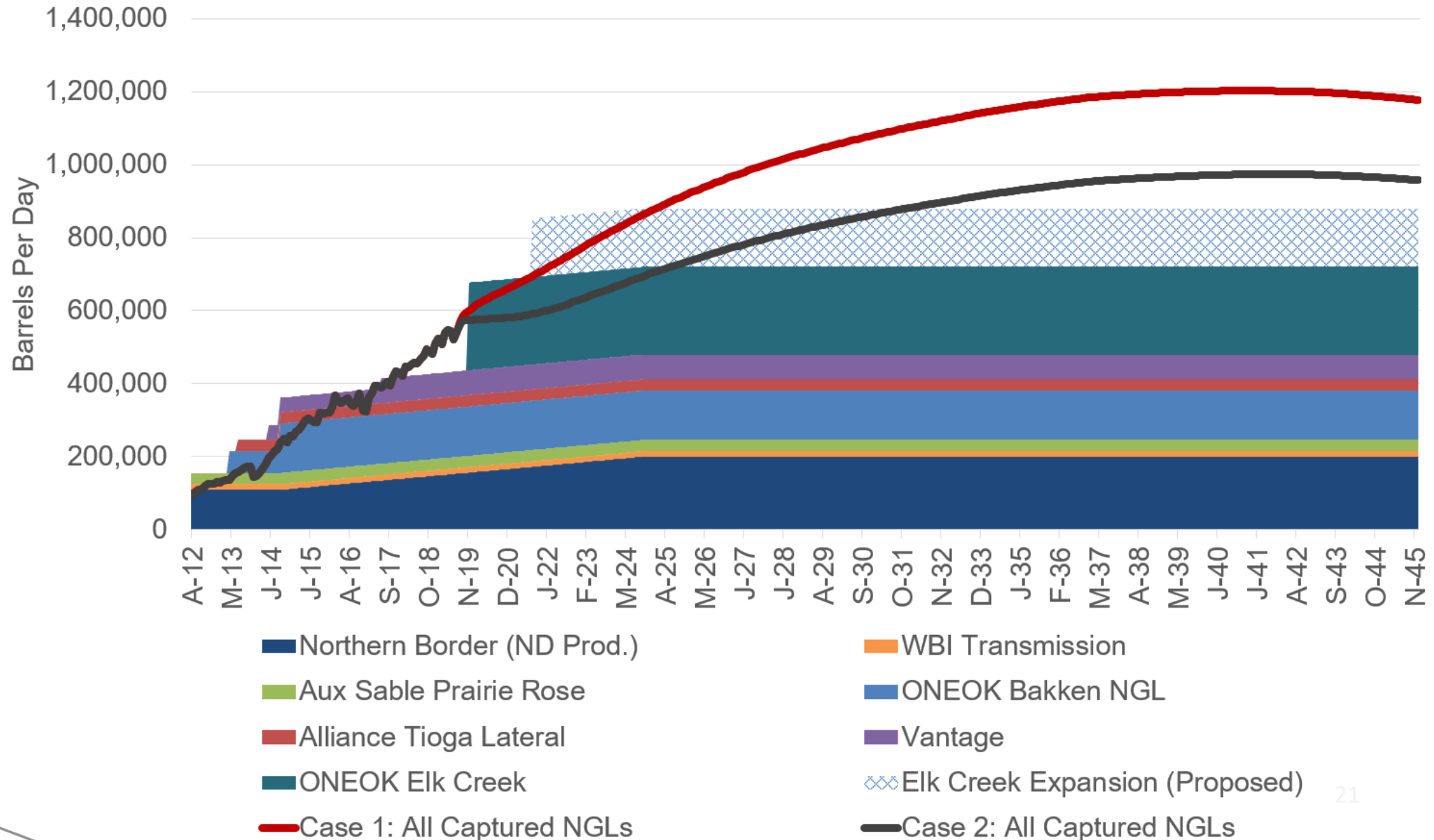
Assumes Current Technology – Enhanced Oil Recovery Not Included



Regional NGL Infrastructure



NGL Pipeline Takeaway Options



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Websites:

www.pipeline.nd.gov
www.northdakotapipelines.com

