Historical U.S. Natural Gas Production

U.S. Natural Gas Marketed Production

Source: EIA.gov
The Age of Vertical Drilling
Dramatic increase in Natural Gas Production – Post WWII

Source: EIA.gov
The Age of Long Haul Pipelines & Hydraulic Fracturing

Construction of the First Cross Country Pipeline - During WWII
The Age of Long Haul Pipelines & Hydraulic Fracturing

Early Hydraulic Fracturing - Late 1940’s- Halliburton
Record U.S. Natural Gas Production:

Production takes off in 2008

Source: EIA.gov
The Age of Horizontal Drilling:
How the industry responded in the past to increase production
THERE'S A SEAT RESERVED for you...
on the Marietta Concrete Corporation plane
Print Media: 275 Million Impressions
Petrochemical Profitability = 

Build on top of the feedstock + Build in the center of customers

Shale Crescent USA
The Ohio Valley Energy Advantage
Petrochemical Profitability =

Build on top of the feedstock +

Build in the center of customers
Record U.S. Marketed Natural Gas Production:

U.S. Natural Gas Marketed Production

Source: EIA.gov
Growth in Marketed Natural Gas Production
2009 - 2018

Shale Crescent USA
A Majority of all U.S. Growth

Rest of the U.S.  Shale Crescent USA (OH, WV, PA)
GROWTH IN MARKETED NATURAL GAS PRODUCTION 2008-2018

SHALE CRESCENT USA ACCOUNTS FOR 85% OF THE GROWTH

Shale Crescent USA:
- #1 U.S. Natural Gas Producing Basin
- #1 U.S. Natural Gas Producer
- #1 U.S. NGL Producer
- Produces more Natural Gas than Texas

Source: EIA and Shale Crescent USA

Petrochemical Profitability = Build on top of the feedstock + Build in the center of customers
NATURAL GAS PRODUCTION

PROJECTED U.S. NATURAL GAS GROWTH

Shale Crescent USA:
- Currently accounts for 32% of total U.S. Natural Gas Production
- Will account for 45% of total U.S. Natural Gas production by 2040
- If Shale Crescent USA were a country, it would be the third largest Natural Gas producing country in the world

Petrochemical Profitability = Build on top of the feedstock + Build in the center of customers
Shale Crescent USA Has Surpassed Texas in Natural Gas Production

Marketed Natural Gas Production

- **30.3** Billion Cubic Feet Per Day (Shale Crescent USA)
- **22.5** Billion Cubic Feet Per Day (Texas)

Source: Shale Crescent USA

October 2018
Top Natural Gas Producers in the World

1st  USA
2nd  Russia
3rd  Shale Crescent USA

4th  Iran
5th  Qatar
6th  Canada
7th  China
8th  Norway
9th  Saudi Arabia
10th Algeria

Source: Deloitte and Shale Crescent USA
Petrochemical Profitability =
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MARKET PROXIMITY

- 50% of the U.S. Population is within a day’s drive
- 70% of North American Polyethylene demand is within a day’s drive*
- 77% of North American Polypropylene demand is within a day’s drive*

*Source: IHS Markit

Petrochemical Profitability = Build on top of the feedstock + **Build in the center of customers**
Petrochemical Profitability =

Build on top of the feedstock +
Build in the center of customers
Shale Crescent USA
Delivered Petrochemical Cost Advantage Over U.S. Gulf Coast

Cost discount to US Gulf Coast delivery into SCUSA

- Methanol: 26%
- Ammonia / Urea: 12%
- Ethylene / Polyethylene: 23%
- PDH / Polypropylene: 10-11%

Source: IHS Markit
© 2019 IHS Markit
Polyethylene Facility: NPV15

Shale Crescent USA facility is 4x Greater than facility on US Gulf Coast.
Petrochemical Profitability =

Build on top of the feedstock +

Build in the center of customers
Location Advantage:
Shipping Advantage:
NATURAL GAS PRODUCTION GROWTH 2008-2018

Shale Crescent USA

26.5 BCF/D

US Total Growth

31.0 BCF/D
2018 & 2019 World Petrochemical Conference:

IHS Markit

- Natural gas US natural gas production is expected to grow by more than 35 Bcf/d from 2017 through 2040.
- Marcellus and Utica will contribute a significant amount of natural gas to the total US production.
- Producer is expected to grow from about 24 Bcf/d in 2017 to 46 Bcf/d by 2040.
- Their share will increase from 27% in 2017 to approximately 37% by 2040.
Thank You

Mark Schwendeman: Chairman
Jerry James: Vice Chairman and Co-Founder
Wally Kandel: Board Member and Co-Founder
Greg Kozera: Director of Marketing and Sales
Nathan Lord: Business Manager

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