2008 – strong prices ahead!

Source: EIA and NYMEX
Turned out quite differently

Source: EIA and NYMEX
2008 – Rockies will fuel the nation!

Rocky Mountain Natural Gas Production

Trillion Cubic Feet Per Year

2008 Forecast

Source: EIA
2018 Overall Rockies production down

Rocky Mountain Natural Gas Production

Source: EIA
2008 – US will always need imports

US Net Natural Gas Imports

Source: EIA
2018 – US now a net exporter

Source: EIA
Quite a diverse exporter at that

Destination of US LNG Exports

Source: EIA
US Production up 60% over interval

Natural Gas Production by State

Billion Cubic Feet per Day


TX  PA  OK  LA  OH  WY  CO  WV  NM  FED GOM  AK  ND  UT
Marcellus and Utica not in picture in 2008

Natural Gas Production by State

Source: EIA
2008 Flow pattern for natural gas
2018 Flow pattern disrupted
2008 Price differential in Rockies extreme
In 2008 – 7.8 Bcf export capacity

Capacity in million cubic feet per day
In 2018 – 9.9 Bcf export capacity

Capacity in million cubic feet per day
Today – 59% full on export capacity

Pipeline, Capacity, Actual Flow

<table>
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<tr>
<th>Pipeline</th>
<th>Capacity</th>
<th>Actual Flow</th>
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Westbound Total: 2945
Eastbound Total: 2938
Total: 5883

Source: Individual Pipeline websites under *Informational Postings for Operationally Available Capacity*, (1000s MMBtu per day) Gas Day 9-7-18
Expanded pipelines make a difference

Wyoming price difference in $ per MMBtu

Jan-93 to Jan-19
Prices at start of September 2018

Source: Platts

USD per MMBtu
New Project Natural Gas – Magnum Energy West

- 650 miles large diameter line
- Bi-directional capability
- 40 Bcf of storage capacity on system
- Access Rockies supply and markets in AZ, CA, NV, UT, Mexico and in Pacific
New Project Crude Oil– Tallgrass/SCM Iron Horse

- 80 miles new/converted 16”
- Connect to PXP at Guernsey, WY thence to Cushing, OK
- 100,000 Bbls/d expandable to 200,000 Bbls/d
- In-service 1Q 2019
New Project NGL – OneOK Elk Creek Pipeline

- 900 miles 20” pipeline
- Connection to Conway, KS and beyond to Mt. Belvieu, TX
- 240,000 Bbls/d expandable to 400,000 Bbls/d
- In-service 4Q 2019
New Project NGL – White Cliffs Conversion

• Convert 12” Crude to NGL Service
• Connect to Existing Southern Hills line to Mt. Belvieu, TX
• 90,000 Bbls/d expandable to 120,000 Bbls/d
• In-service 4Q 2019
New Project - Jordan Cove LNG, Coos Bay, OR