Current Drilling Activity
From Jan-15 PPT

Peak Month Minimum
800 BOPD

Peak Month BOPD / Well Cost
800

$45 Wellhead

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Understanding the Winter of 2014-15

Graph: ND Bakken Oil, BOPD vs. ND Bakken Wells

- X-axis: Year (2008 to 2015)
- Y-axis 1: ND Bakken Oil, BOPD (0 to 1,200,000)
- Y-axis 2: ND Bakken Wells (0 to 9,000)
Understanding the Winter of 2014-15

- Wells/Rigs

- Rigs

- M-M BKKN Well Count Additions

JJ Kringstad - North Dakota Pipeline Authority
Revised Forecast Assumptions

![Graph showing revised forecast assumptions with lines for Rigs, M-M BKKN Well Count Additions, Case 1 Wells Added Per Month, and Case 2 Wells Added Per Month.]
Forecasting Williston Basin Oil Production, BOPD

Production forecast is for visual demonstration purposes only and should not be considered accurate for any near or long term planning.

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Holding March 2015 Production Scenario

- Rigs
- M-M BKKN Well Count Additions
- Wells to Hold Mar-15 Production Even
- Case 1 Wells Added Per Month
- Case 2 Wells Added Per Month
Estimated Williston Basin Oil Transportation

March 2015

- Estimated Pipeline Export: 40%
- Tesoro Refinery: 5%
- Truck to Canadian Pipelines: 1%
- Estimated Rail: 54%
Estimated ND Rail Export Volumes
Williston Basin Truck Imports and Exports with Canada

Crude Oil Barrels Per Day

Data for truck imports/exports chart is provided by the US International Trade Commission

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Production forecast is for visual demonstration purposes only and should not be considered accurate for any near or long term planning.
Energy Transfer Partners: Dakota Access

- Successful Open Season During the First Half of 2014
- 450,000 BOPD Capacity to Patoka, IL (30”)
- Expandable Up To 570,000 BOPD if Shipper Demand Exists
- Target In-service Date: Late 2016

Map Source: Energy Transfer Partners
North Dakota Pipeline Company LLC - formerly known as Enbridge Pipelines (North Dakota) LLC

- 225,000 BOPD ND Capacity to Clearbrook, MN (24”)
- 375,000 BOPD Clearbrook, MN to Superior, WI (30”)
- Target In-service Date: 2017
TransCanada: Upland Pipeline

- Successful Open Season During 2014
- Initial Capacity 220,000 BOPD (Expandable to 300,000 BOPD)
- Target In-service Date: 2020
- Energy East Project Capacity 1.1 MMBOPD
Forecasting Future Market Share is Difficult

Predicting how future oil production will move with any degree of confidence is difficult/impossible due to:

• Future oil production uncertainty
• Shifting market conditions
• Project commitments are unknown (pipe & rail)
• Regulatory uncertainty (pipe, rail, exports, etc)
North Dakota Oil Differential

Based on EIA Data

Dollars Per Barrel

North Dakota-WTI Differential
North Dakota-Brent Differential

Based on EIA Data
Solving the Flaring Challenge

**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

Statewide

- **81%**
- **14%**
- **5%**

March 2015 Data – Non-Confidential Wells
Solving the Flaring Challenge

JJ Kringstad - North Dakota Pipeline Authority
Capturing the 5% Faster Well Connections

- New Wells Selling Gas
- New Producing Wells

Number of Wells Per Month
North Dakota Natural Gas Forecast, MMCFD

Production forecast is for visual demonstration purposes only and should not be considered accurate for any near or long term planning.

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Solving the Flaring Challenge

- Demicks Lake (Suspended)
- Planned Plant Capacity
- Existing Plant Capacity
- NDPA Case 1 Forecast*
- NDPA Case 2 Forecast*
- Historical Sold, MMCFD
- Historical Flared, MMCFD
- Targets Case 1 (Sold)
- Targets Case 1 (Flared)

90-95% Q4-20
85% Q1-16
77% Q1-15
74% Q4-14
North Dakota NGL Production Forecast, BPD
Assumes 11 gpm and Case 1 Natural Gas Production

Production forecast is for visual demonstration purposes only and should not be considered accurate for any near or long term planning.

JJ Kringstad - North Dakota Pipeline Authority
NGL Pipeline Transportation

Vantage (Ethane)
Tioga Lateral
Aux Sable
Alliance (Dense Phase)
Hiland
ONEOK (Y-Grade)
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