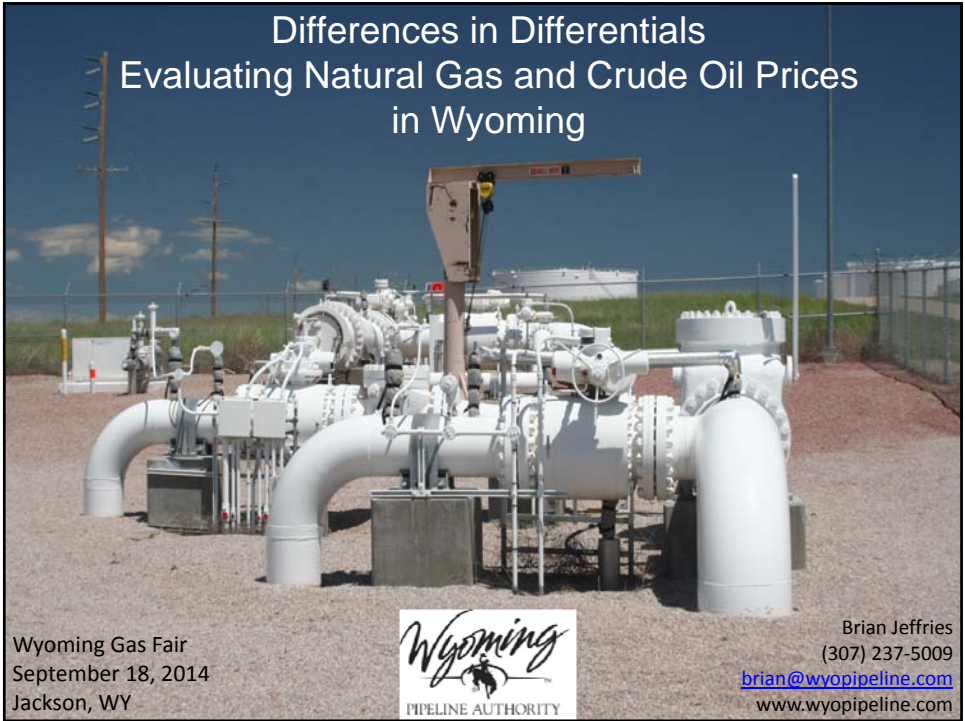



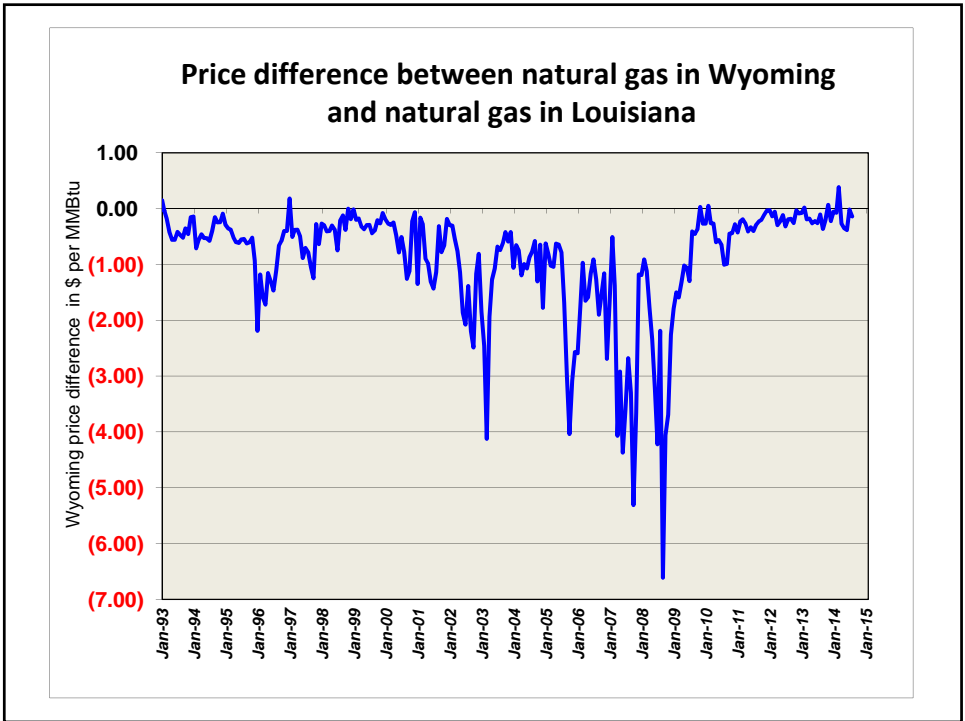
Differences in Differentials Evaluating Natural Gas and Crude Oil Prices in Wyoming

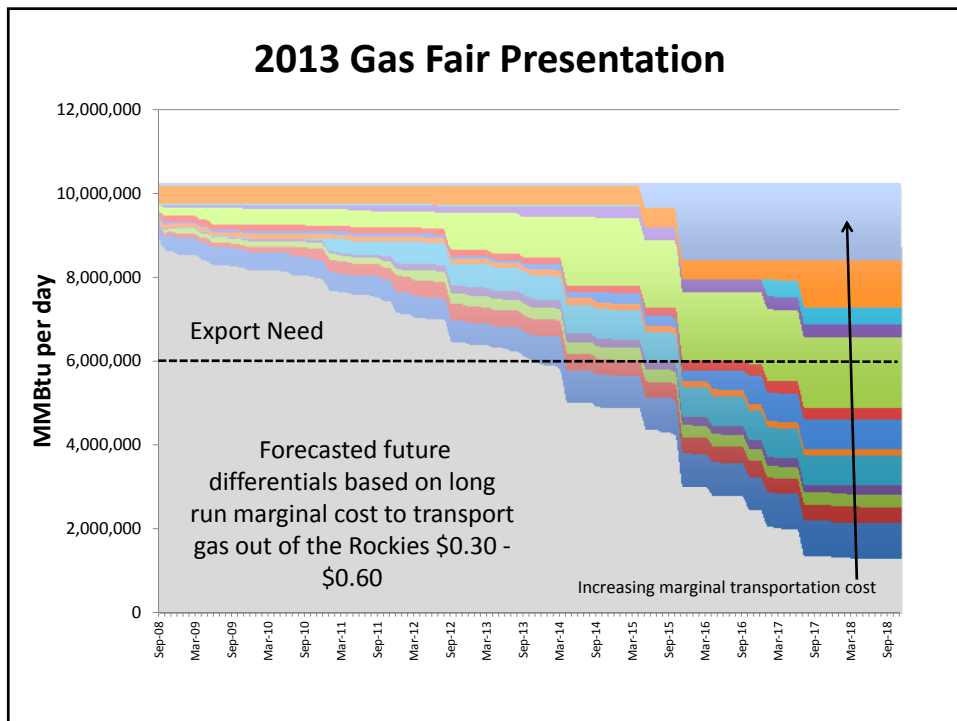
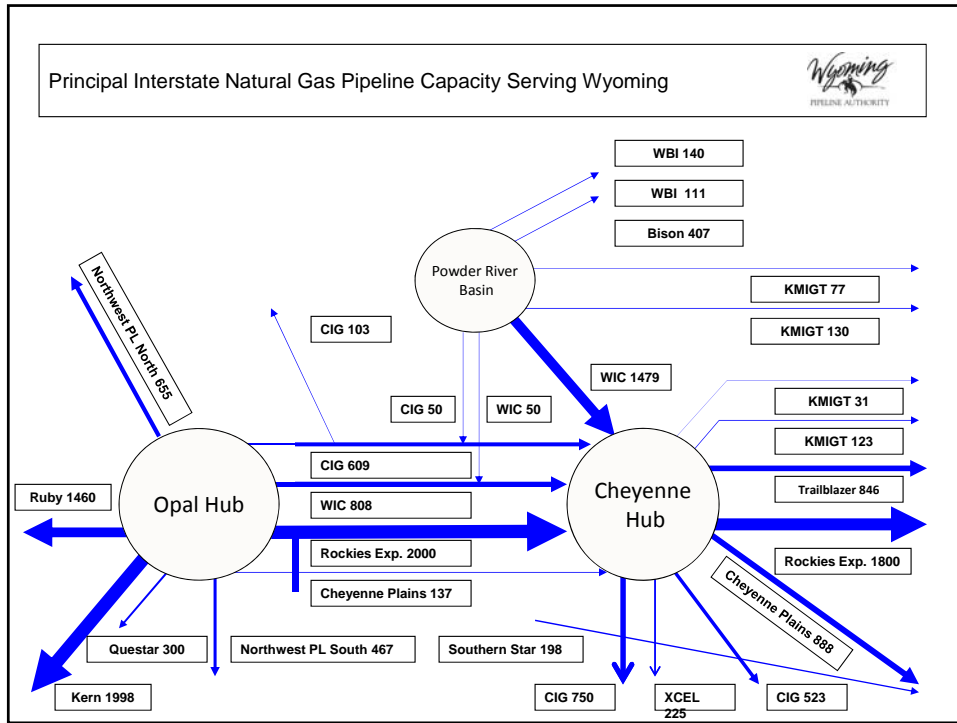


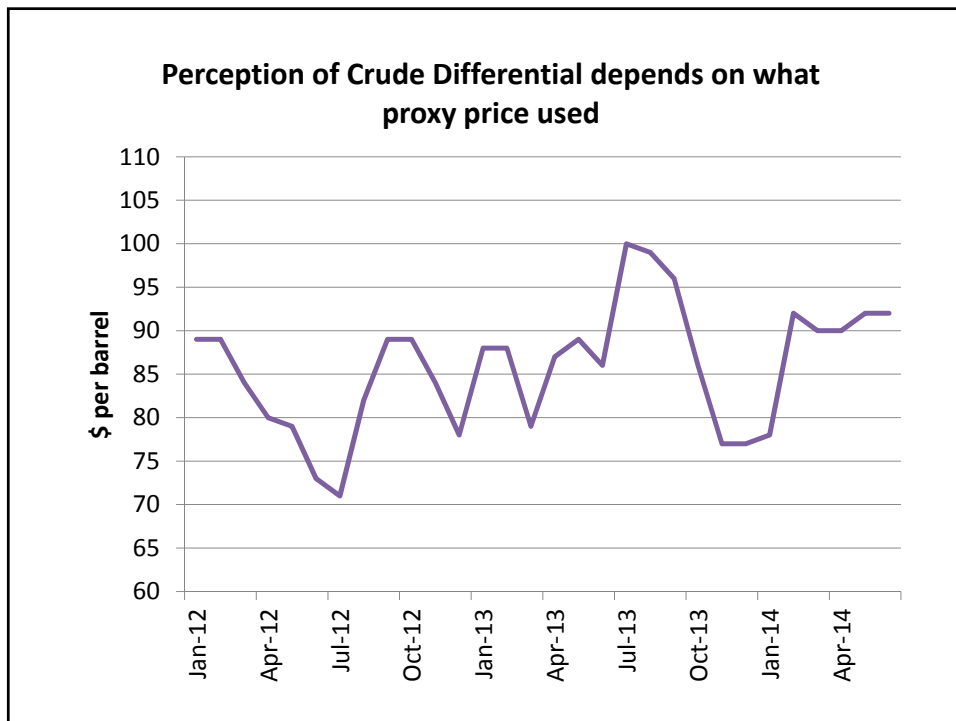
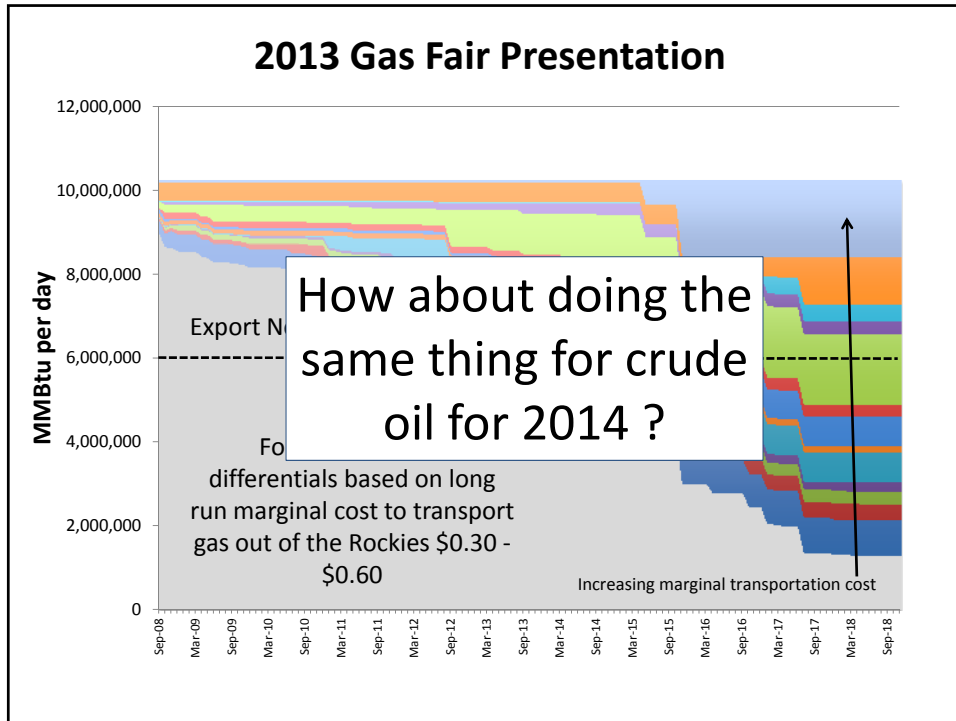
Wyoming Gas Fair
September 18, 2014
Jackson, WY

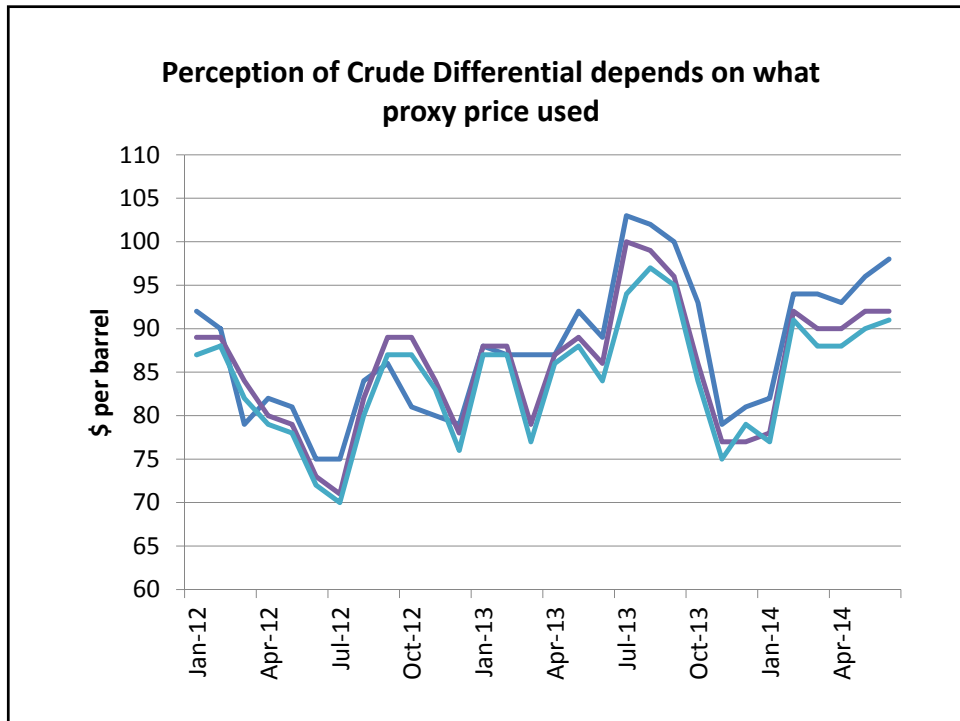
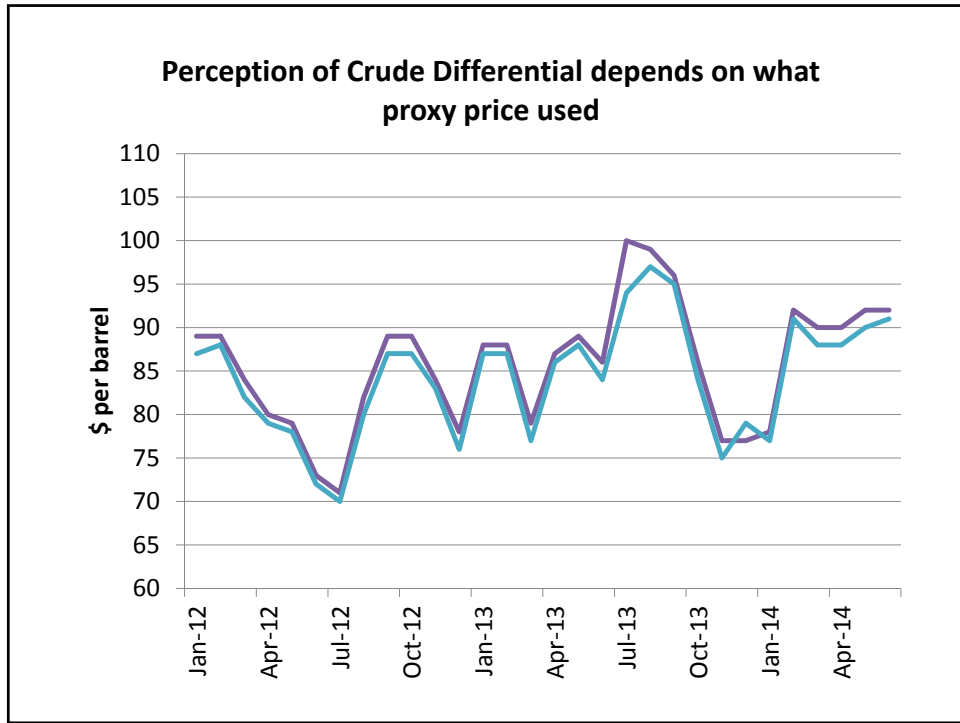


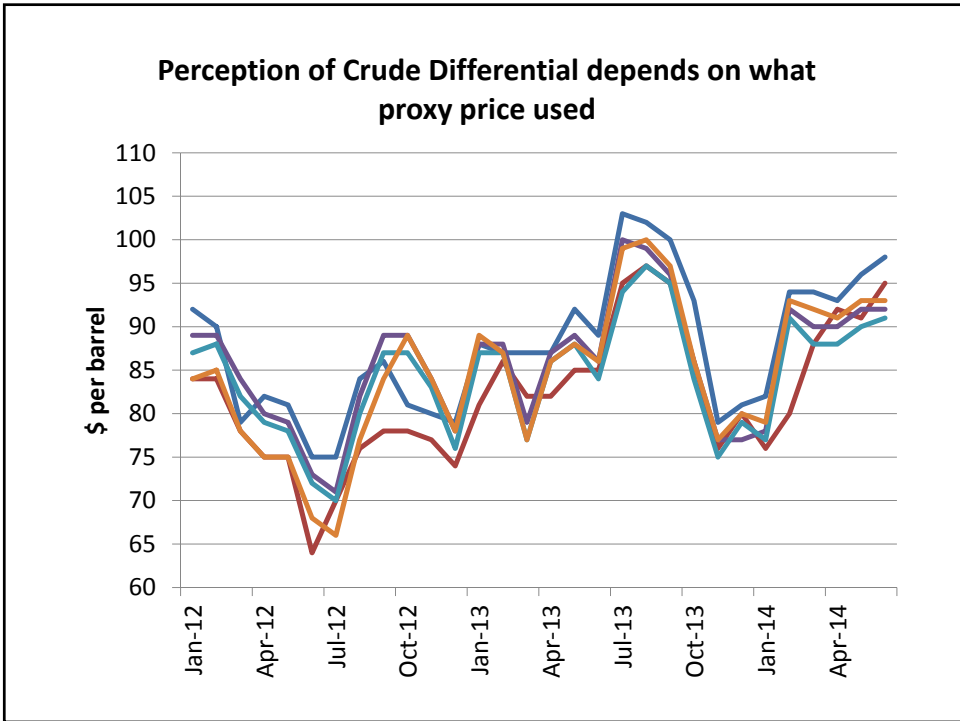
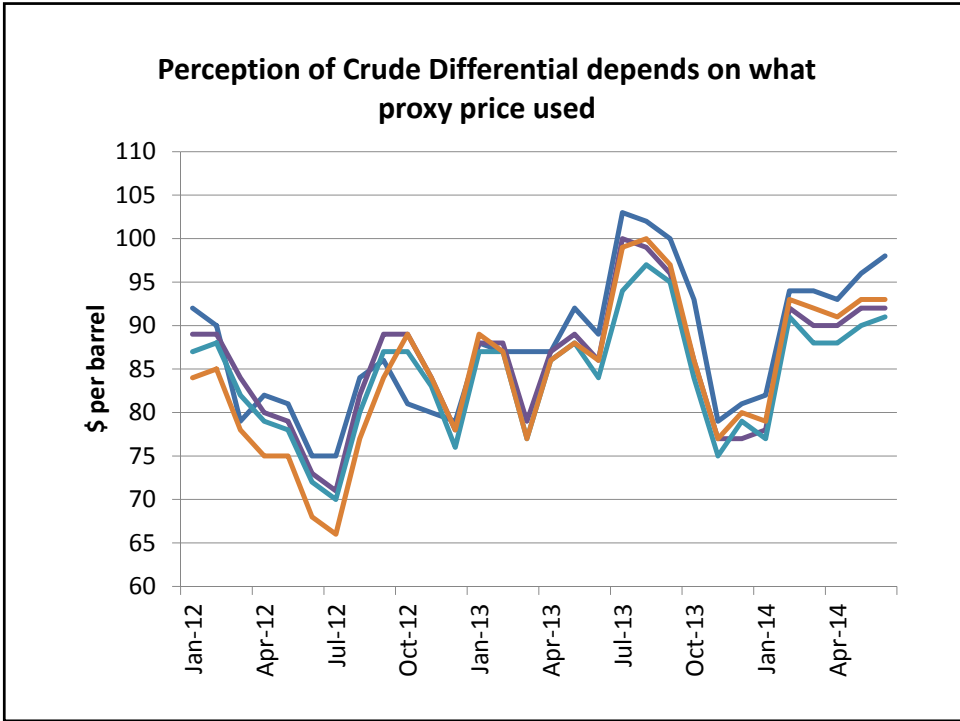
Brian Jeffries
(307) 237-5009
brian@wyopipeline.com
www.wyopipeline.com

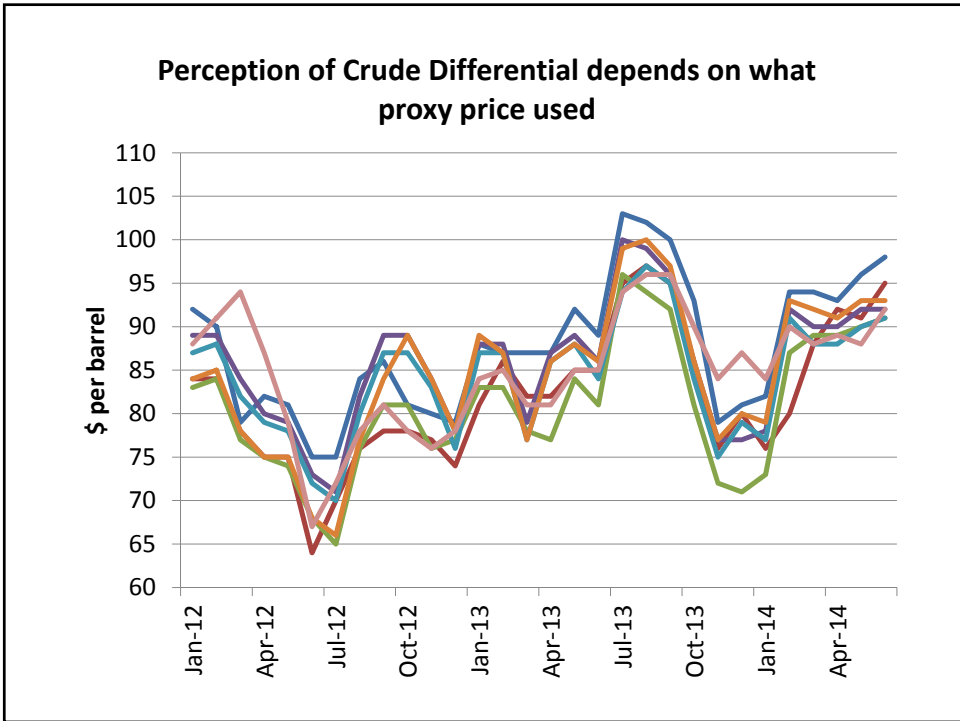
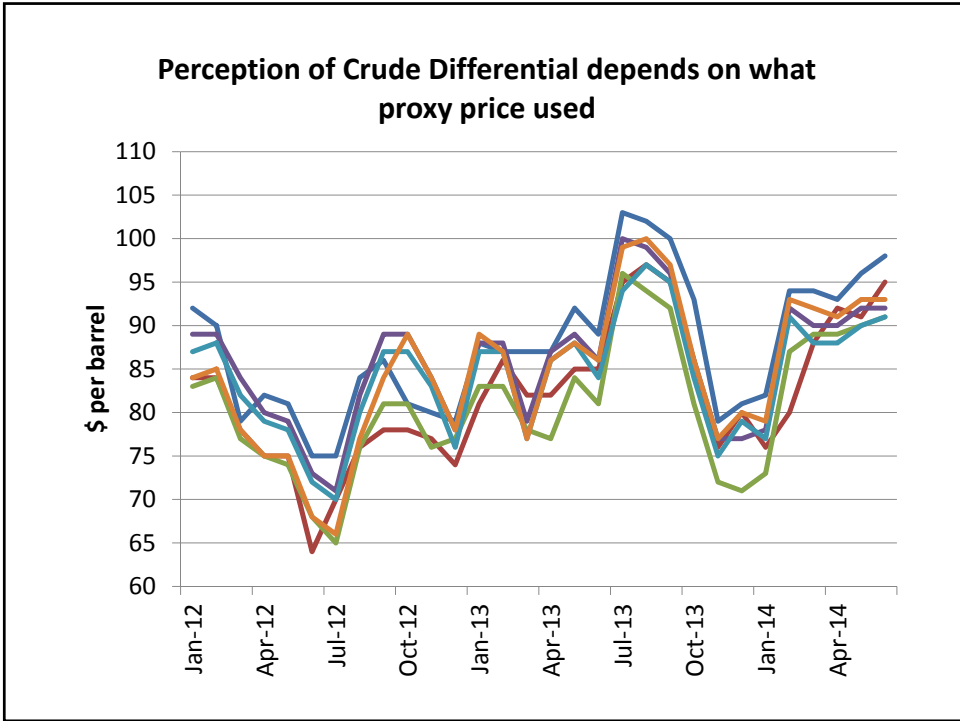


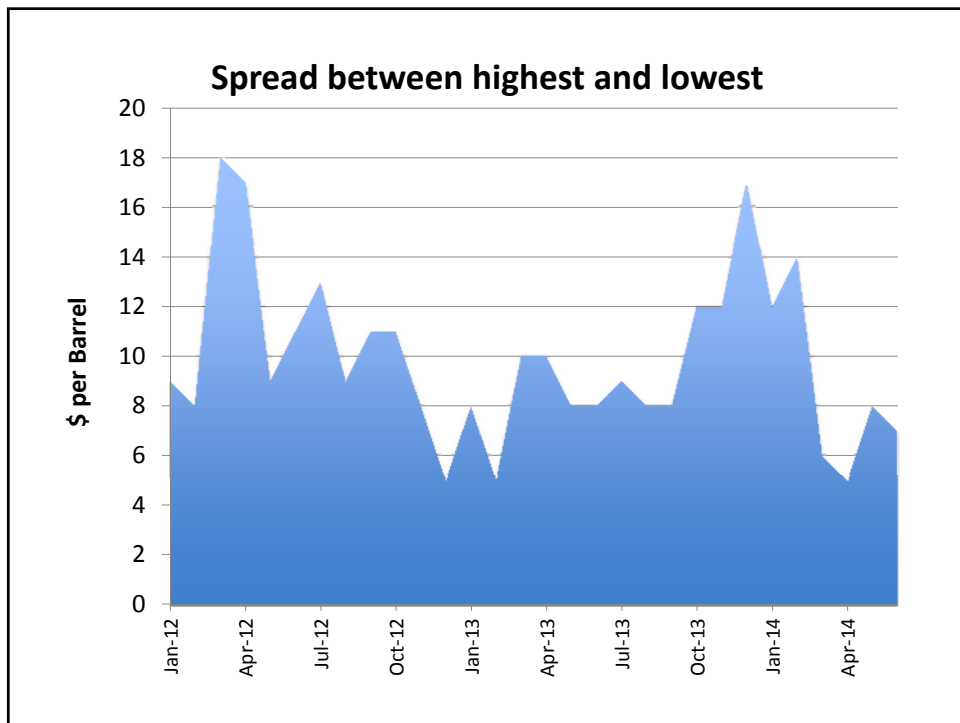
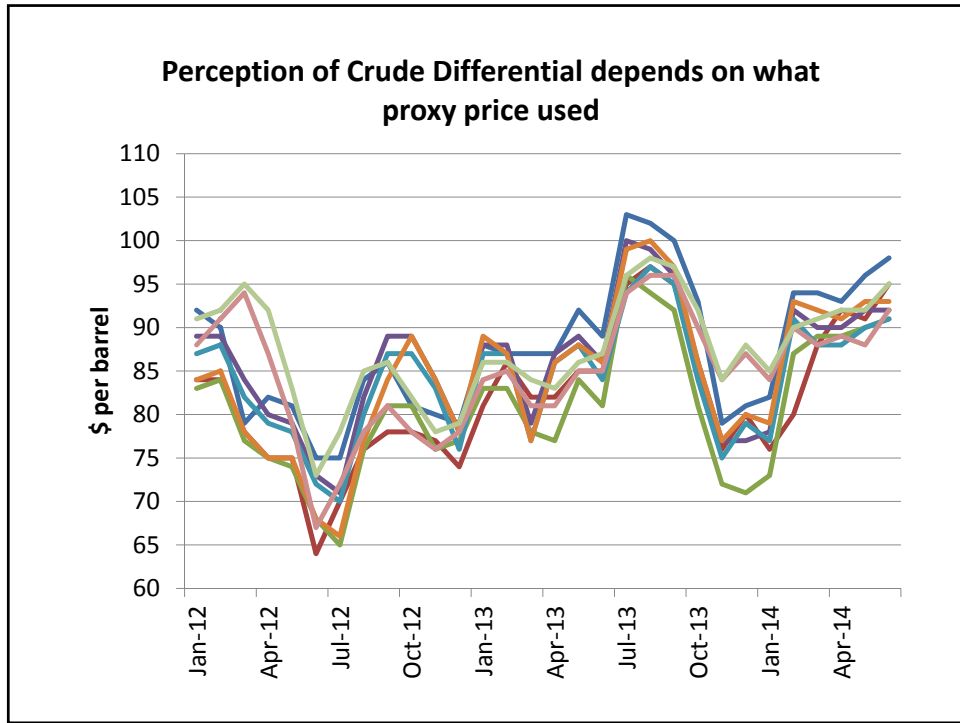


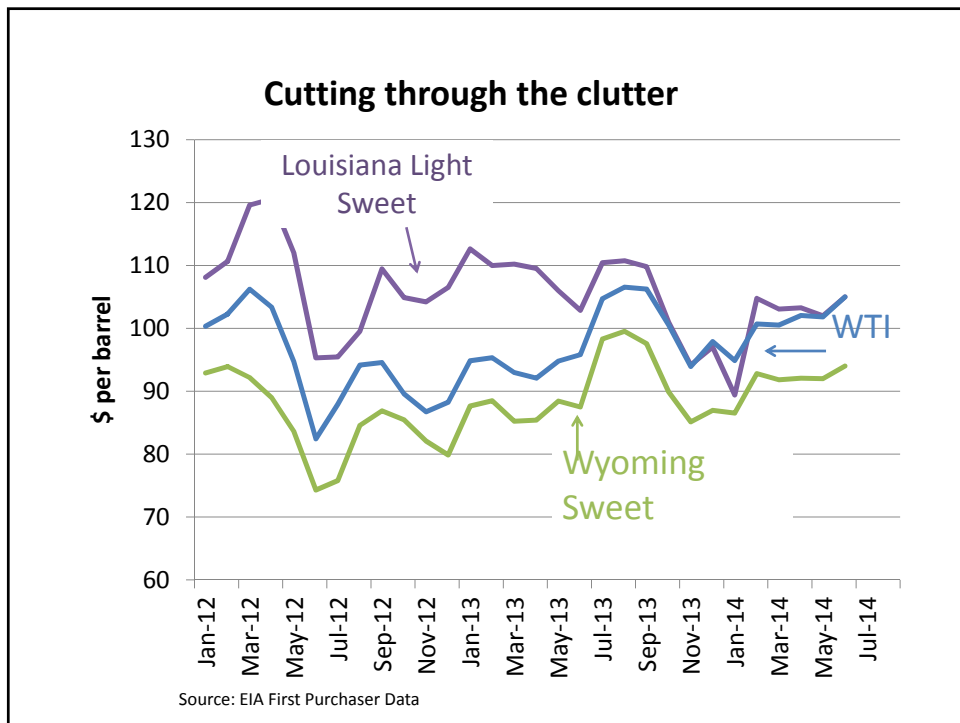
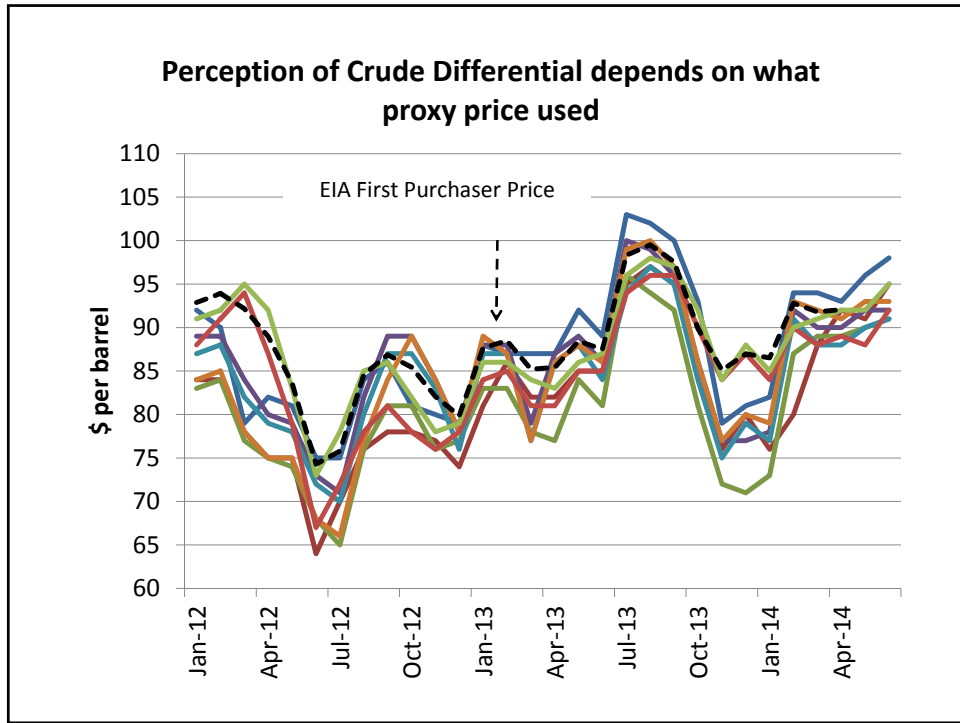








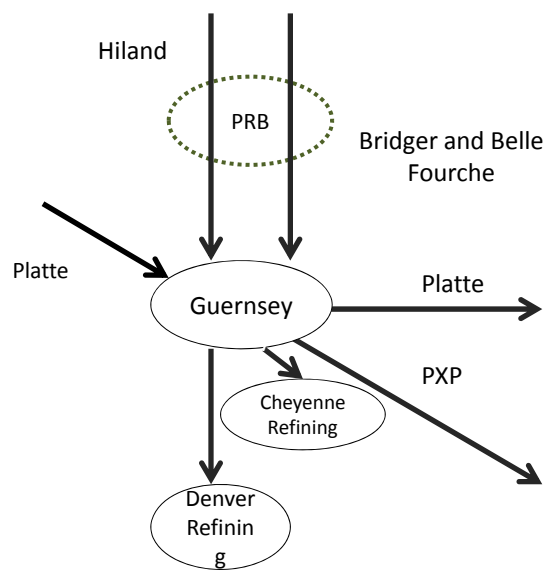


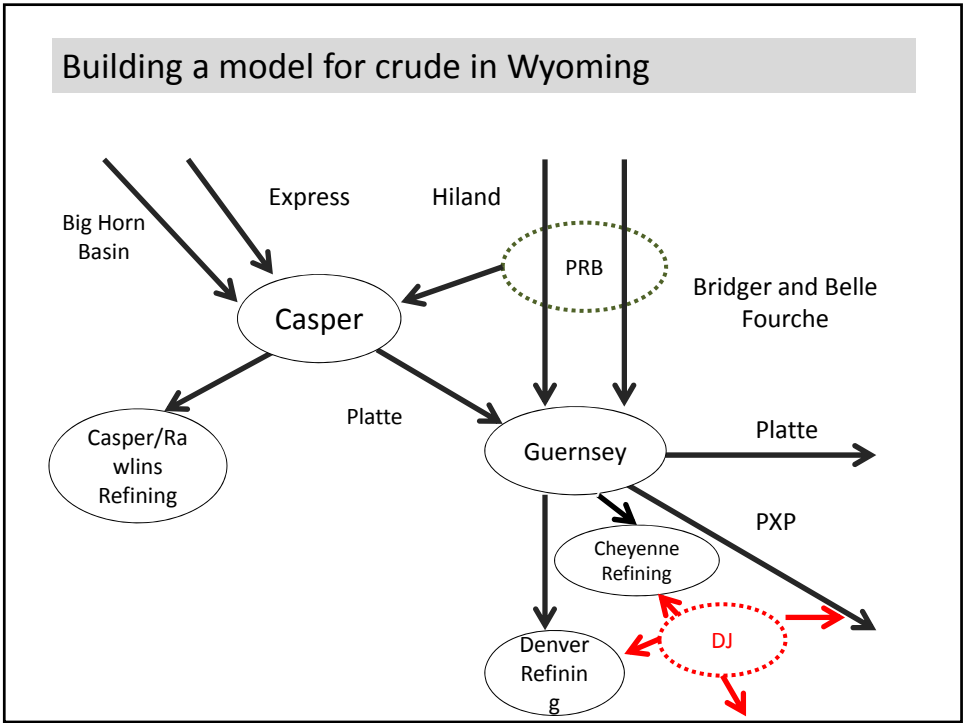
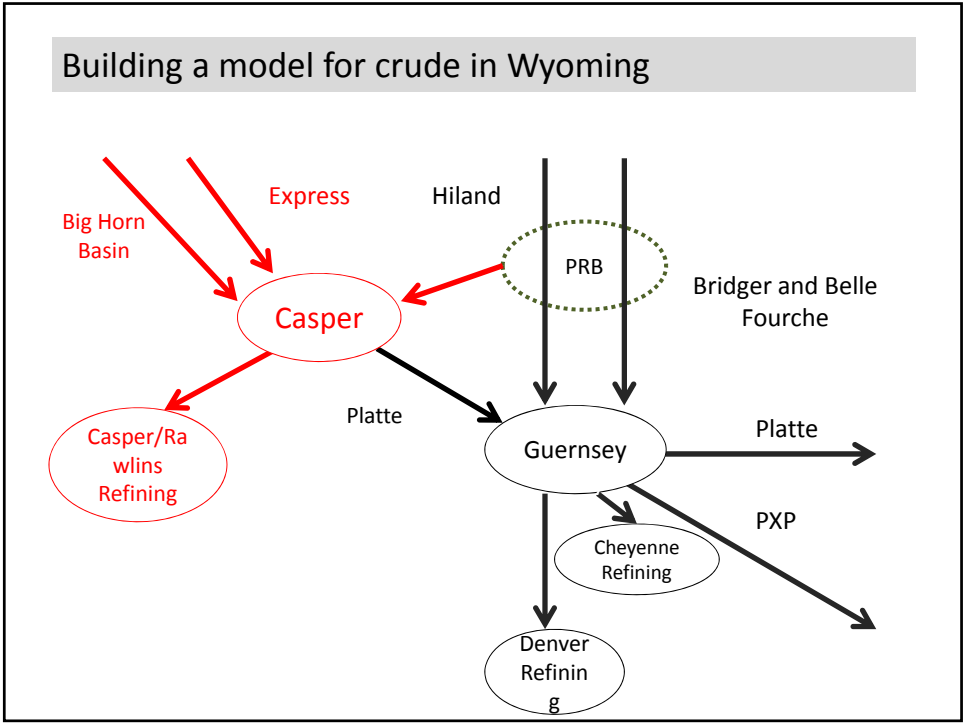


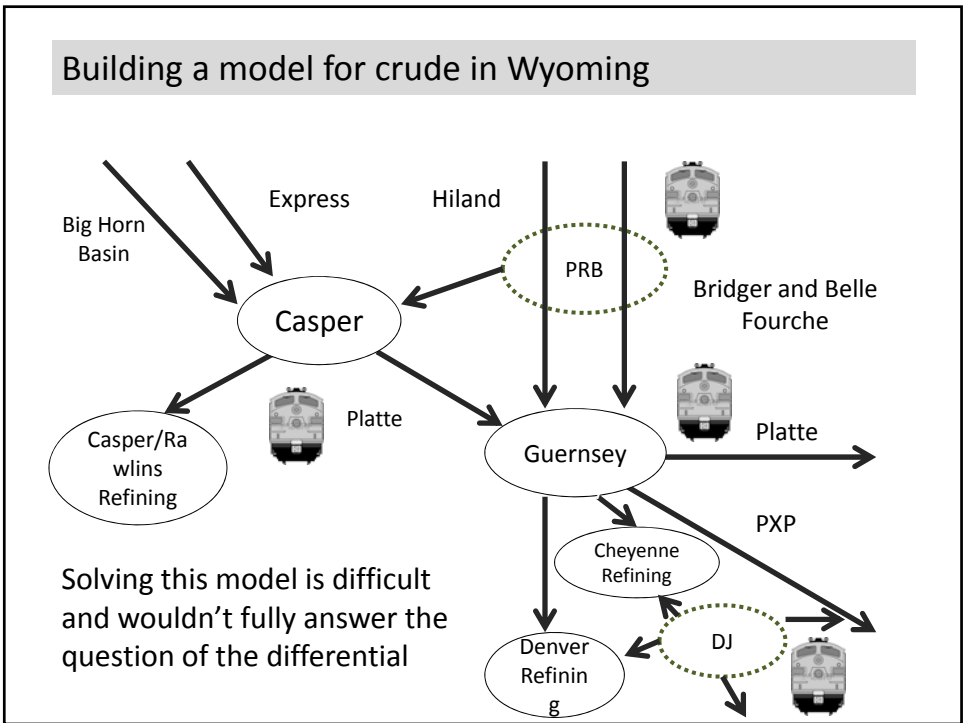
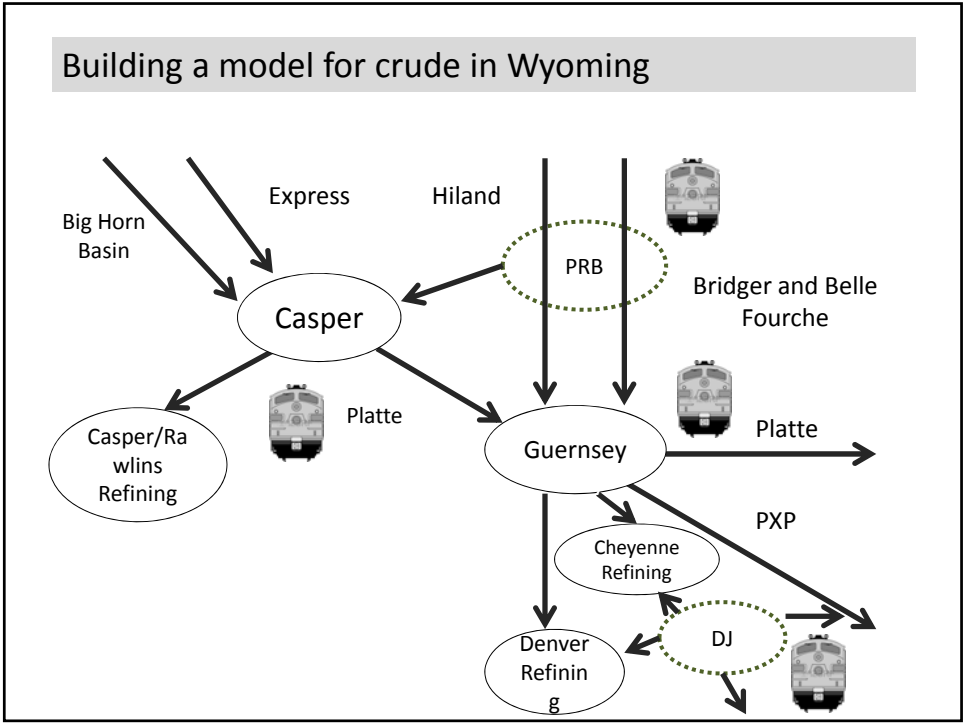
Some differences between gas and oil

Attribute	Natural Gas	Crude Oil
Price Transparency	Hub prices in WY and elsewhere	WTI and a few other places
Capacity data	4X per day	nope
Shipper data	4X per year	nope
Rates data	All	Some
Rates large factor in delivered cost	Yes	No
Choice of pipe or ?	No	Yes (rail)
FERC response	Strong	Not so strong

Building a model for crude in Wyoming





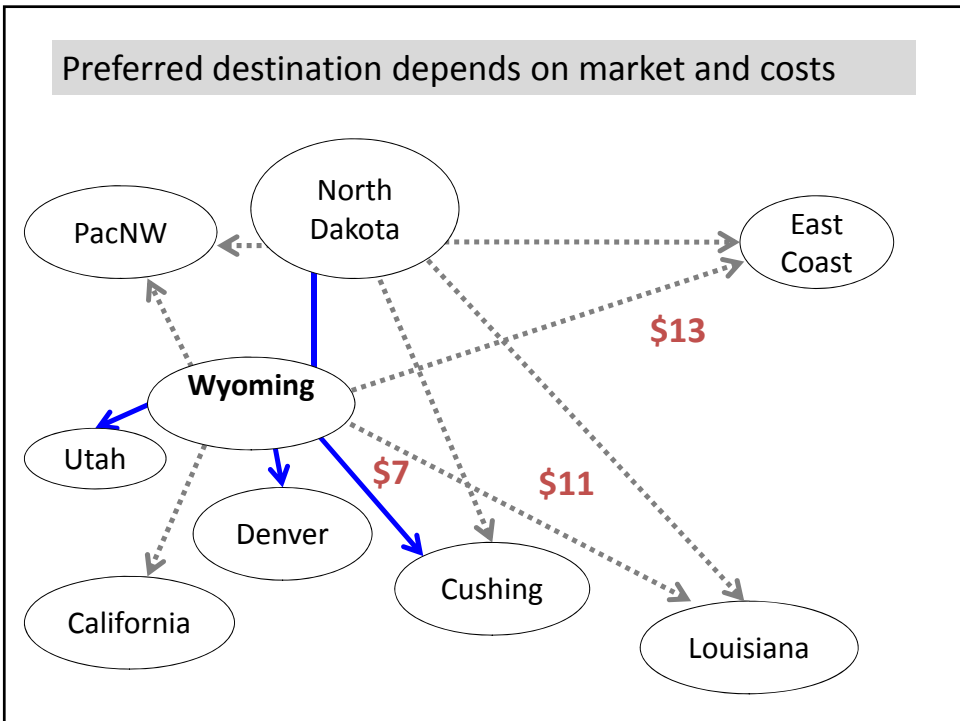
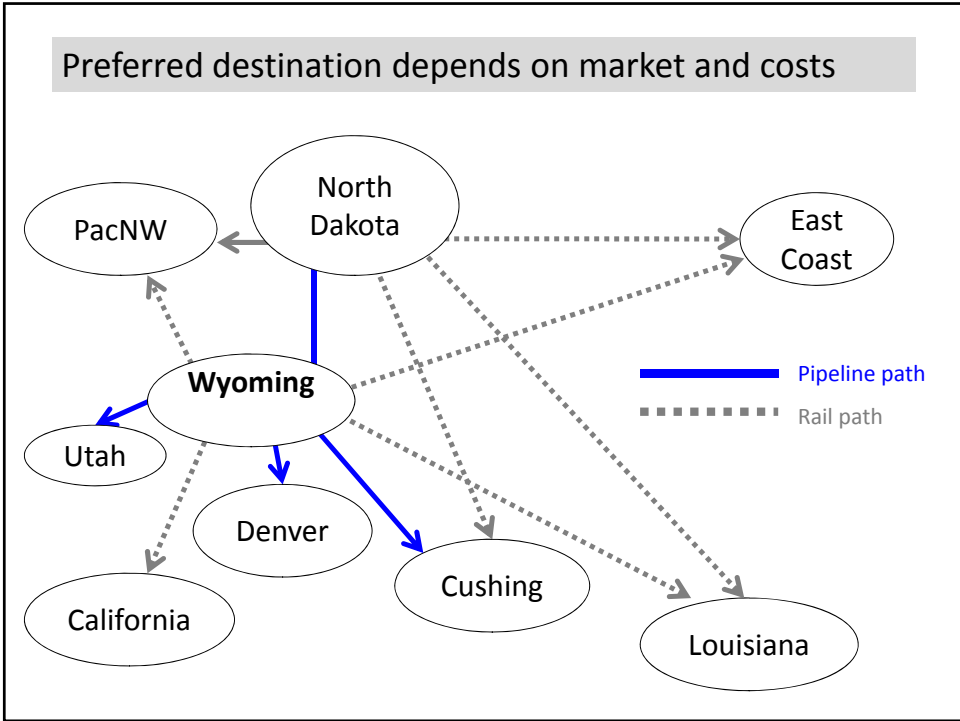


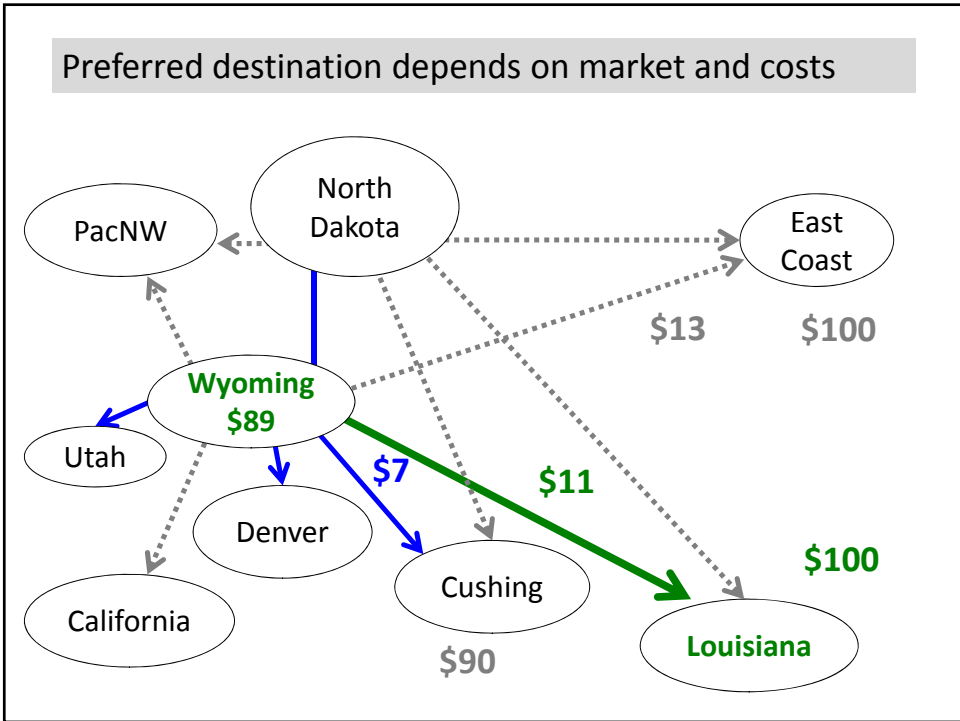
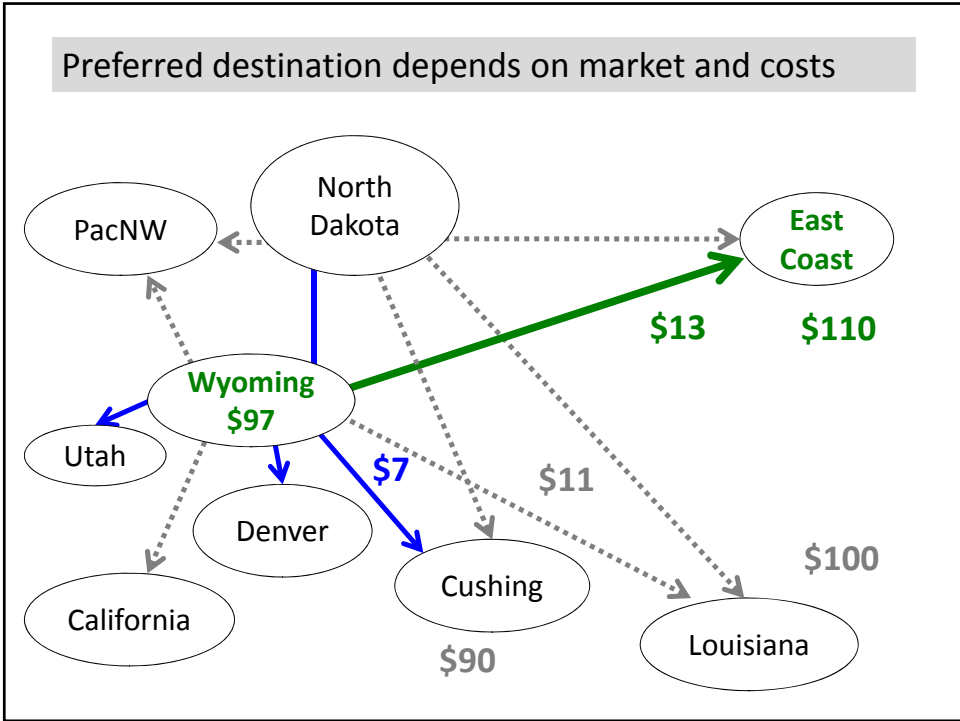
Approximate costs to your final destination

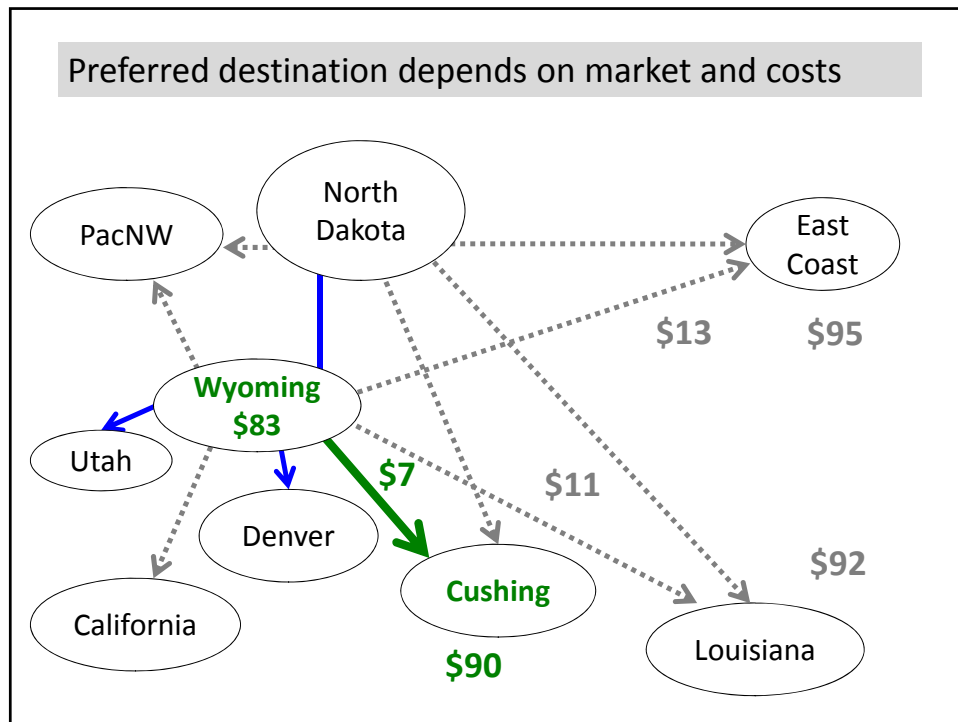
Pipeline Rate Components	Range of rates	Comment
Getting off lease	\$1 - \$3	Gathering/trucking
Pipeline tariff Guernsey to Cushing	\$4 - \$6	Age and distance affect rates
Range for Pipeline	\$5 - \$9	Using \$7 in examples to follow

Approximate costs to your final destination

Rail Rate Components	Range of rates	Comment
Getting off lease	\$1 - \$3	Gathering/trucking
Rail car lease costs	\$2 - \$4	Lease rates vary with market and turn around time on cars
Rail terminal loading	\$1 - \$2	Spot/term
Rail transportation	\$5 - \$8	Unit v. Manifest/Distance
Range for Rail	\$9 - \$17	<u>Using \$11 - \$13 in examples to follow</u>







So where does that leave Wyoming?

Fortunate that:

- rail is an option
- have both BNSF and UP
- pipeline additions do happen

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- pipeline additions do happen

Expect that:

- Prices at market hubs and refining will influence delivery mode and netback
- Rail and pipeline built will cycle back and forth as explanation for price at any point in time
- WTI via pipe is the long run floor on price

Differentials Expressed as Percent of Benchmark

