

# Value of Canadian Oil Sands..... *to the United States*

Oil Sands  
Heavy Oil Technologies  
Calgary  
July 20, 2011

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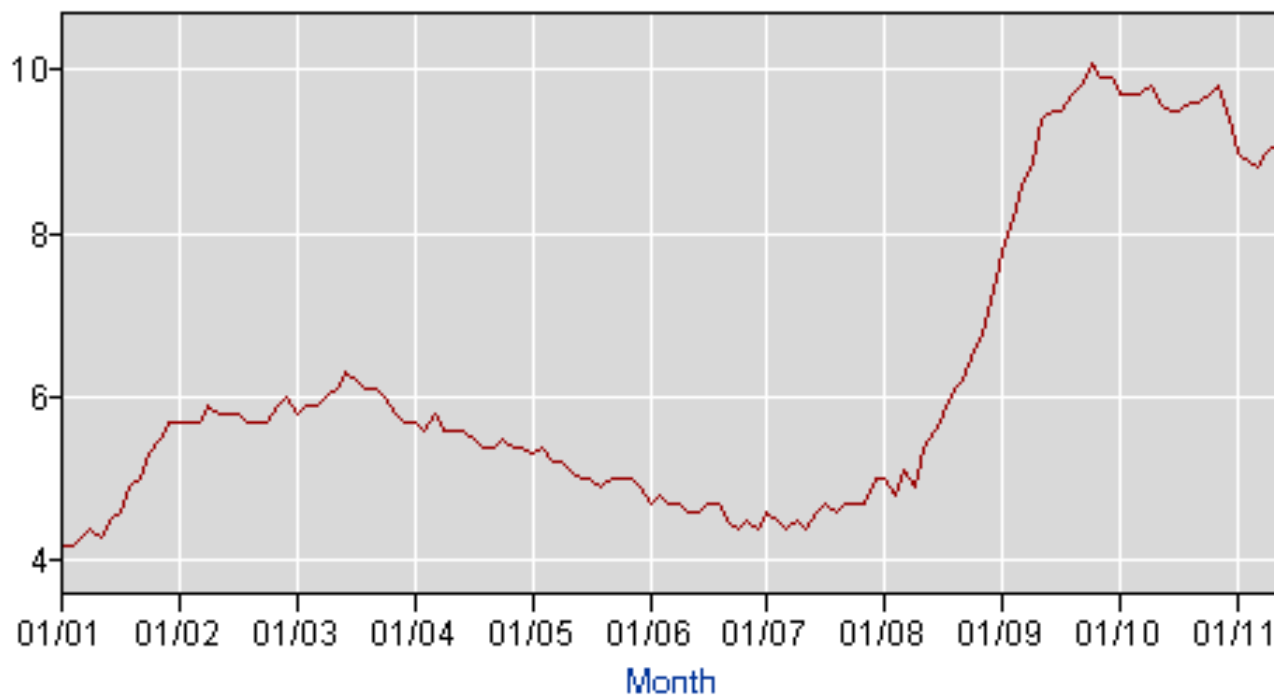
**[www.eprinc.org](http://www.eprinc.org)**

# First the Fundamentals

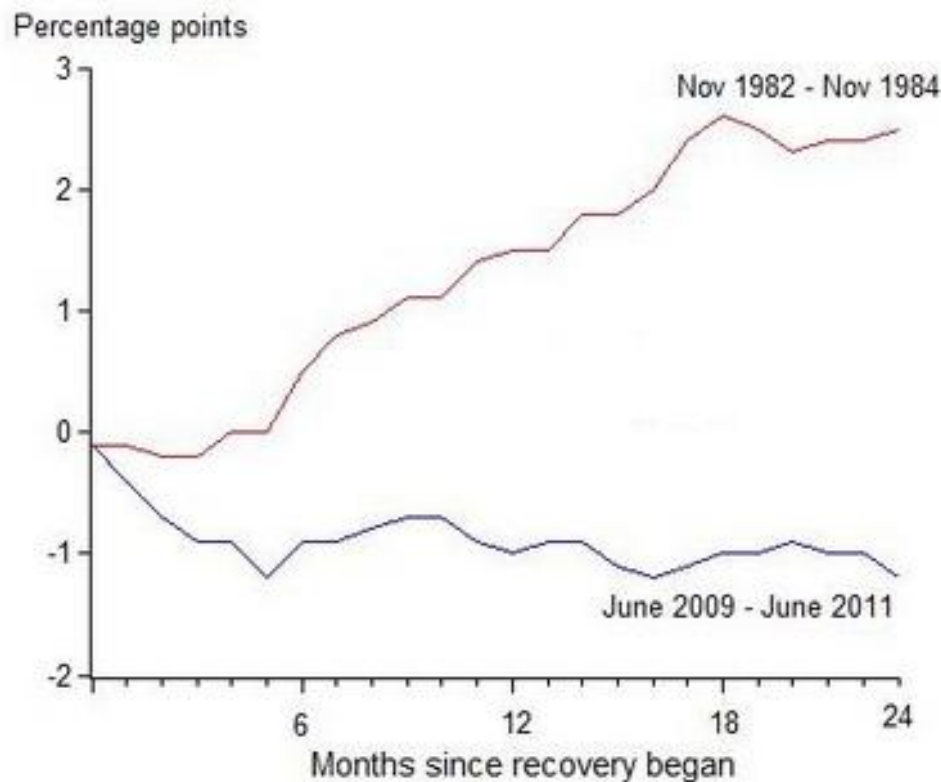
## ***Why Keystone XL and Why Now?***



# Unemployment Rate



# Change in Employment- Population Ratio



# GDP Grow Per Quarter

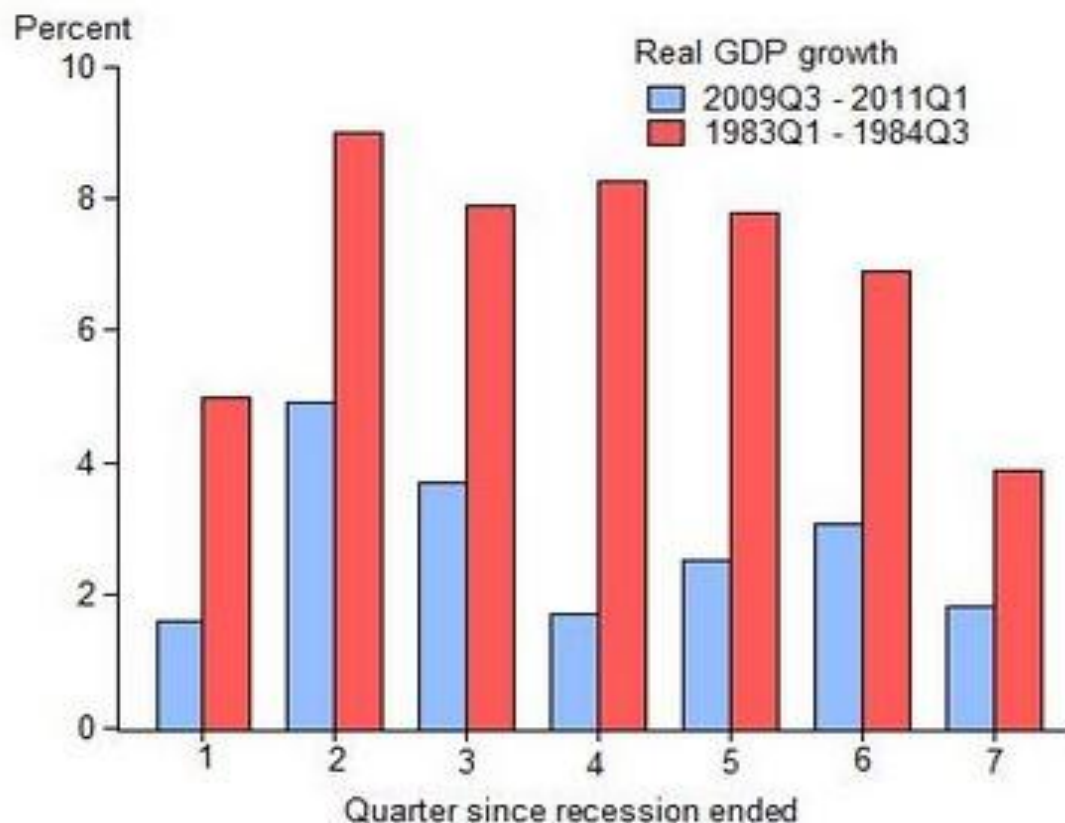
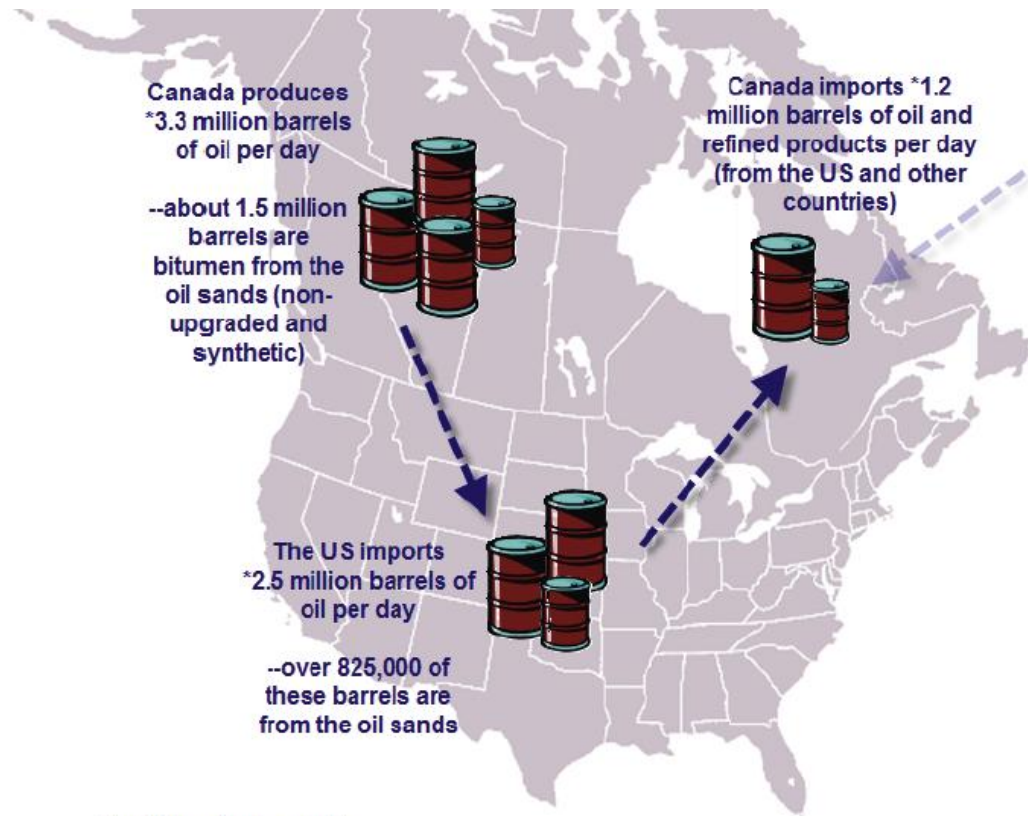


Figure 1 A Comparison of Two Recoveries



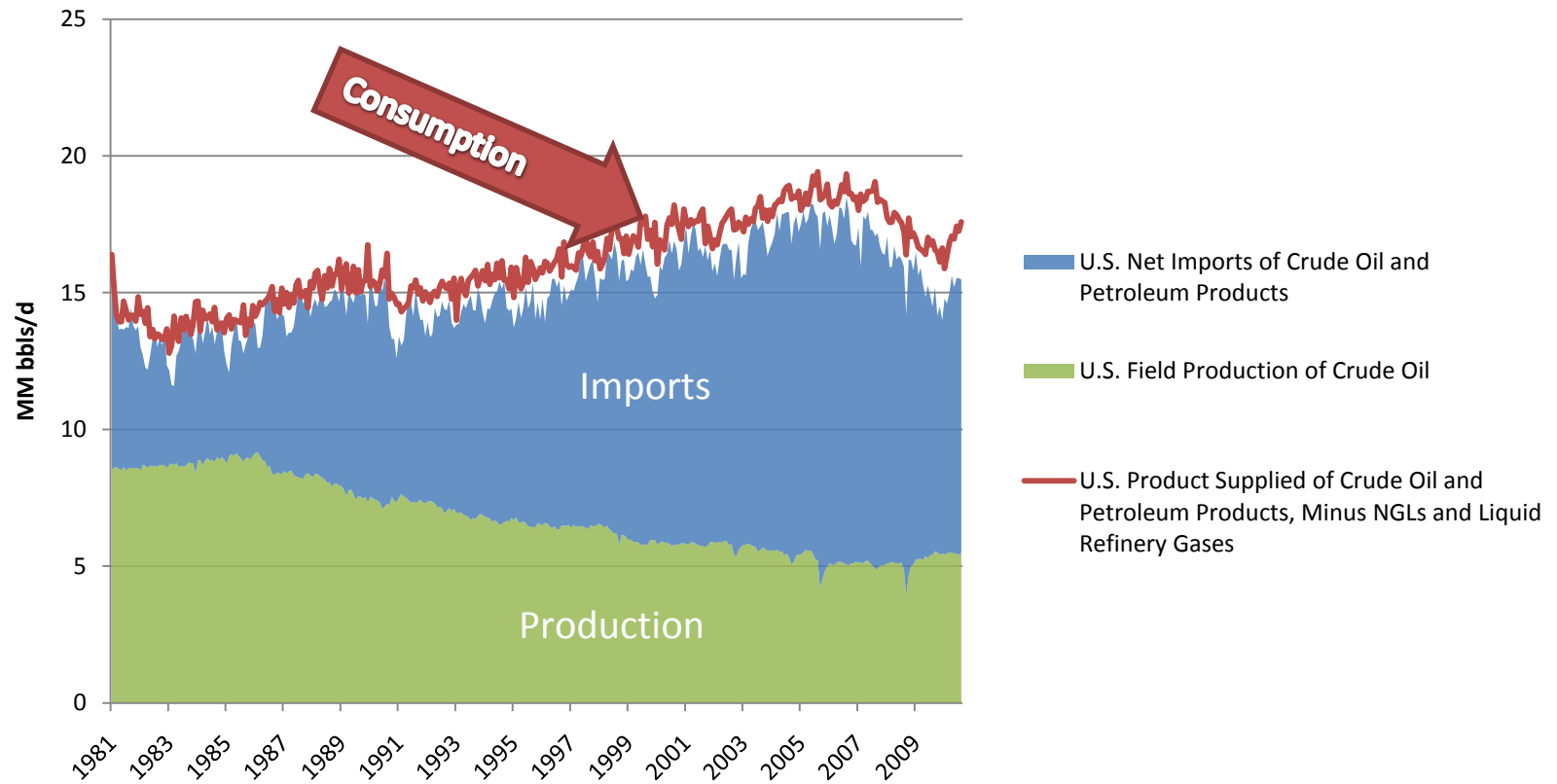
## Canada's Net Oil Imports and Exports to the United States



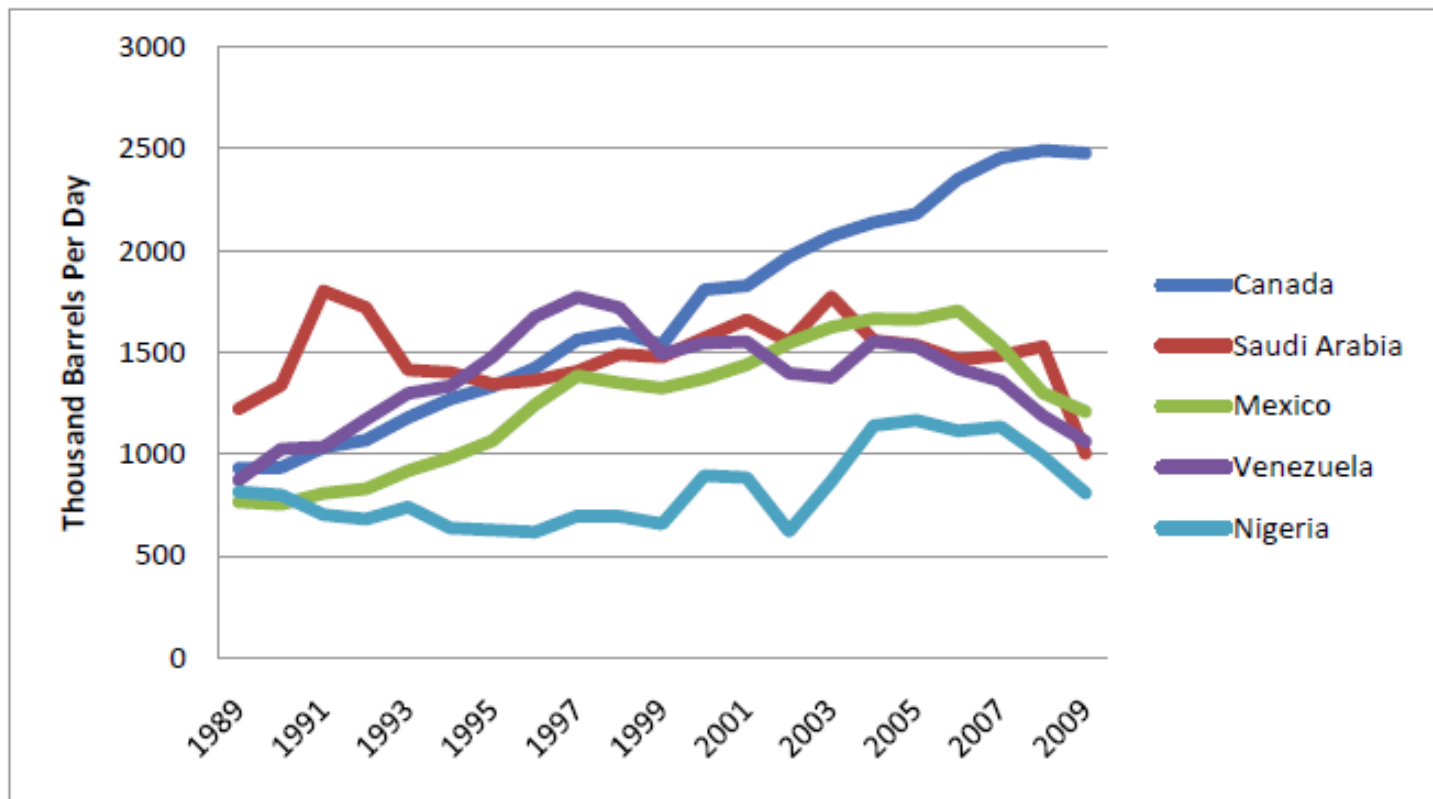
\*Includes refined products.  
Export/import/production data  
from EIA country profile. Oil  
sands figure from NEB 2009,  
figures converted to b/d.  
Wikipedia map.

EPRINC Design 2010

## Canadian Oil Replaces Exports



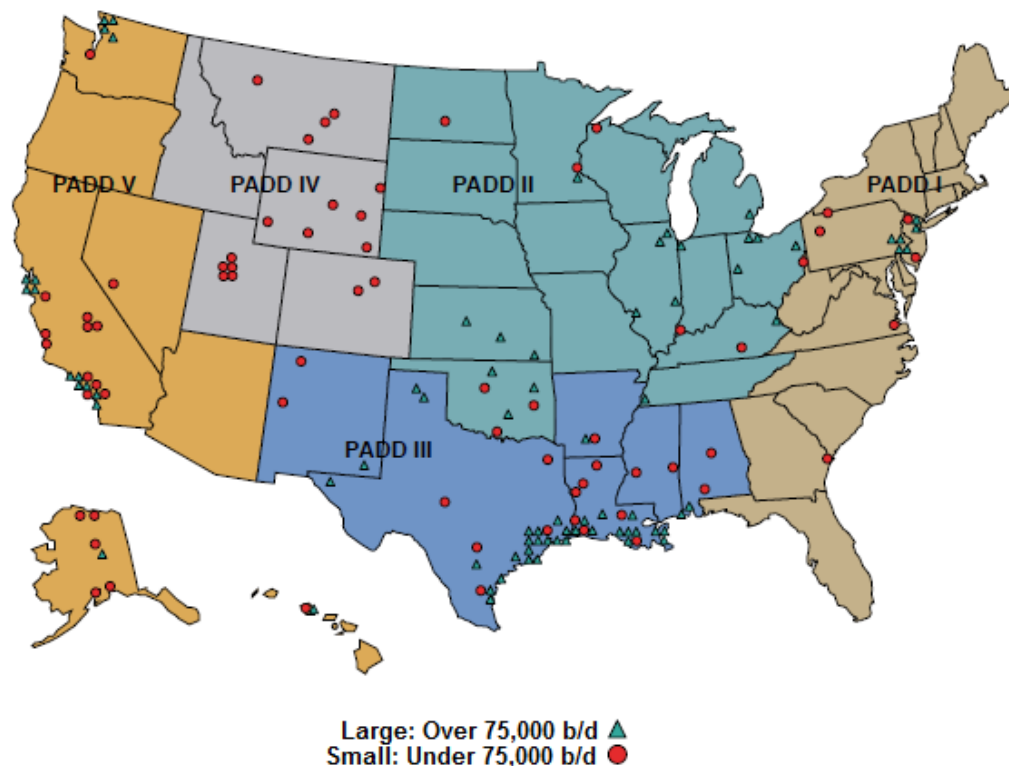
# U.S. Imports of Crude Oil and Petroleum Products by Country



Source: EIA Data



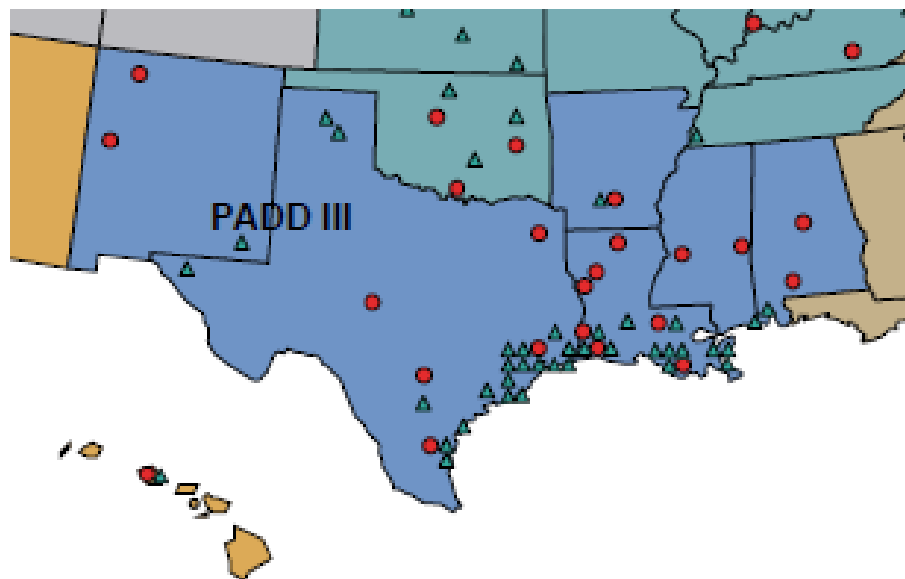
# Overview of the U.S. Refining Sector



- End of price controls removed small inefficient refineries in favor of expansion of existing refineries
- As heavy imports have grown, refineries have invested in heavy processing capacity – U.S. has among the highest refining complexity in the world

Source: Map from NPRA United States Refining and Storage Capacity Report, August 2010.

# PADD III

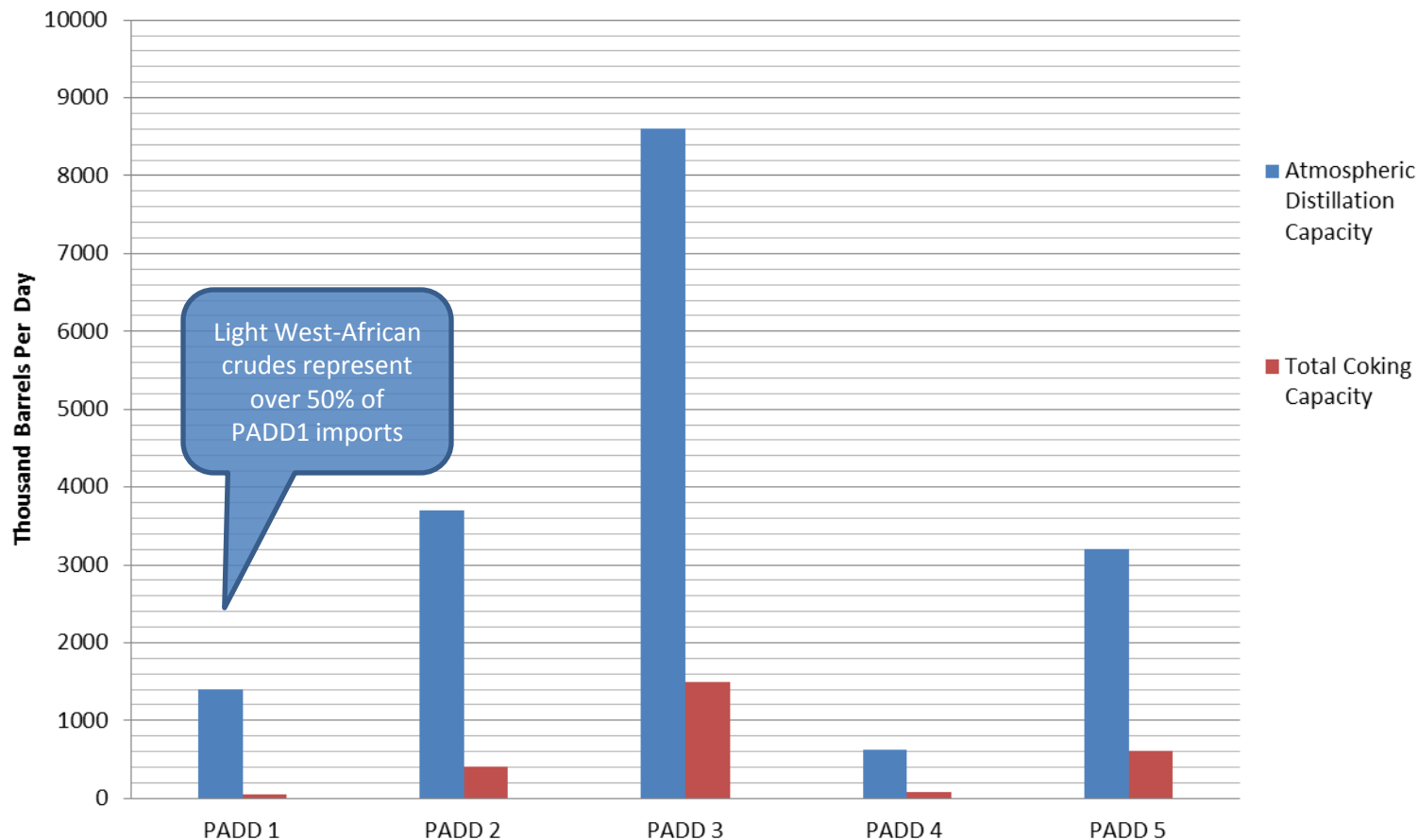


Large: Over 75,000 b/d ▲  
Small: Under 75,000 b/d ●

Source: Map from NPRA United States Refining and Storage Capacity Report, August 2010.

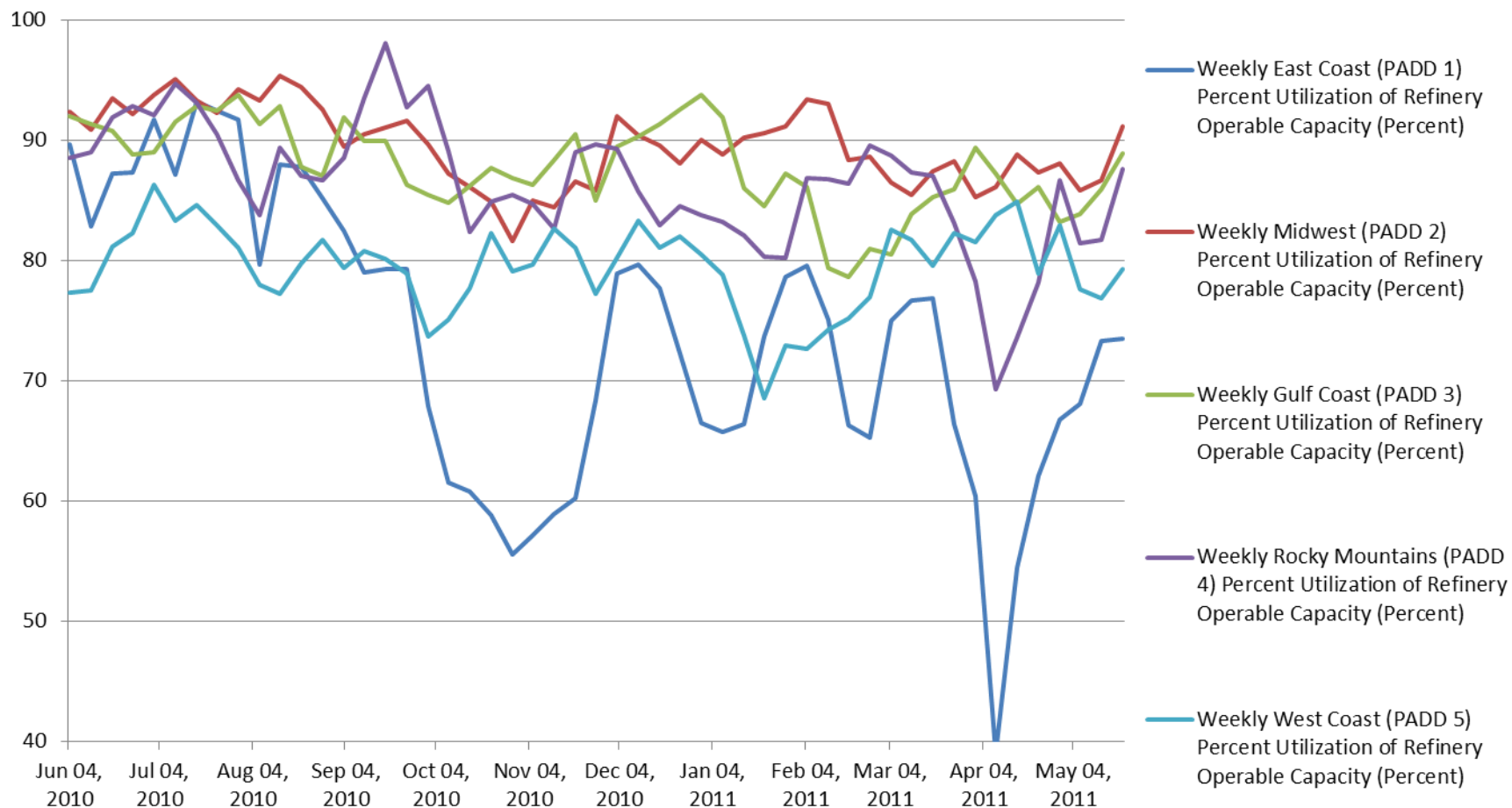
- Most heavily populated refinery district in the US
- 57 refineries
- Over 8.5 million b/d capacity
- 3 million b/d heavy capacity and growing
- Addition of cokers in recent years to expand heavy oil refining capacity
- Currently underutilized by 20% (some analysts currently suggesting)
- Examples include : WRB Borger 25,000 b/d expansion of heavy oil capacity; Navajo Refining Artesia, N.M. 40,000 b/d expansion; Motiva (Saudi Aramco Shell joint venture) 325,000 b/d capacity expansion-medium and heavy sour crude processing

# Total Coking Capacity vs. Atmospheric Crude Distillation Capacity by PADD



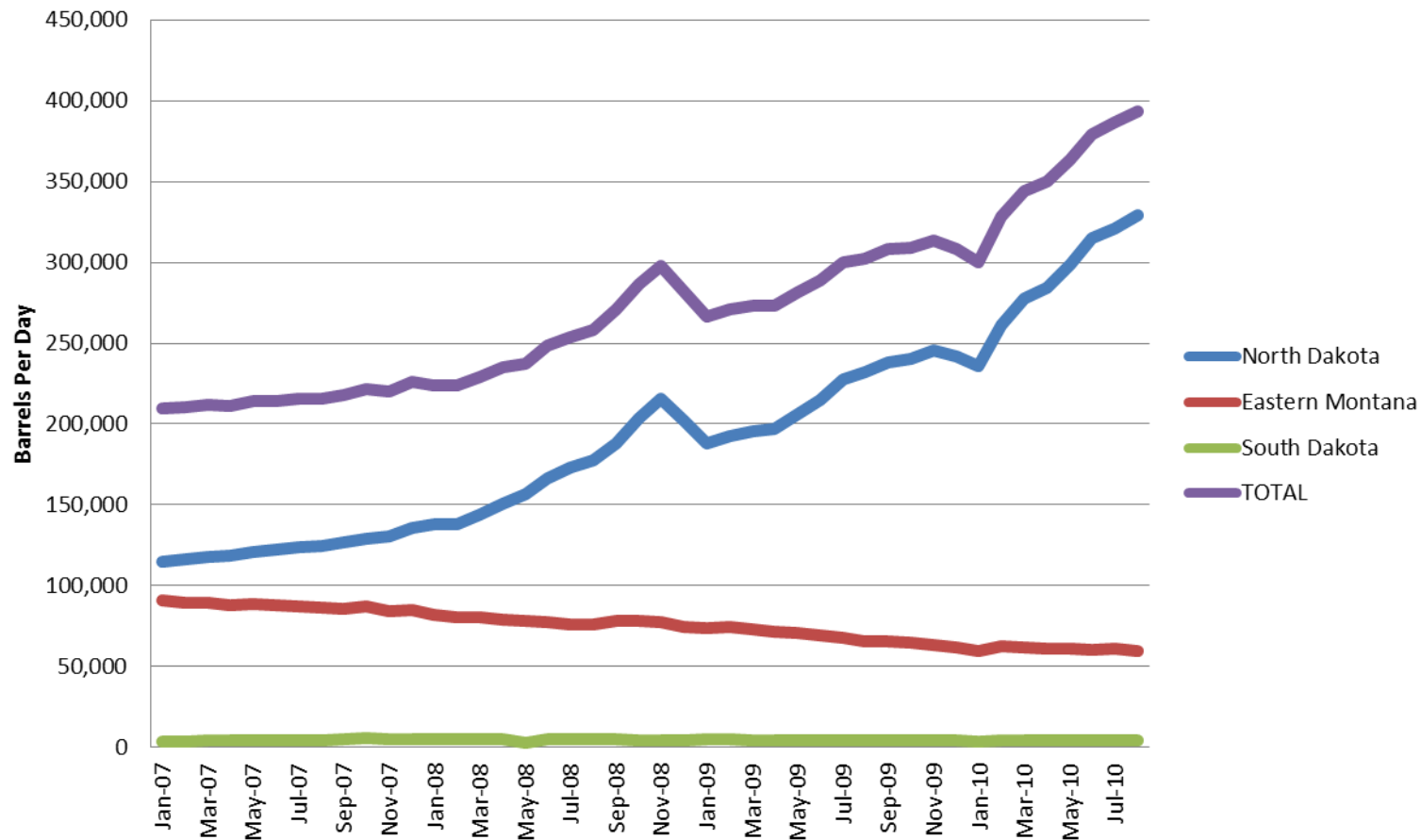
Source: EIA

# Refinery Utilization by PADD



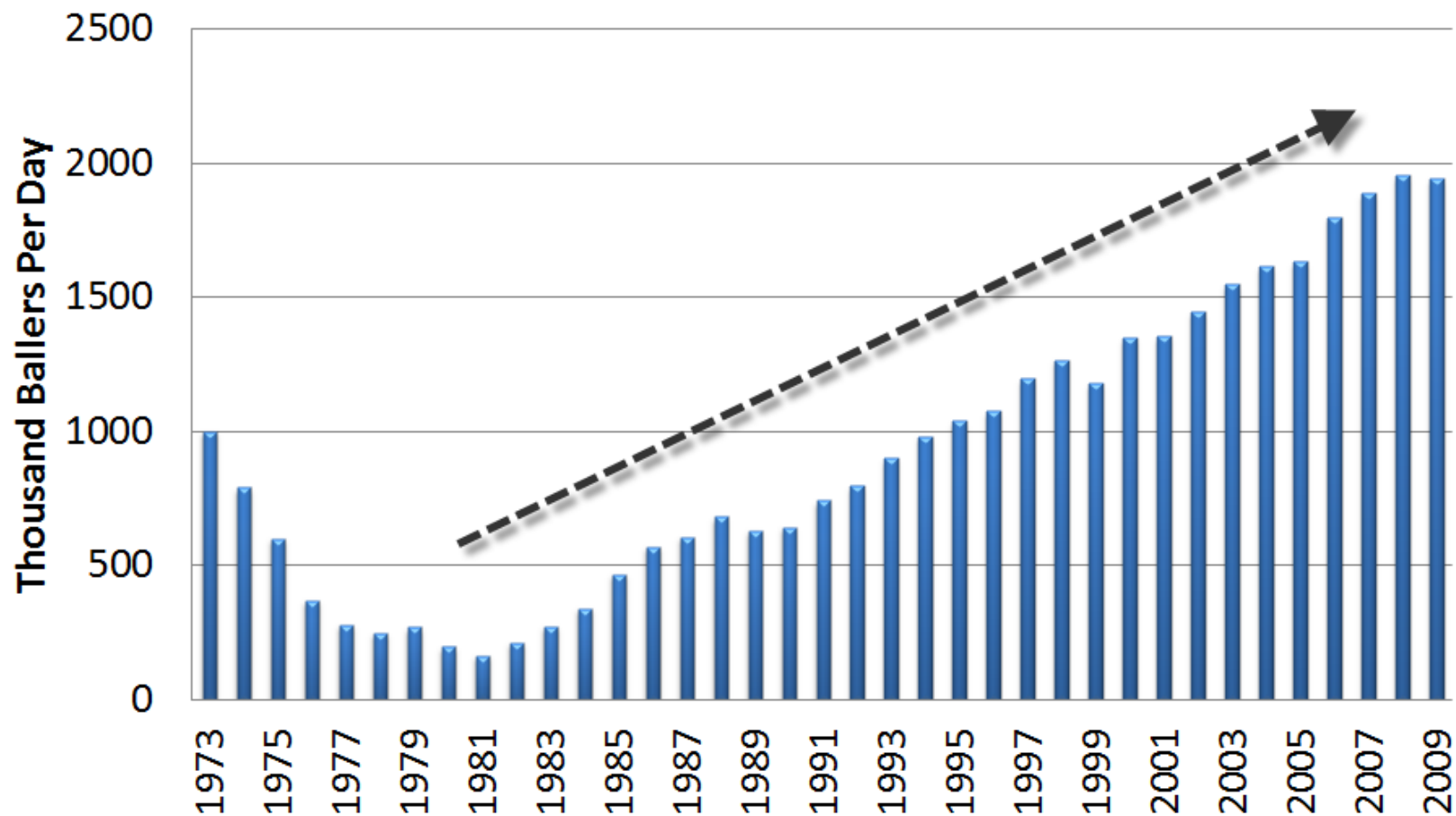
Source: EIA

# Williston Basin Production



Source: North Dakota Pipeline Authority

# Canadian Imports



Source: EIA

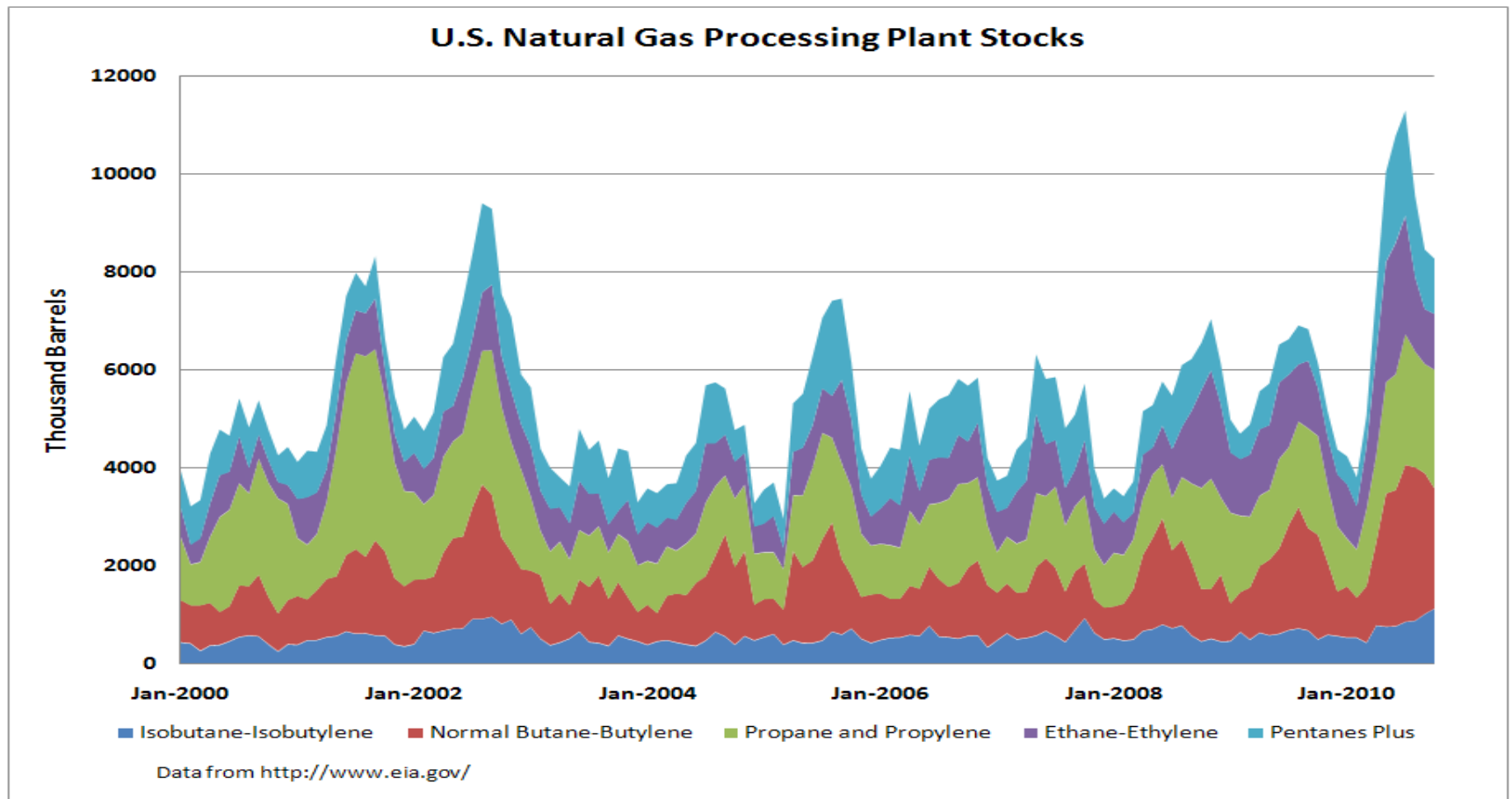


## EPRINC's Estimation of Economic Benefits to Bakken Producers and Keystone Refiners- Annual

|                                                                                              | Bakken<br>Efficiencies<br>(\$ million) | Refining Margin<br>Improvements<br>(\$ million)                                                |     | Total<br>(\$ million): |              |
|----------------------------------------------------------------------------------------------|----------------------------------------|------------------------------------------------------------------------------------------------|-----|------------------------|--------------|
| Bakken Low<br>Range -<br>50,000 b/d<br>into Keystone<br>XL at a savings<br>of \$2 a barrel   | 36.5                                   | Low Range - Heavy<br>Crude Discount<br>Increases \$1 a barrel,<br>200,000 b/d sent to<br>Gulf  | 73  | Low Estimate           | <u>109.5</u> |
| Bakken High<br>Range -<br>100,000 b/d<br>into Keystone<br>XL at a savings<br>of \$4 a barrel | 146                                    | High Range - Heavy<br>Crude Discount<br>Increases \$3 a barrel,<br>400,000 b/d sent to<br>Gulf | 438 | High<br>Estimate       | <u>584</u>   |

# NGLs are Surging....

*lowering the cost of blending*



# **Although USG Will Approve XL.....** ***the process is broken***

- 1. NEPA is a Failed Process ---** *If Canadian Heavy Crude Were Placed on a Tanker and Shipped to the Gulf Coast – No NEPA Review Required.*
- 2. U.S. Process Underlying the Role of Positive Expectations on Canadian Access to U.S. Market ---** *U.S. Decision process Creates Unnecessary Uncertainty Delaying Needed Investment and Infrastructure Development.*
- 3. Canadian Crude Can Play a Critical Role in Stabilizing World Oil Prices—**A downward shift in world oil prices of \$20/bbl against any base case forecast saves U.S. consumers \$100 billion annually.
- 4. We Don't Need to Do Everything –** *We should start with the cost effective fuels first.*
- 5. U.S./Canadian Energy Trade has High Value –** High Value to both Trading Partners if Energy Trade is Routine and Predictable