

---

# Energy Exchange

Please join us for drinks and  
hors d'oeuvres after the presentations.

Internet access:  
Network name: BRICKER\_WIFI  
Network key: 6142272300



---

# Welcome

**Frank Merrill**

Bricker & Eckler  
614.227.8871

[fmerrill@bricker.com](mailto:fmerrill@bricker.com)

**Matt Warnock**

Bricker & Eckler  
614.227.2388

[mwarnock@bricker.com](mailto:mwarnock@bricker.com)

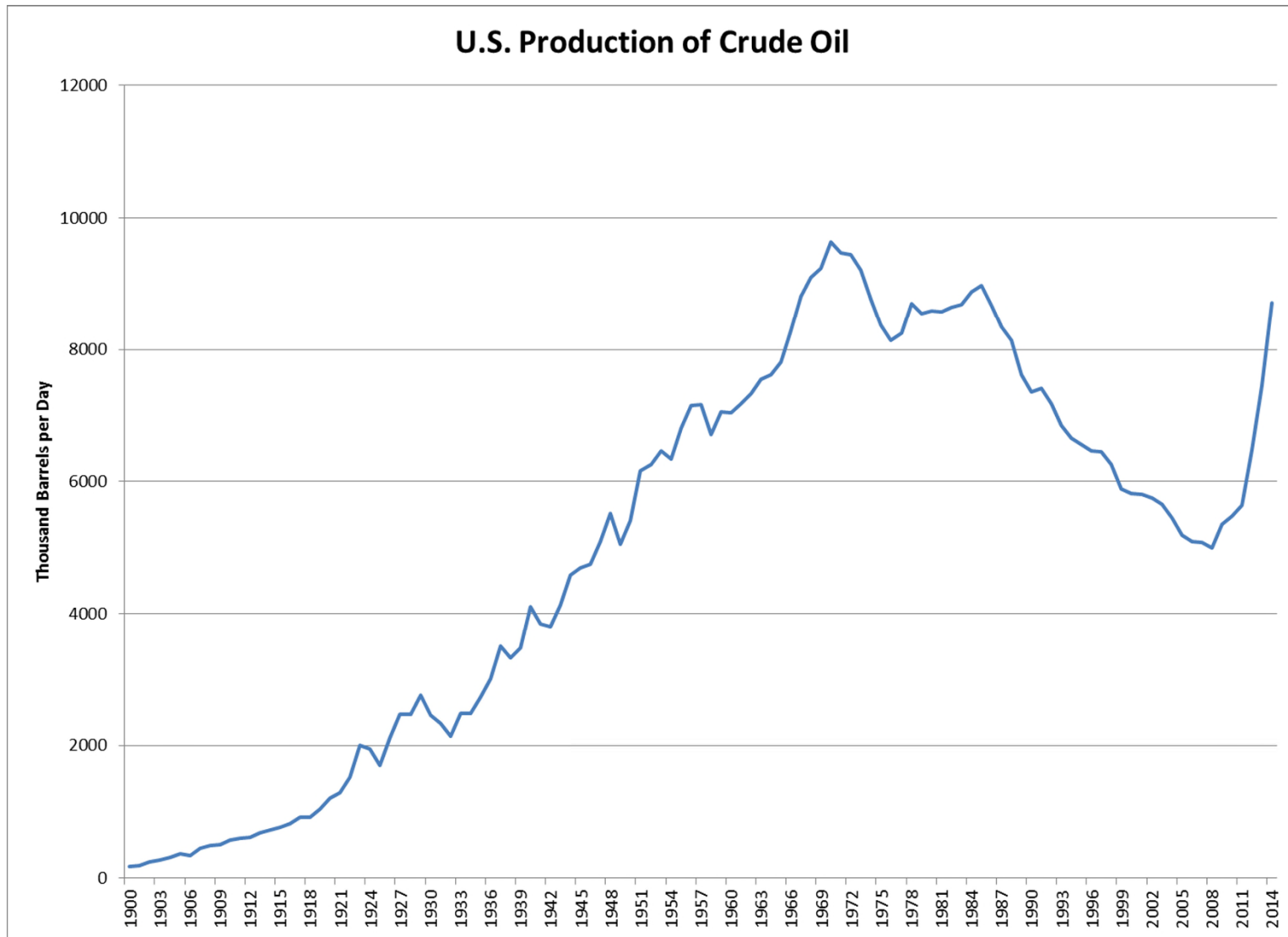




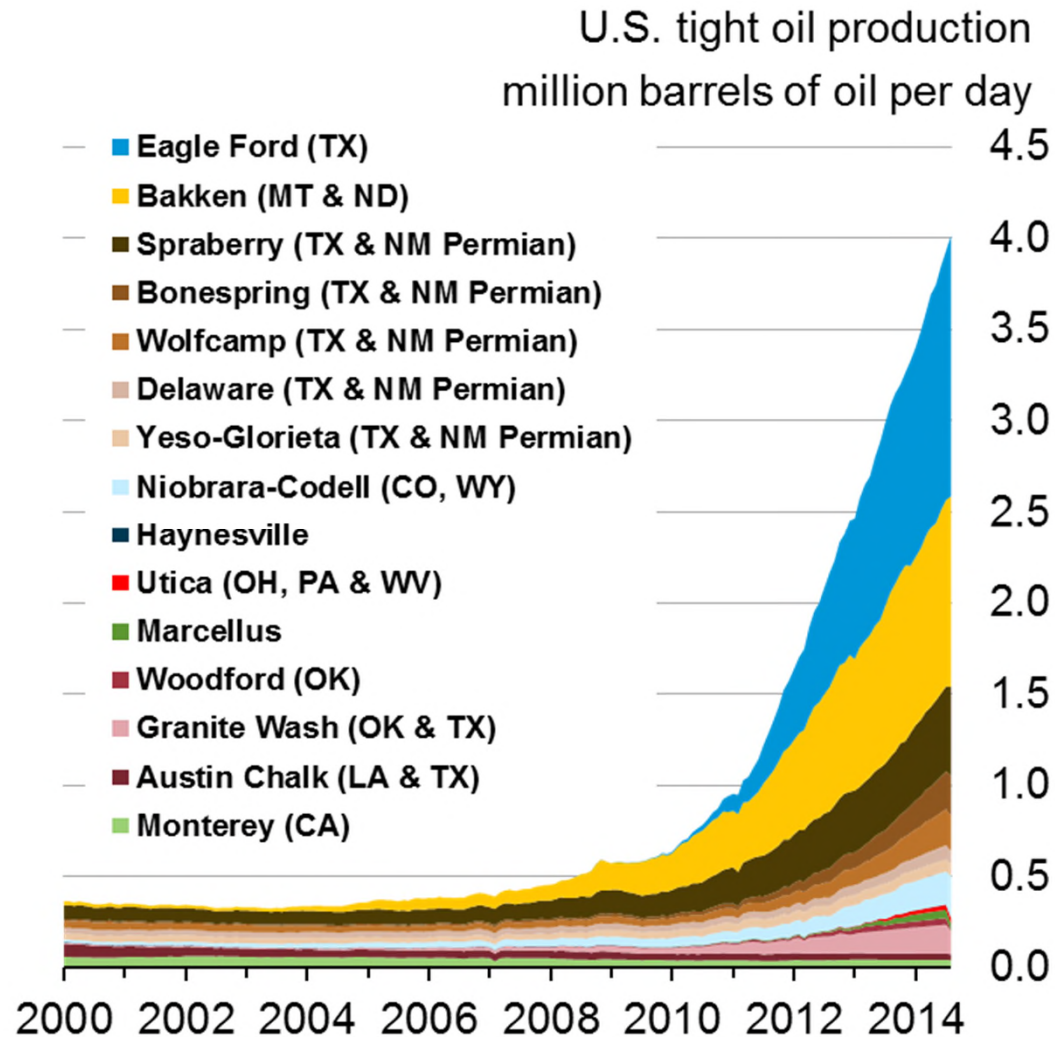
# Midstream Infrastructure

Robin Rorick  
Group Director, Midstream & Industry Operations  
March 31, 2016

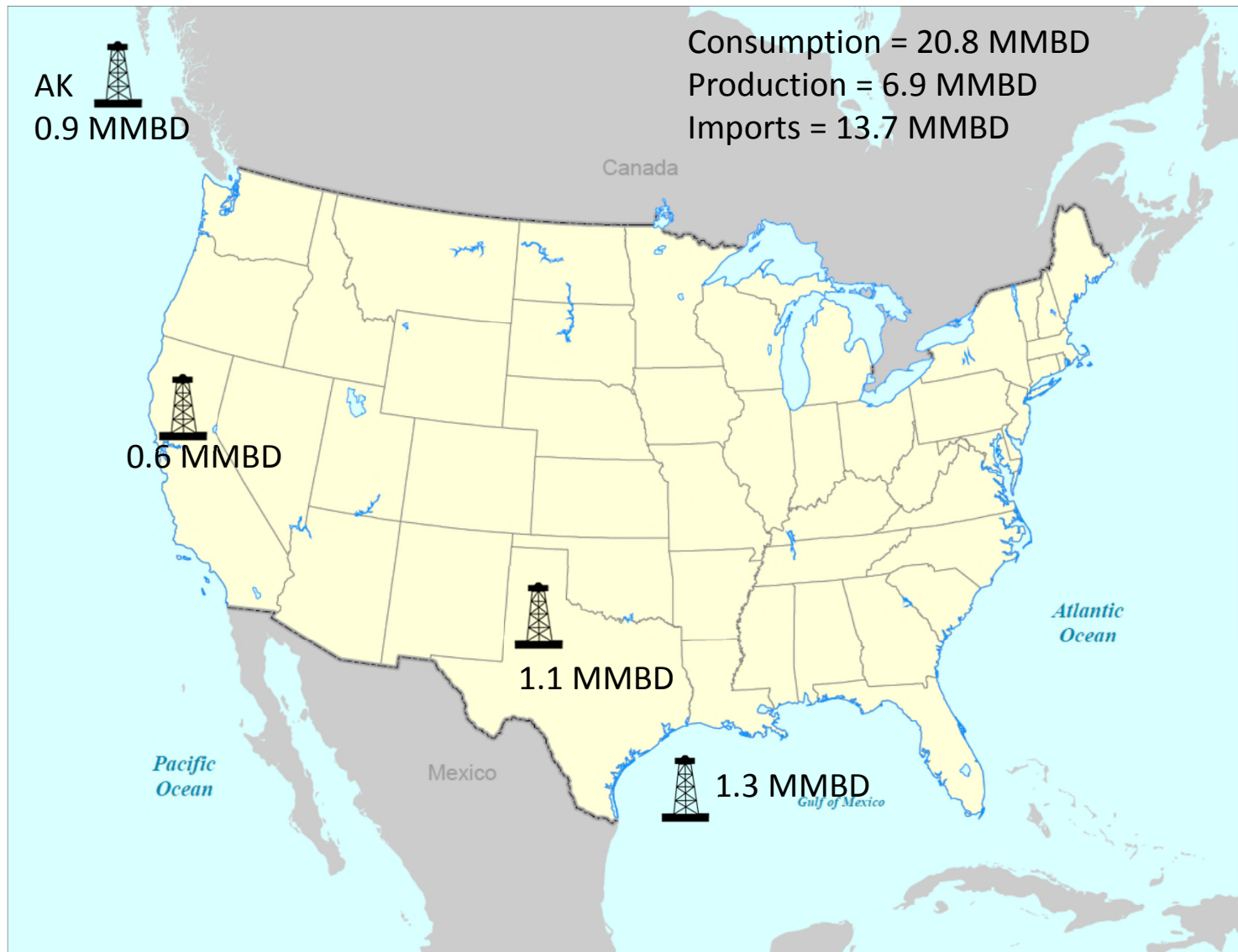
## The Flood: Tight Oil Production Reverses a 30 Year Decline



## The Flood: Tight Oil Production Increases 8-fold in only 6 Years

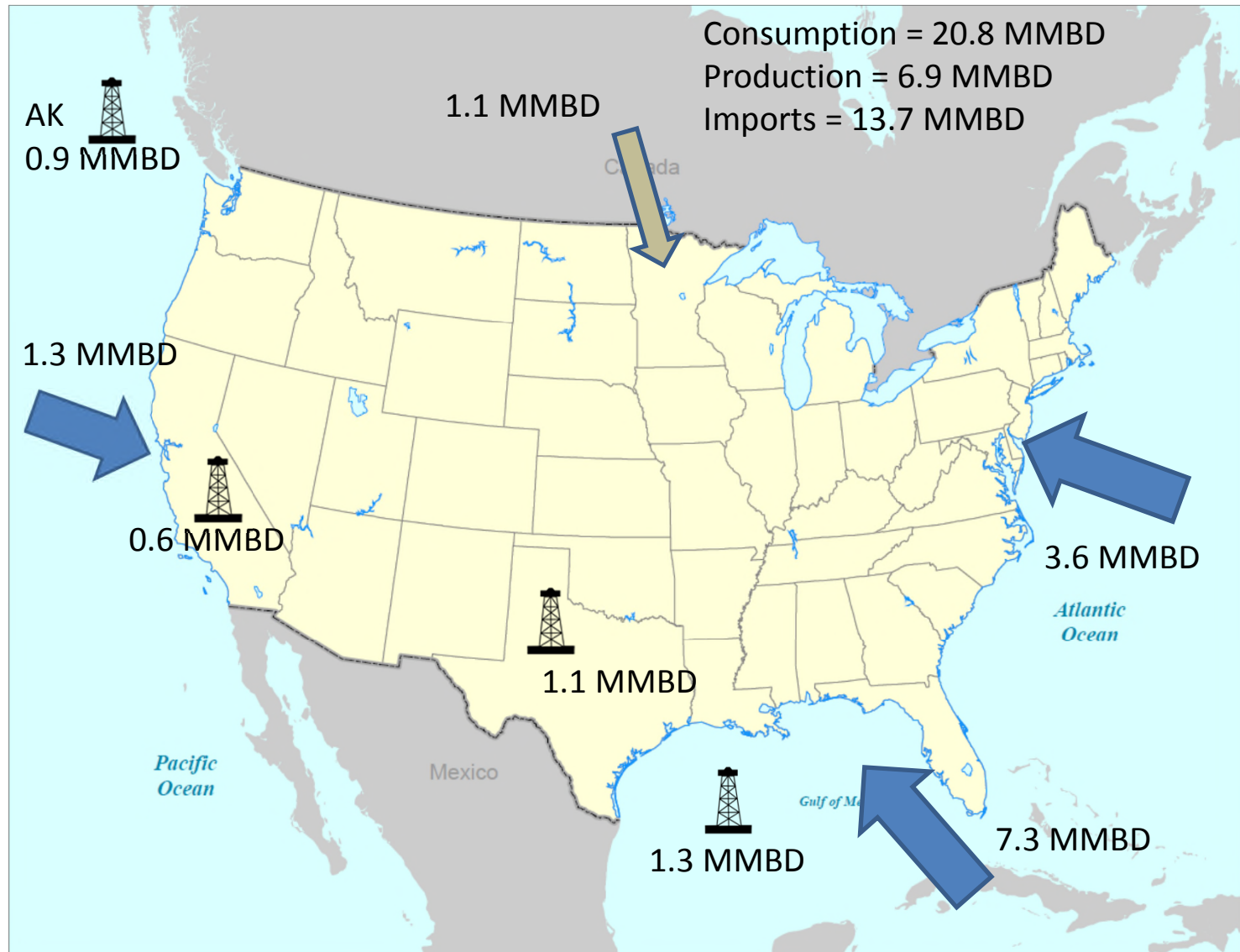


## Crude and Petroleum Flows 2005 Centers of Domestic Production

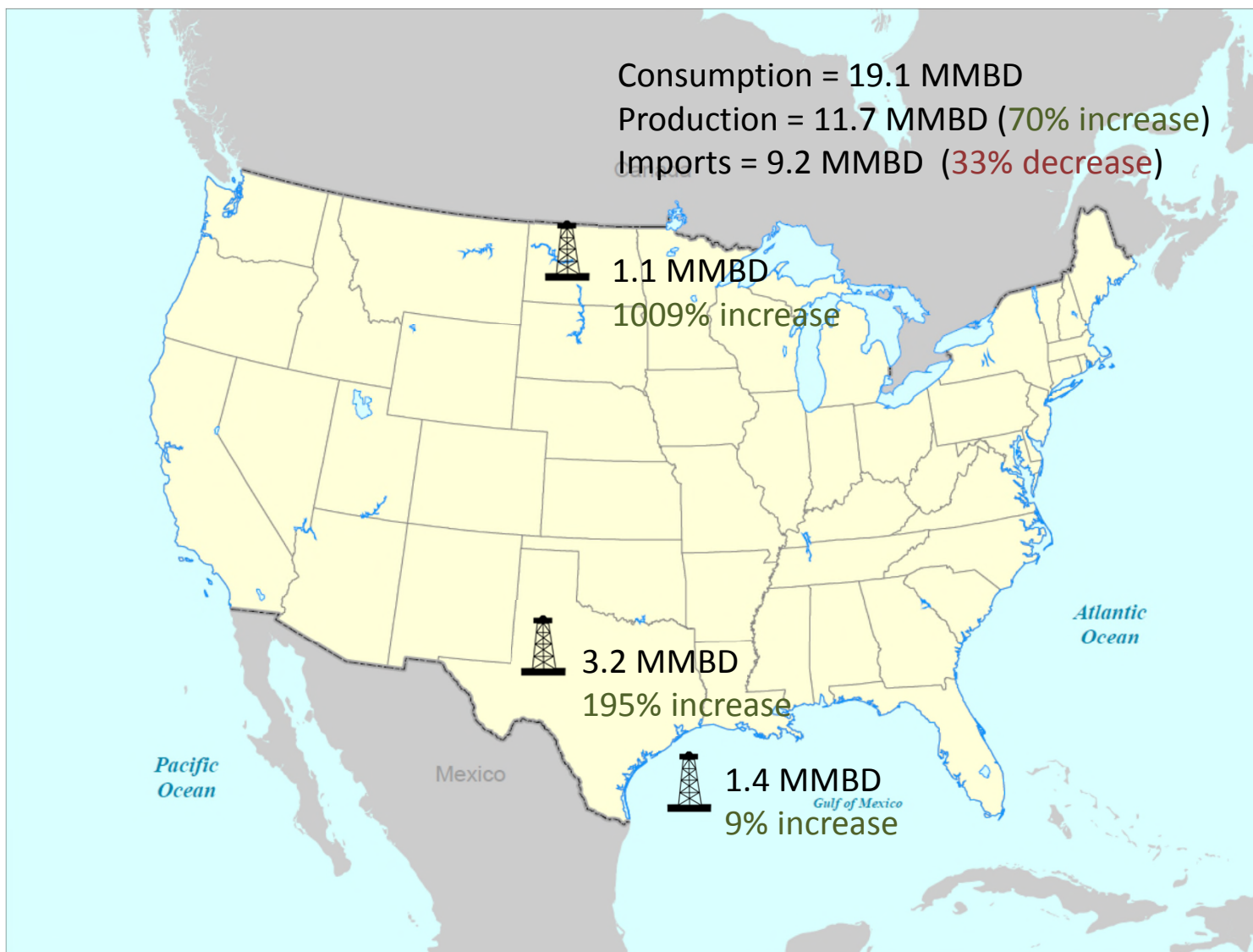


# Crude and Petroleum Flows 2005

## Imports

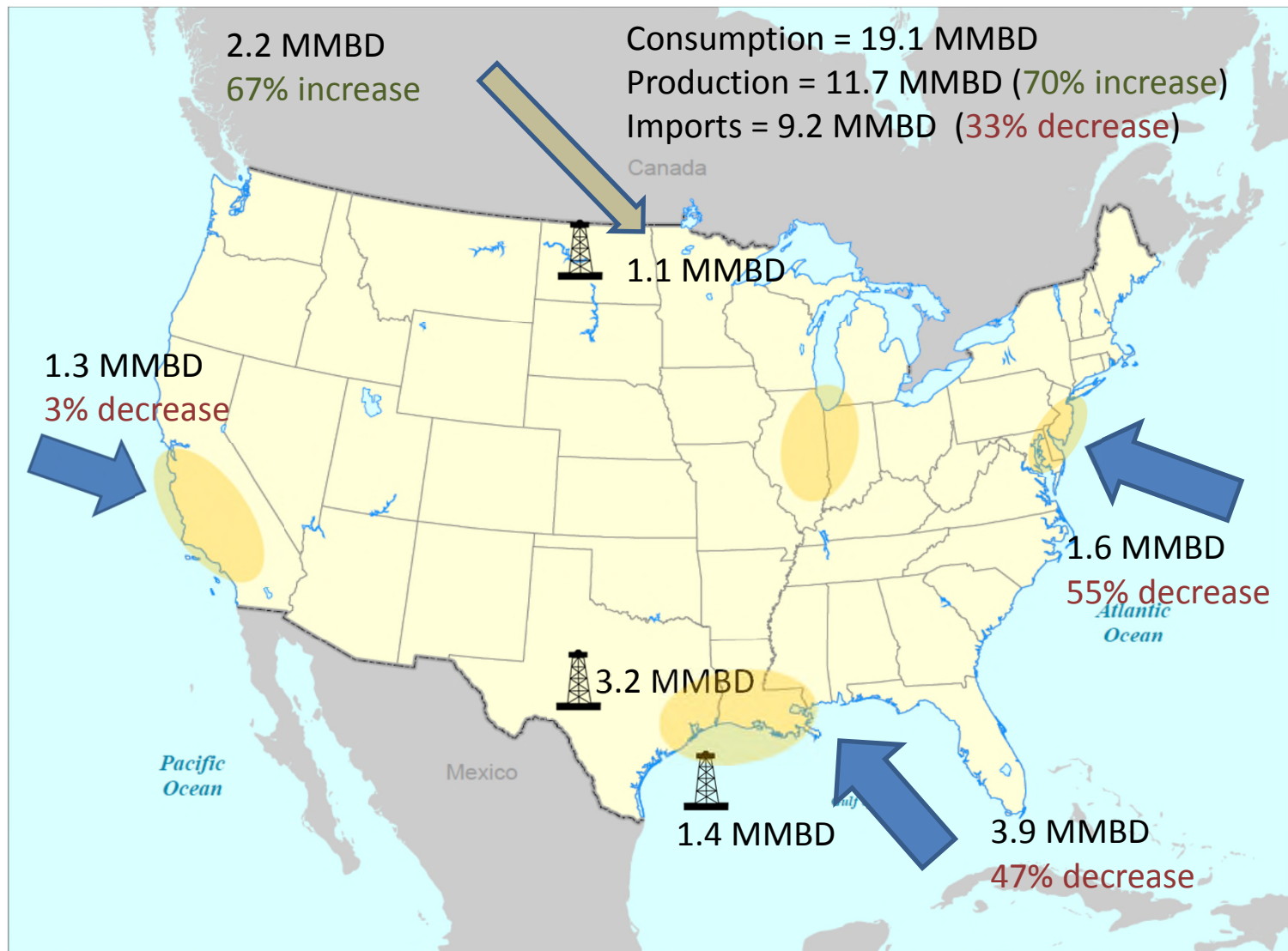


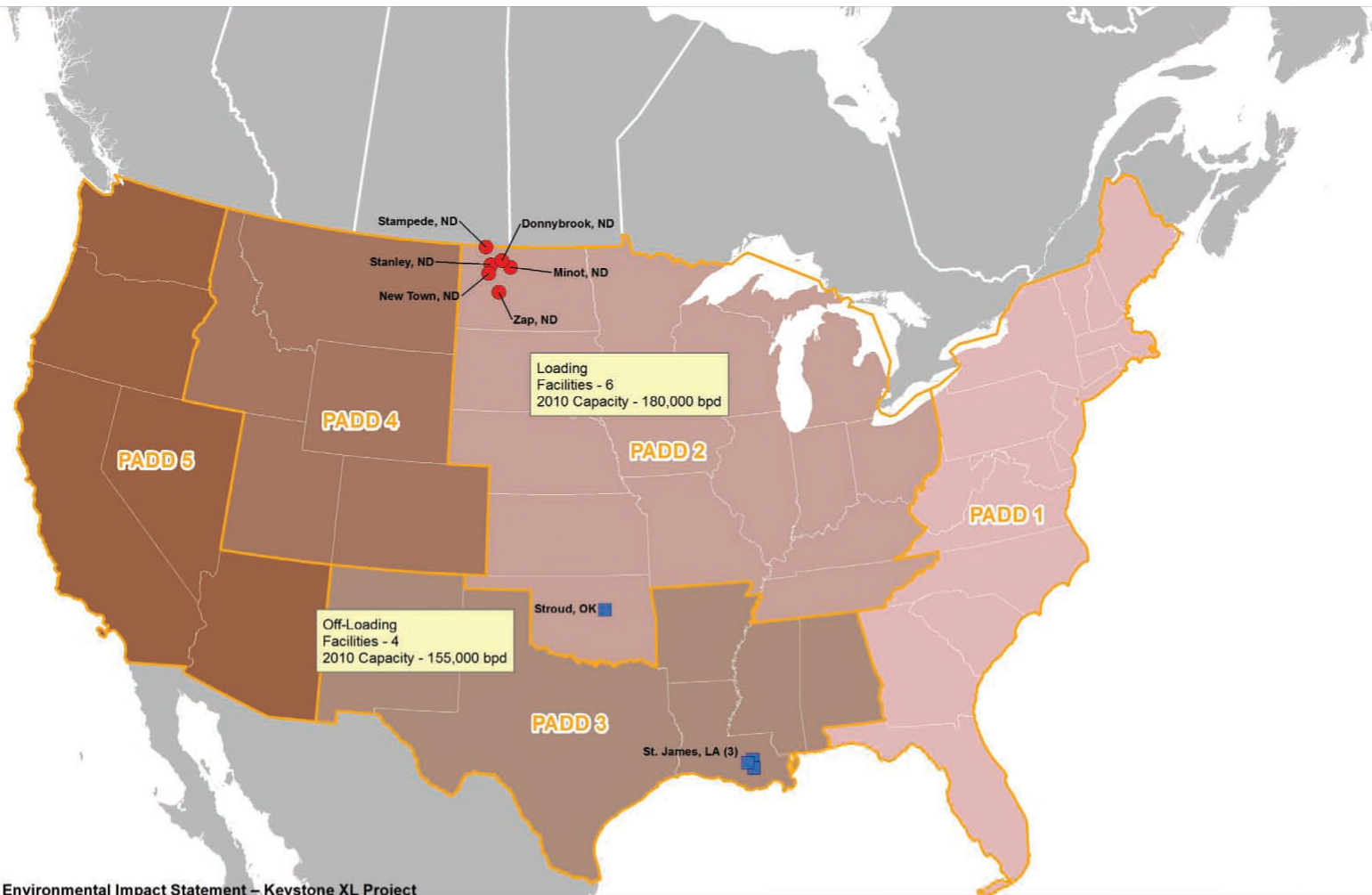
## Crude and Petroleum Flows 2014 Production Centers Shifts from Coast to Heartland





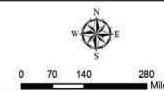
## Crude and Petroleum Flows 2014 Decreasing Waterborne Imports

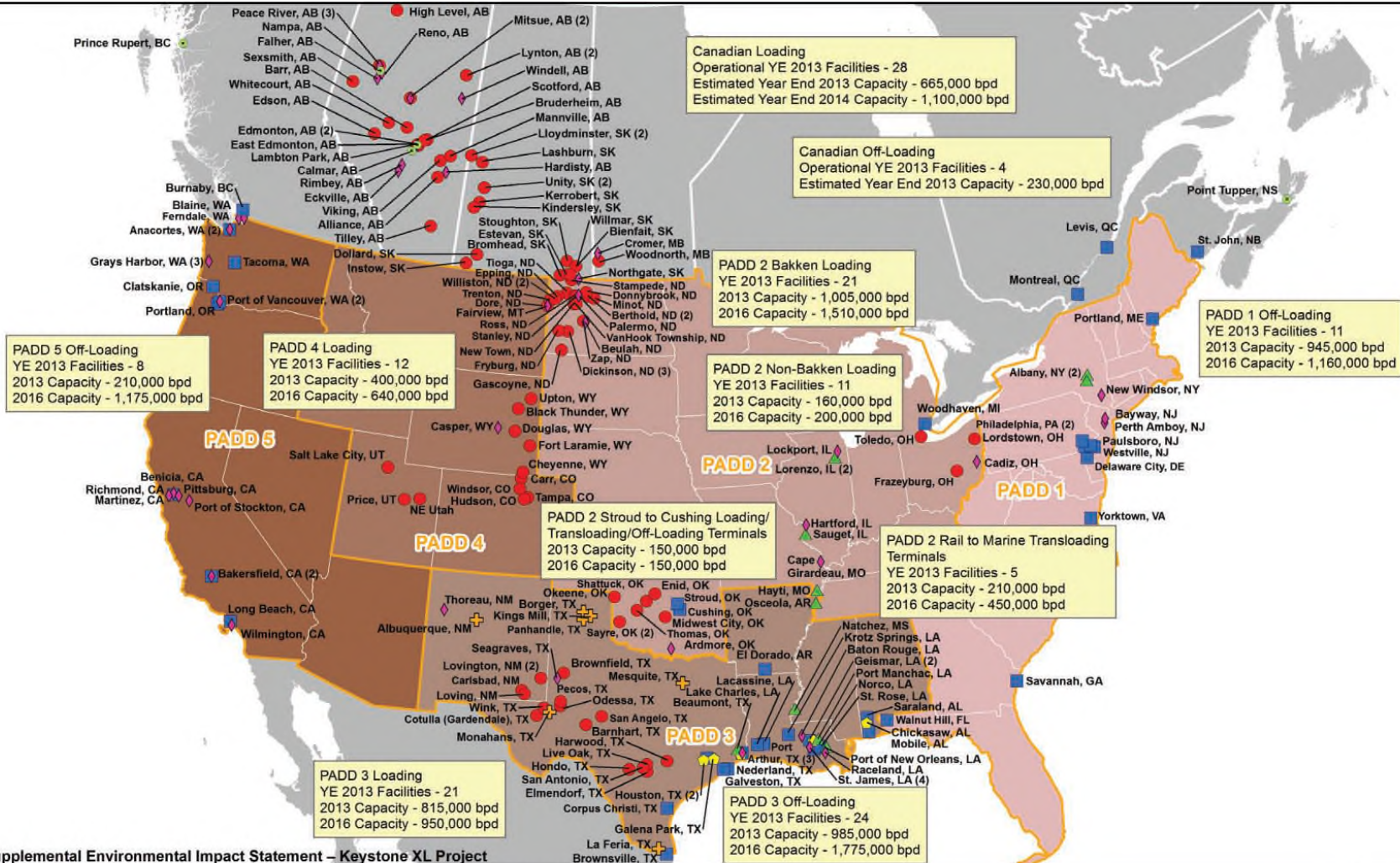




Final Supplemental Environmental Impact Statement – Keystone XL Project

- Existing Terminals**
- Crude by Train Loading
  - Crude by Train Off-Loading

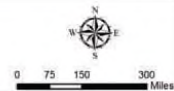


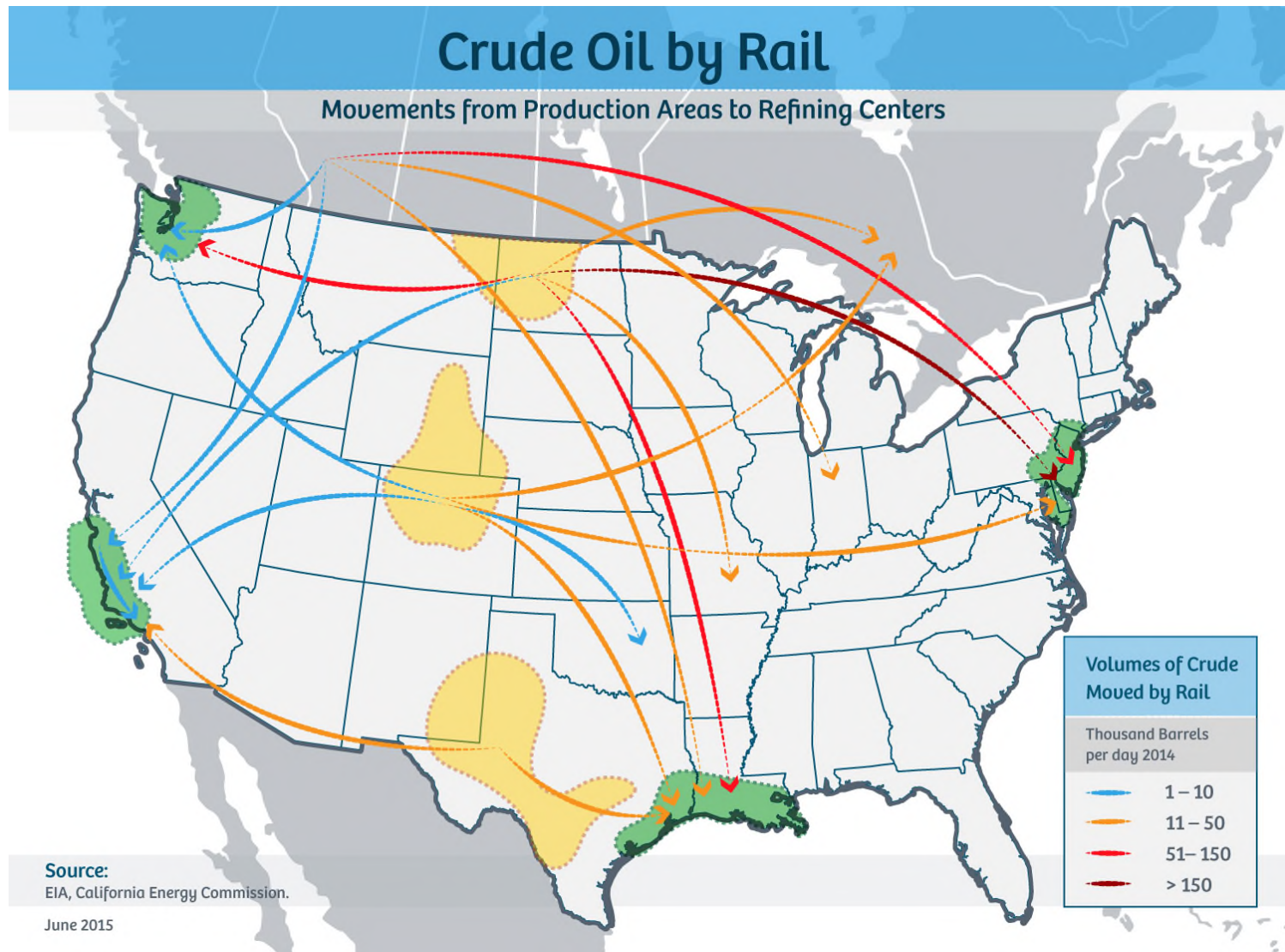


**Final Supplemental Environmental Impact Statement – Keystone XL Project**

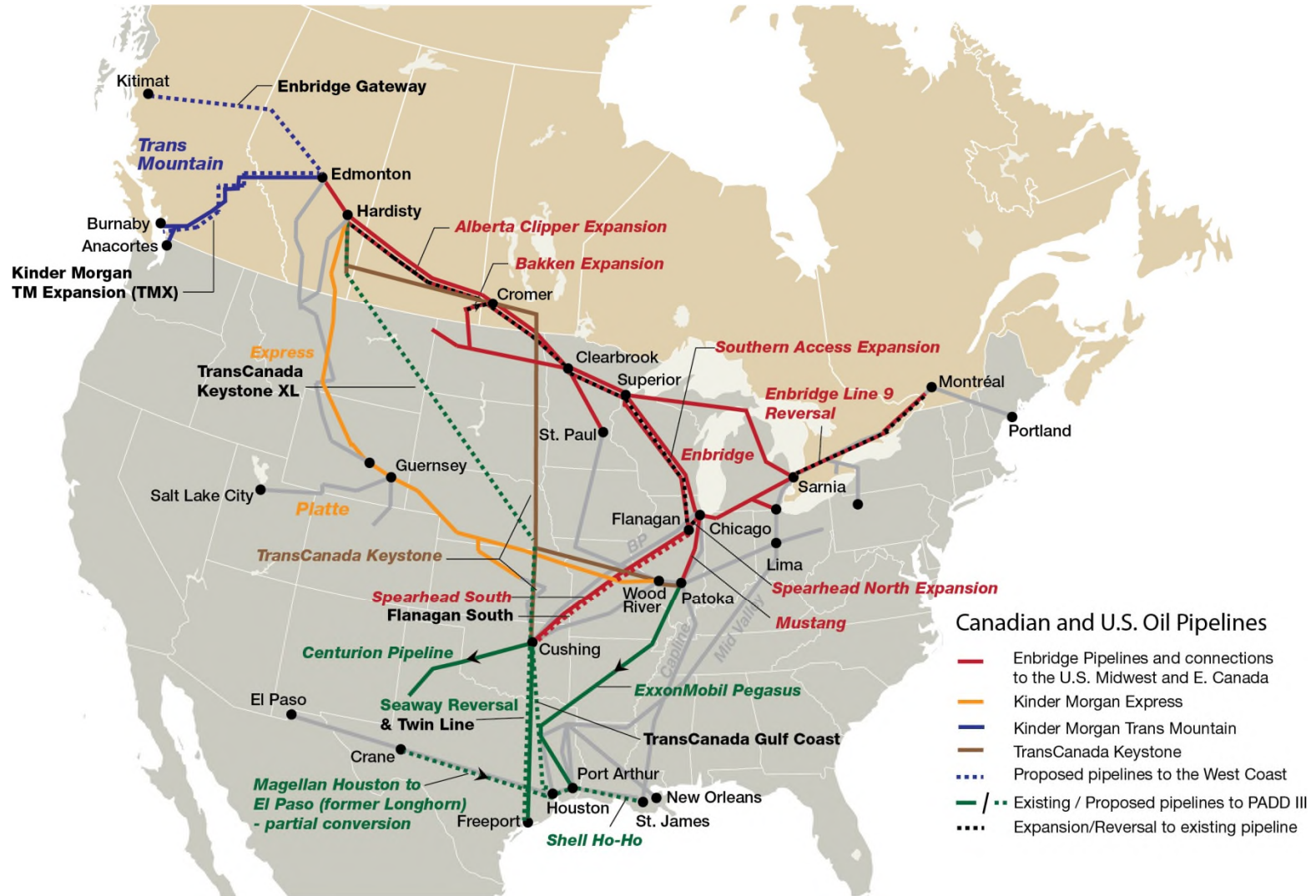
**Existing Terminals**

- Crude by Train Loading
- Crude by Train Off-Loading
- ▲ Rail to Barge
- ⊕ Loading Capacity Unknown
- ◆ Terminal Planned/Under Development
- Off-Loading Capacity Unknown
- Potential Terminal





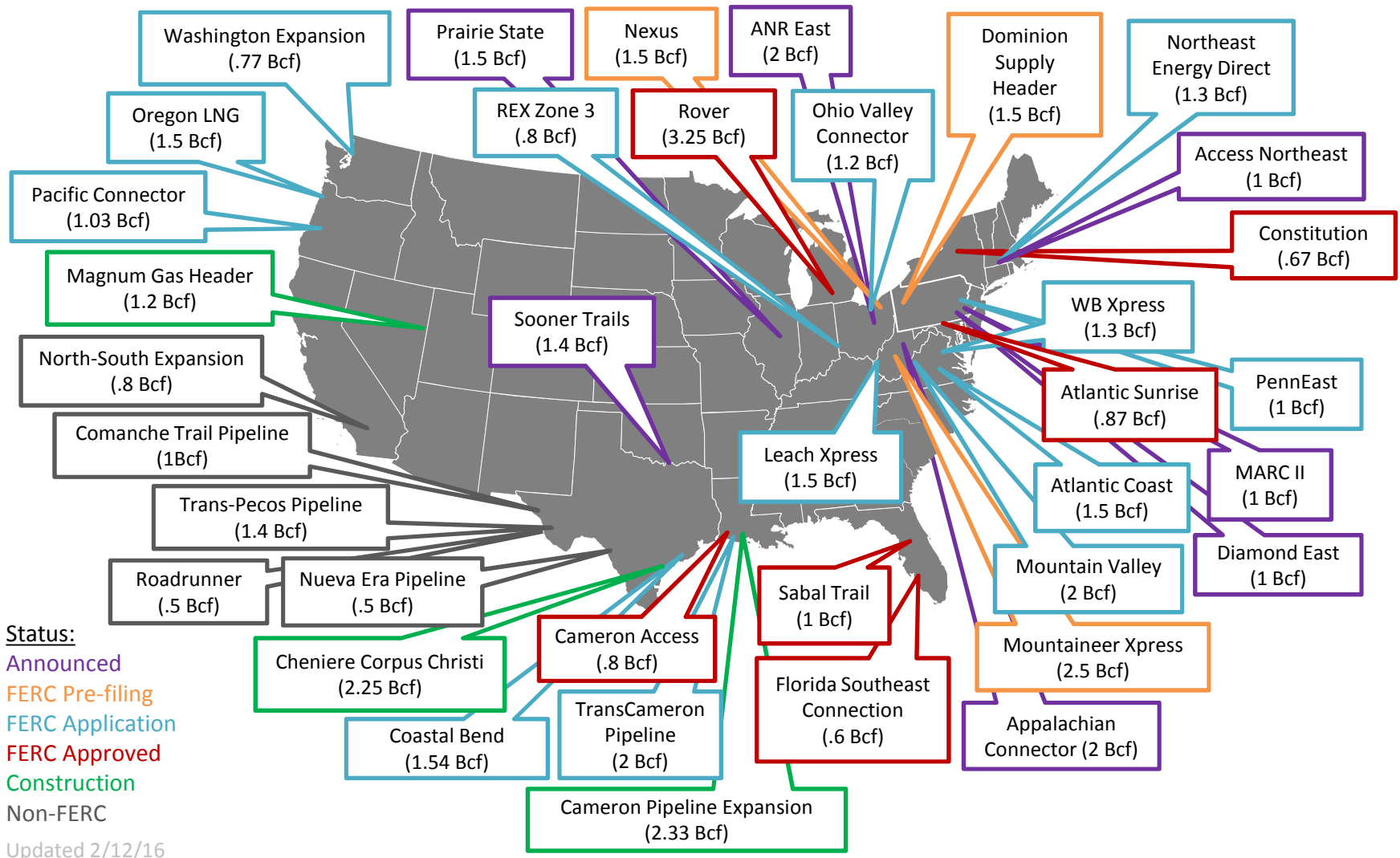
# Pipeline Reversals, Expansions, and New Construction





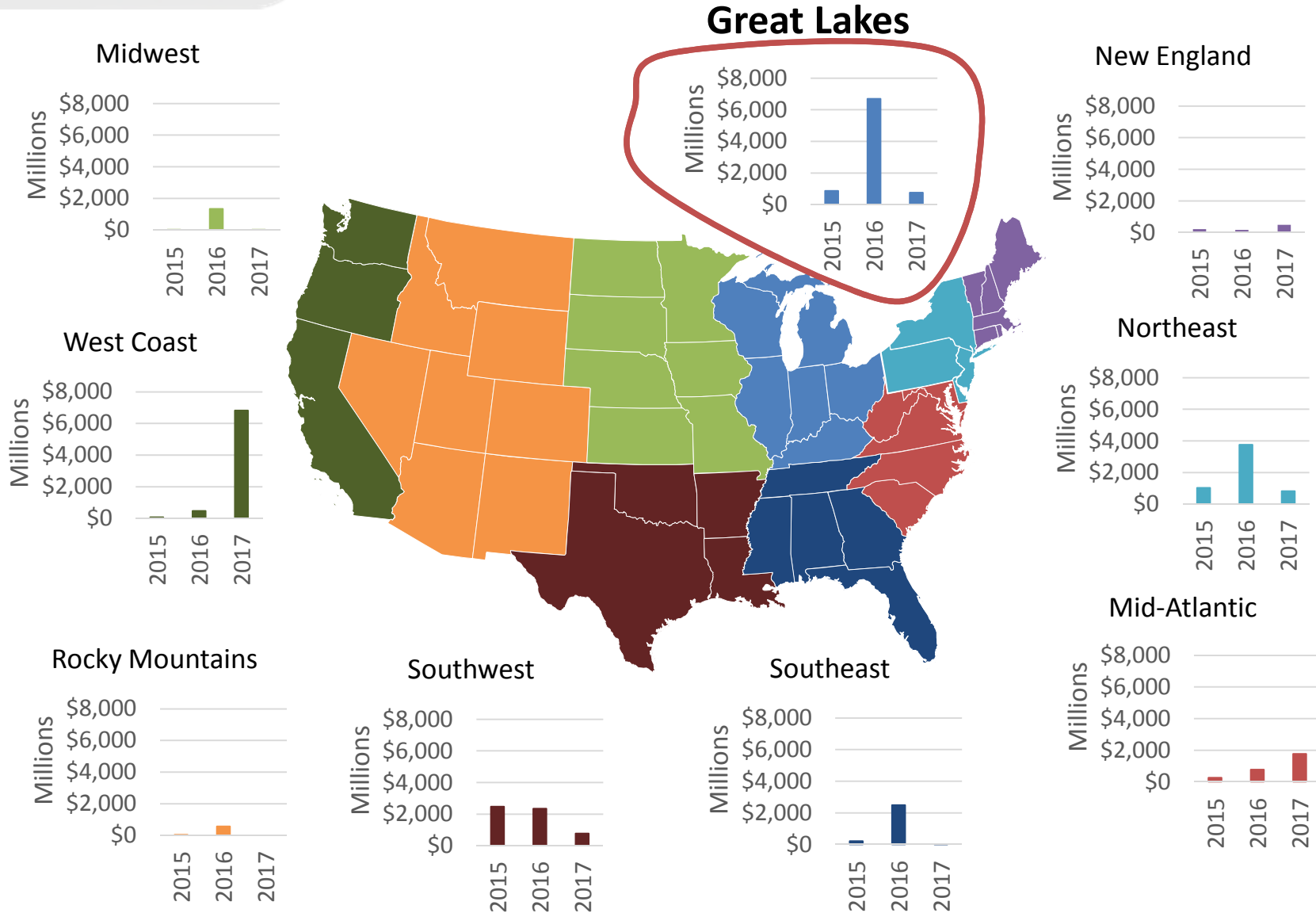
# Natural Gas Pipeline Project Status

(Lower 48 + >0.5 Bcf/d + >20 miles)



**Status:**  
 Announced  
 FERC Pre-filing  
 FERC Application  
 FERC Approved  
 Construction  
 Non-FERC  
 Updated 2/12/16

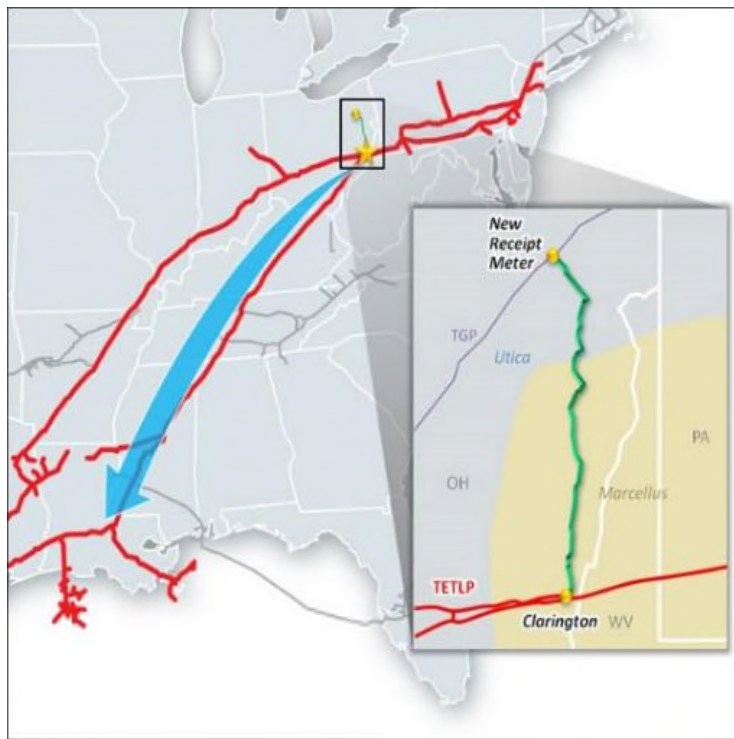
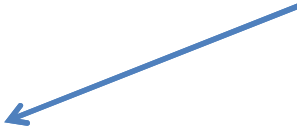
# Investment by Region



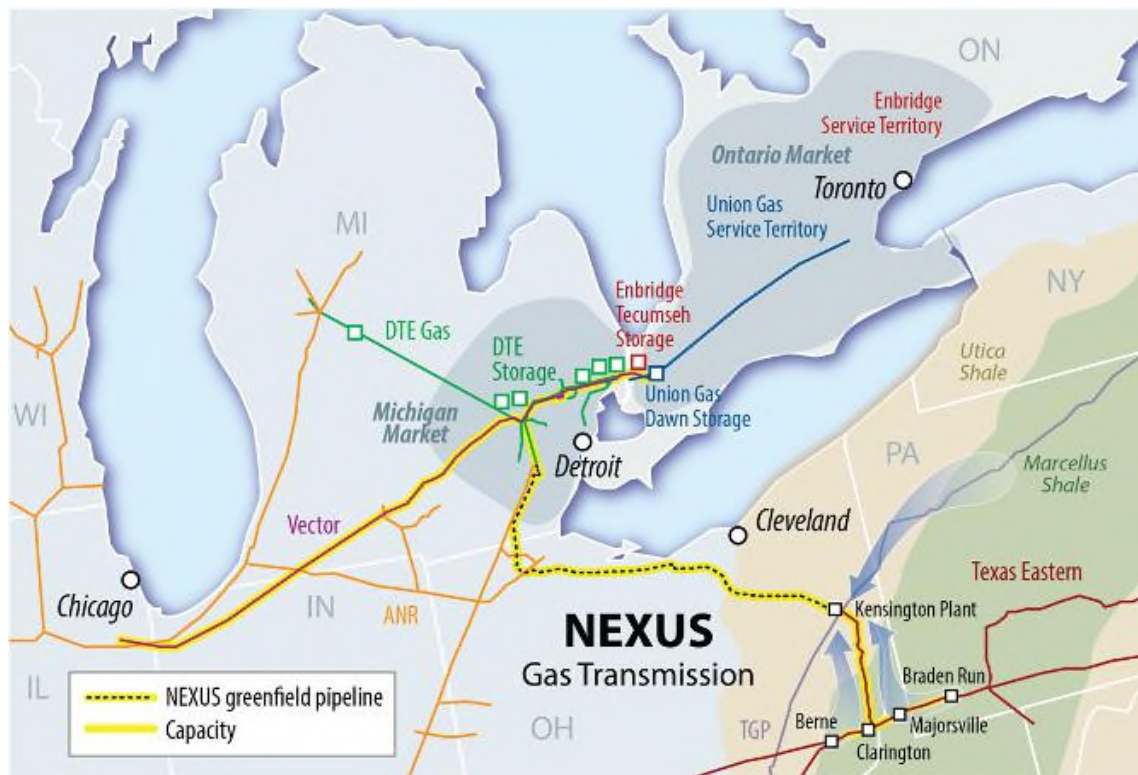


# New Ohio Pipeline Projects

The Ohio Pipeline Energy Network (OPEN) Project

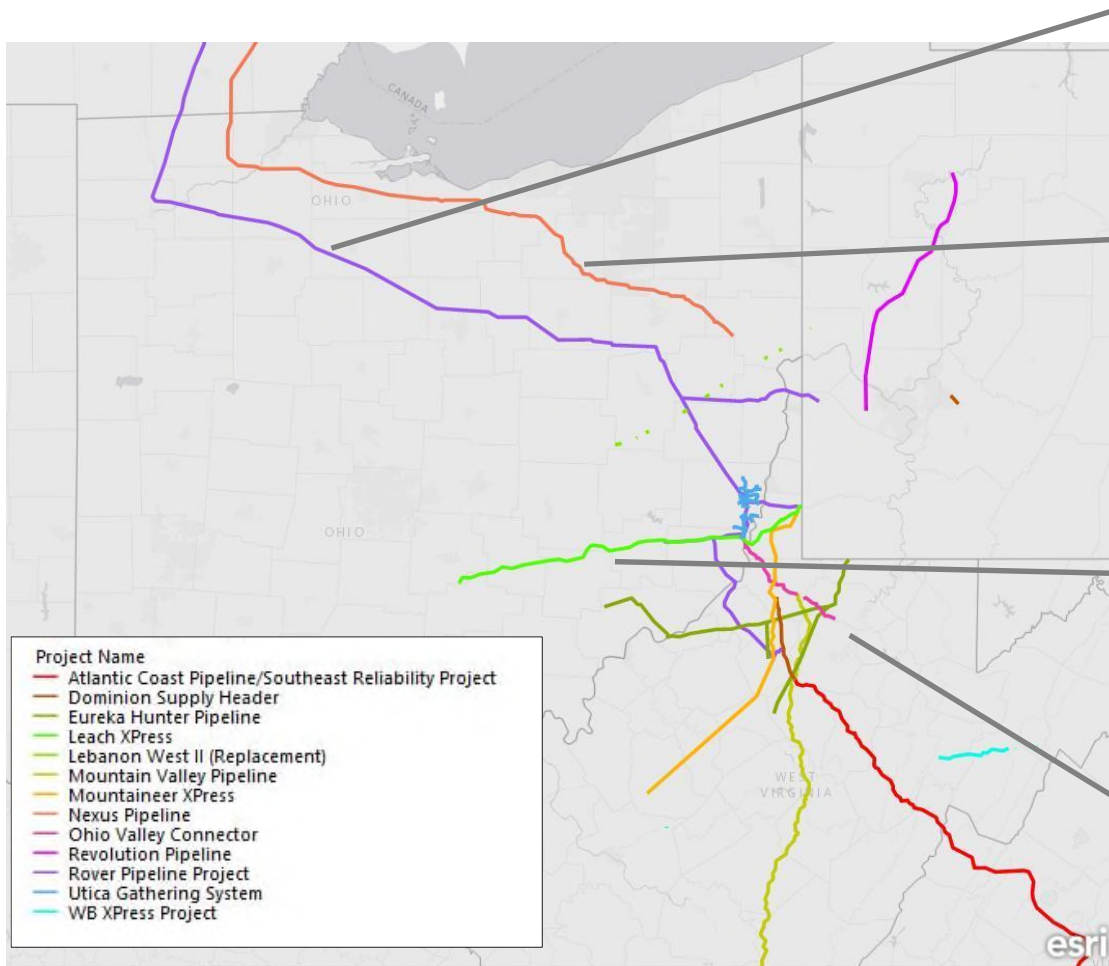


The NEXUS Project





# Ohio Pipeline Projects



**Rover** (Energy Transfer Partners):  
Designed to transport 3 Bcf/d of natural gas to markets in the Midwest with direct deliveries into Ohio

**Nexus** (Spectra): 255-mile interstate natural gas transmission pipeline to deliver 1.5 billion cubic feet per day Bcf/d of g natural gas from receipt points in eastern Ohio to consumers in northern Ohio, southeastern Michigan, the Chicago Hub in Illinois, and the Dawn Hub in Ontario, Canada.

**Leach Xpress** (Columbia Pipeline Group):  
Construct 160 miles of natural gas pipeline and compression facilities in southeastern Ohio to deliver 2 Bcf/d

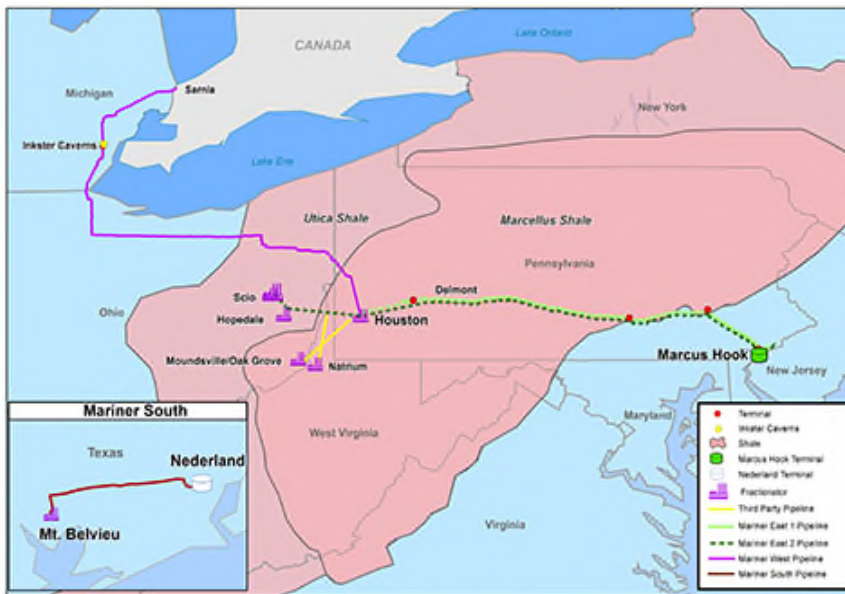
**Ohio Valley Connector** (EQT): connect with Rockies Express Pipeline LLC and other pipelines to provide .85 Bcf/d of firm transportation service between the Appalachian production region and the Mid-Continent and Gulf Coast markets.



# Other Pipeline Projects

## Mariner East (Sunoco Logistics):

Expand capacity to transport additional volumes of **natural gas liquids and condensate** from processing facilities built in Eastern Ohio to the Delaware River

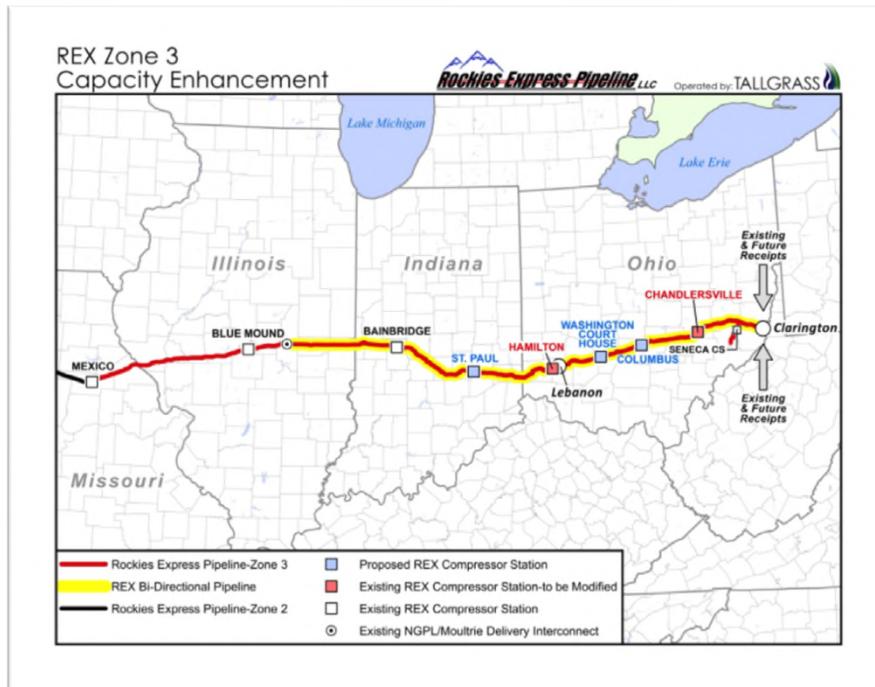


## Cornerstone Pipeline (Marathon):

Deliver **condensate, natural gasoline, and butane** to Marathon's Canton, Ohio.



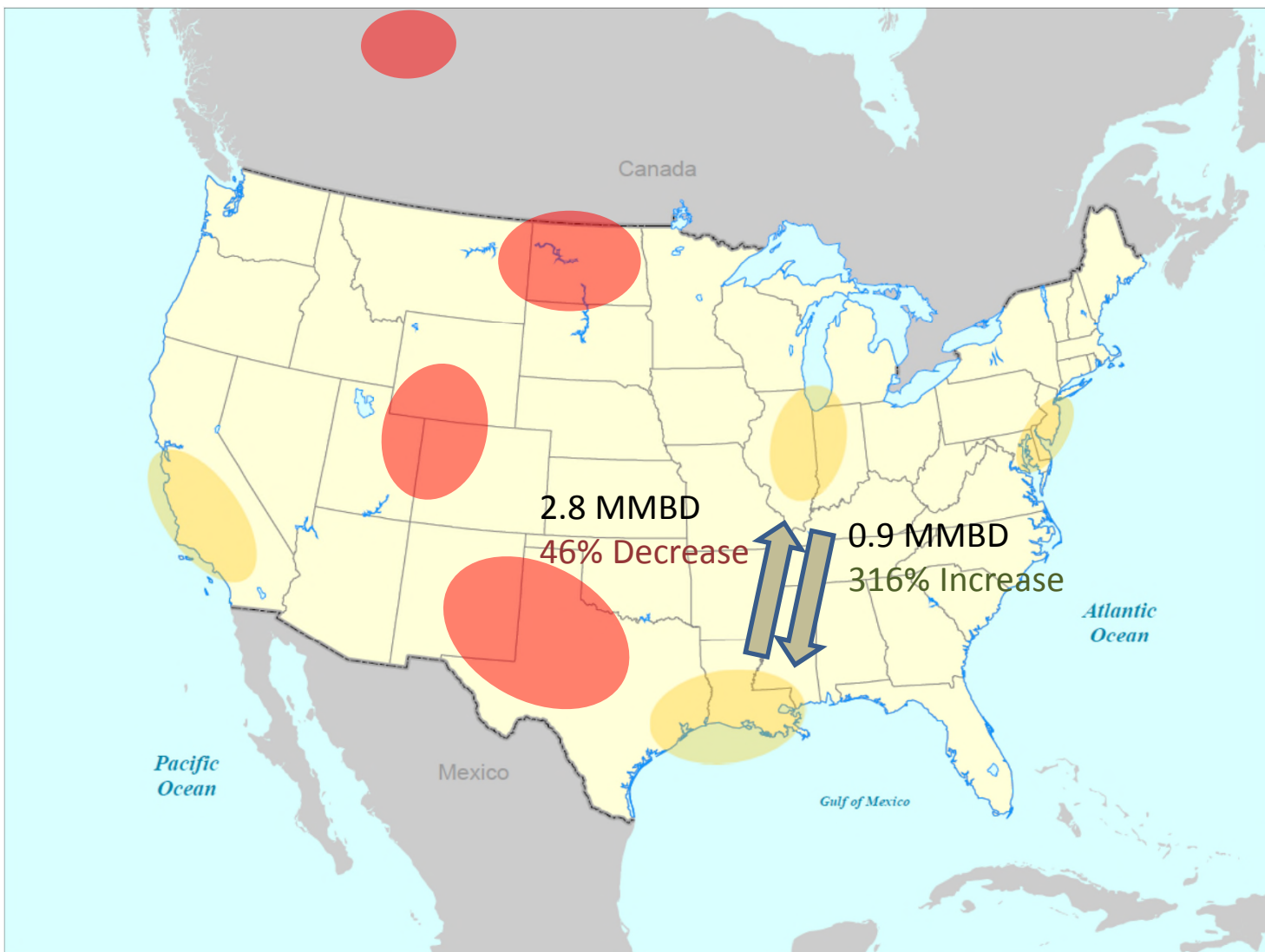
# REX Zone 3 Capacity



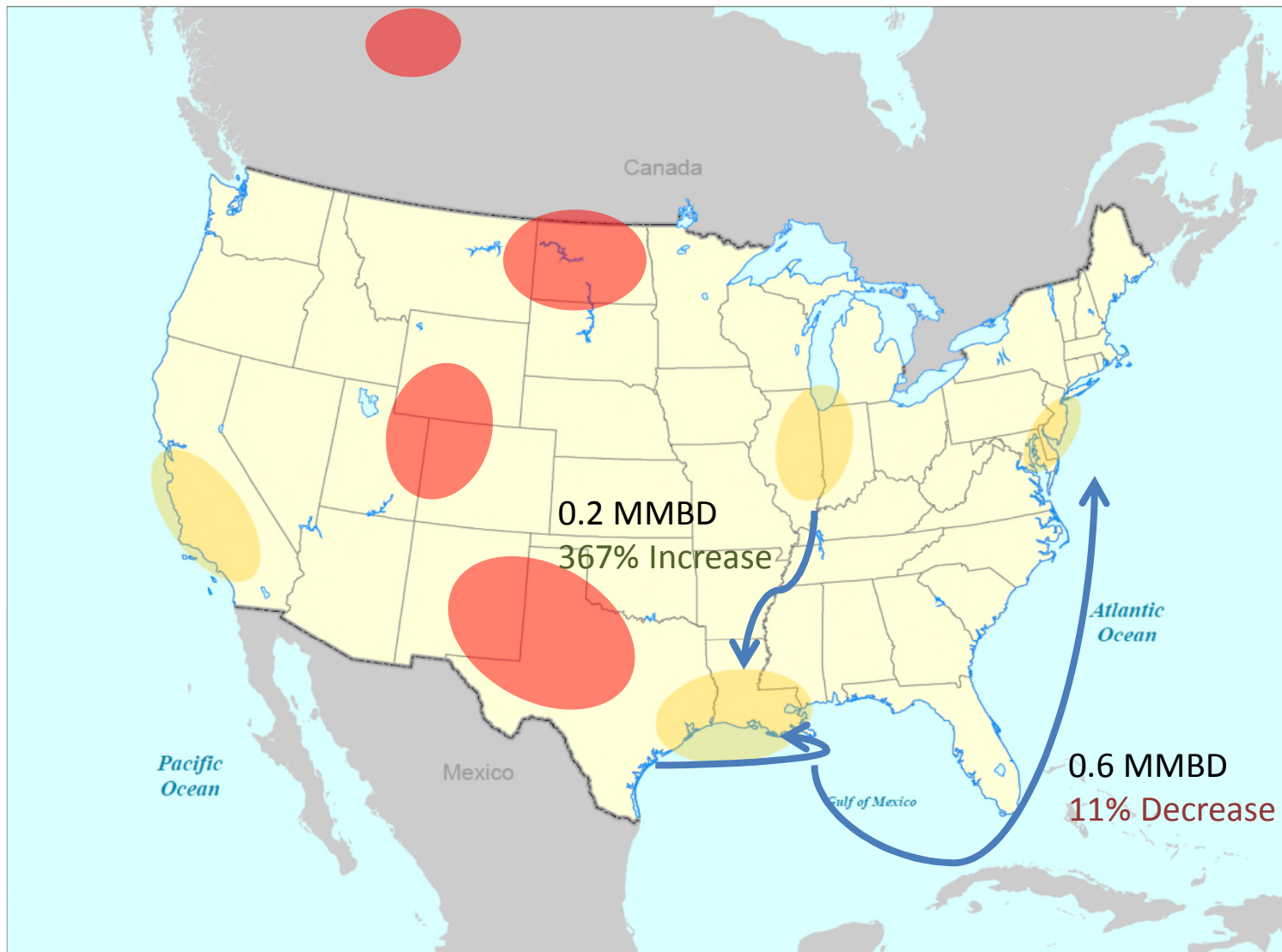
*REX connects to about a dozen major north-south pipelines within Zone 3 and the full pipeline touches nearly every part of the US market*

- Zone 3 spans from Clarington, OH in the heart of the Utica/Marcellus to Moultrie County, IL
- Zone 3 East-to-West Project (E2W) – added 1.2 Bcf/d of Westbound capacity (In service August 2015)
- *Zone 3 Capacity Enhancement (Z3CE) – will include an additional .8 Bcf/d of capacity (in service 2017) FERC approved construction March 8, 2016 (in service Q4 2016)*
- **Total westbound capacity = 2.6 Bcf/d**
- With all interconnects coming online, by 2016 REX will provide 4.2 Bcf/d of receipt capacity for producers

## Crude and Petroleum Flows 2014 Major Pipeline Movements



## Crude and Petroleum Flows 2014 Major Waterborne Movements





# Power Generation & Utilization

Coal fueled 67% of Ohio's net electricity generation in 2014, natural gas contributed 18%, and nuclear energy added another 12%. Gas utilization for power generation has grown from about 436,000 Mwh in 2008 to almost 10,000,00 Mwh in 2013.

Plant	Operator	Planned Capacity	Status	Online
Carroll County Energy Center	EthosEnergy	700 MW	Construction	2017
Lordstown Generating Station	Clean Energy Future, LLC	800 MW	Early Development	2018
Middletown Energy Center	NTE Ohio, LLC	475 MW	Construction	2018
Oregon Clean Energy	Siemens Energy	869 MW	Construction	2017
South Field Energy	Advanced Power Services	1132 MW	Early Development	2020

Ohio is among the top 10 natural gas-consuming states. The industrial and residential sectors are the largest consumers. About two-thirds of Ohio households use natural gas for home heating. Natural gas use for electric power generation in Ohio has increased markedly in recent years as domestic natural gas production has increased.

---

# PUCO decision in FirstEnergy and AEP PPA cases

**Dylan Borchers**

614.227.4914

[dborchers@bricker.com](mailto:dborchers@bricker.com)

[www.ohiogreenstrategies.com](http://www.ohiogreenstrategies.com)



# AEP and FE PPA cases

- At the heart of these cases are the so-called affiliate PPAs, wherein the utility will purchase the output, for a term of years, from its unregulated affiliate.
  - In exchange, the utility would pay for all of the costs of operating the plants, plus a return on investment, to the affiliate.
  - The utility then sells the output into the PJM markets.
  - The utility would then recover the difference from ratepayers via a nonpypassable rider.
- Highly controversial
- Over a year of litigation



*“We are persuaded by OEG witness Taylor’s testimony that the PPA rider constitutes a financial limitation of shopping that is intended to stabilize rates. Further, we note that, in light of our determination that the PPA rider is a financial limitation on customer shopping pursuant to R.C. 4928.143(B)(2), it is unnecessary to reach the argument related to “default service.” Accordingly, we find that the second criterion of R.C. 4928.143(B)(2) is satisfied.”*

	Proposal	Outcome
FirstEnergy	<ul style="list-style-type: none"> <li>• 8 year, nonbypassable Rider RRS to recover difference between market revenues and affiliate PPA.</li> <li>• PPA to include approximately 3,500 MW of affiliate-owned generation.</li> <li>• “Risk sharing” commitment of \$100 million.</li> <li>• A “commitment” to reduce CO2 emissions by at least 90% by 2045, irrespective of the US EPA Clean Power Plan mandates.</li> <li>• “Commitment” to procure 100 MW of Ohio wind or solar – if PUCO staff “deems it helpful to comply with a future federal or state law” <b>and</b> if such federal or state law has not otherwise fostered the development of such resources, contingent on full cost recovery</li> </ul>	<ul style="list-style-type: none"> <li>• 8 year, nonbypassable rider approved to support with all generation units proposed in settlement.</li> <li>• Modifications: <ul style="list-style-type: none"> <li>– Plant retirement costs not permitted to flow through rider.</li> <li>– Capacity performance penalties not permitted to flow through rider (however, bonuses will be retained too).</li> <li>– PUCO reserves right to modify Stipulation if there is a change to PJM tariffs/rules that prohibits plants from being bid into PJM auction.</li> <li>– Commitment to procure renewables no longer contingent on related federal/state law.</li> <li>– If FirstEnergy moves headquarters or nexus of operations from Akron, PUCO has sole discretion to terminate rider.</li> </ul> </li> </ul>
AEP	<ul style="list-style-type: none"> <li>• 8 year, nonbypassable PPA Rider to recover difference between market revenues and affiliate PPA.</li> <li>• PPA to include approximately 2,700 MW of affiliate-owned generation.</li> <li>• “Risk sharing” commitment of \$100 million.</li> <li>• AEP Ohio and its affiliates will develop a total of at least 500MW of wind projects in Ohio to be completed by 2021. AEP affiliates will have the right to own up to 50% of these projects, but the projects will be competitively bid.</li> <li>• AEP Ohio and its affiliates will develop a total of at least 400MW of solar projects in Ohio, using “best efforts” to complete by 2021.</li> </ul>	<ul style="list-style-type: none"> <li>• 8 year, nonbypassable rider approved to support with all generation units proposed in settlement.</li> <li>• Modifications: <ul style="list-style-type: none"> <li>– PUCO reserves right to modify Stipulation if there is a change to PJM tariffs/rules that prohibits plants from being bid into PJM auction.</li> <li>– If AEP Ohio moves headquarters or nexus of operations from Columbus, PUCO has sole discretion to terminate rider.</li> </ul> </li> </ul>

---

# What now?

- Complaints at FERC
- Ohio Supreme Court
- Federal District Court
- Ohio General Assembly

---

# Eminent domain-related issues impacting pipeline development

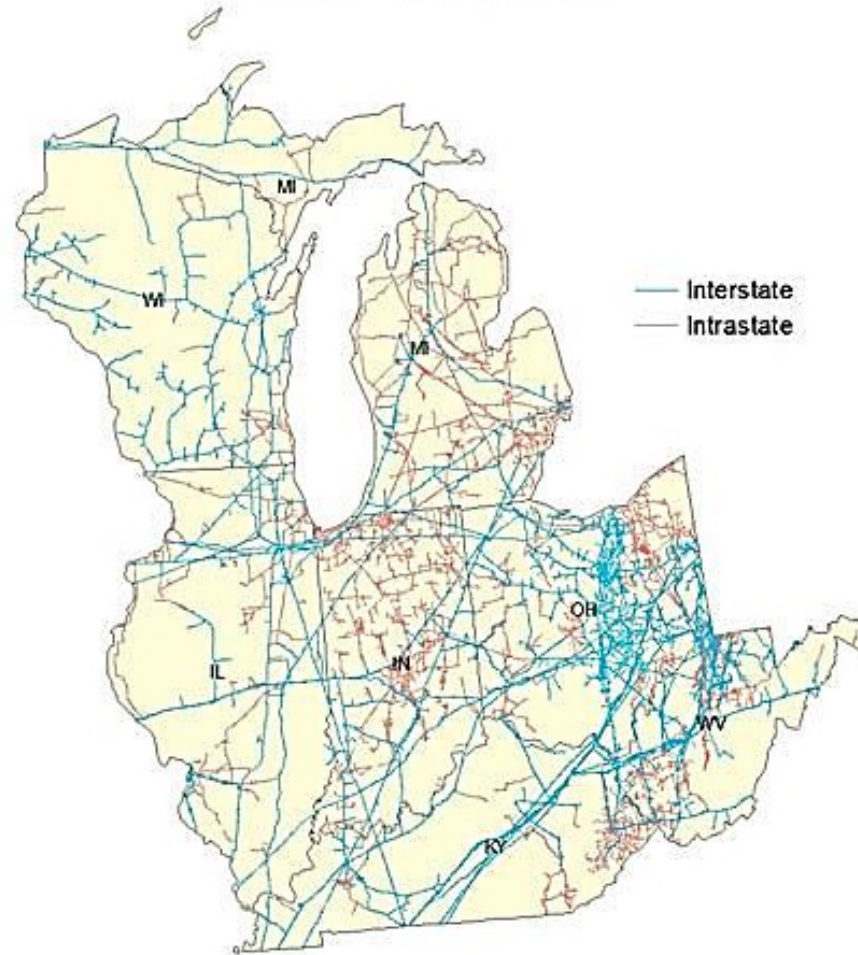
**Kara Herrnstein**

614.227.4908

[kherrnstein@bricker.com](mailto:kherrnstein@bricker.com)



## Region 2 (Midwest) Natural Gas Pipelines



Source: American Energy Mapping (AEM) 2013

---

# Thank you

Please join us for drinks,  
hors d'oeuvres and additional discussion.

Internet access:  
Network name: BRICKER\_WIFI  
Network key: 6142272300

