



Eagle Ford and Oil Prices: The Latest Developments



Principal Investigator: Thomas Tunstall, Ph.D.
Lead Investigator: Javier Oyakawa, M.A., M.Sc.

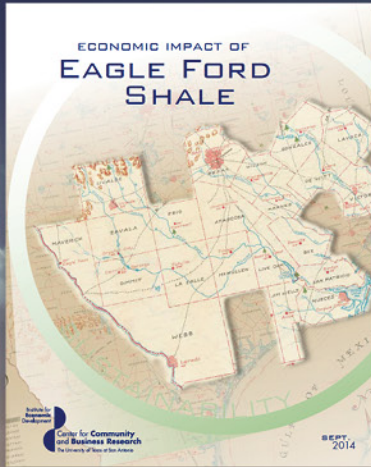
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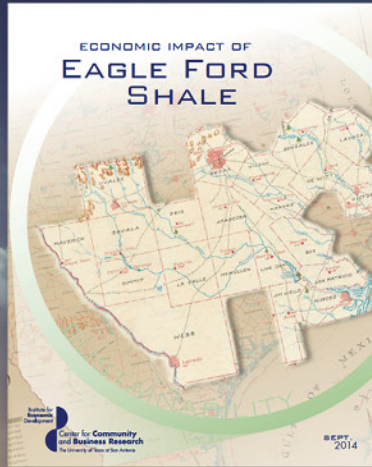
- Eagle Ford Shale Community Development Program (21 Counties in South Texas)
- Small Business Development Centers - SBDC (79 Counties in South, West and Central Texas)
- Rural Business Program (79 Counties in South Texas)
- Procurement Technical Assistance Center (Texas)
- JP Morgan Chase Veteran's Program (Texas)
- Southwest Trade Adjustment Assistance Center (TX, OK, LA)
- SBDC National Information Clearinghouse (National)
- Minority Business Center (National)
- **Community and Business Research (National, Int'l)**
- International Trade Center (Mexico, Central/South America, Caribbean, North Africa)

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Research at the Institute focuses on research projects that help business and policymakers plan for a dynamic future:

- **Economic Impact Studies**
- **Community Development Studies (I-35, SH 130)**
- **EB-5 Immigrant Investor Regional Center Impact Studies**
- **Analysis on Various Topics:**
 - Eagle Ford Shale
 - San Antonio Missions
 - South Texas Medical Center
 - University of Texas System
 - Targeted Industry Recruitment / Workforce Analysis
 - Repurposing of Military Bases for Commercial Use



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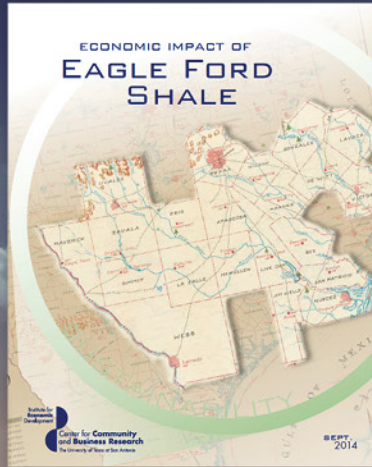
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As the Research Arm of UTSA's Institute for Economic Development we are dedicated to serving:

- Economic development corporations (e.g., SA EDF)
- City, state and federal governments
- Workforce development boards
- Businesses
- Associations
- Other community stakeholders



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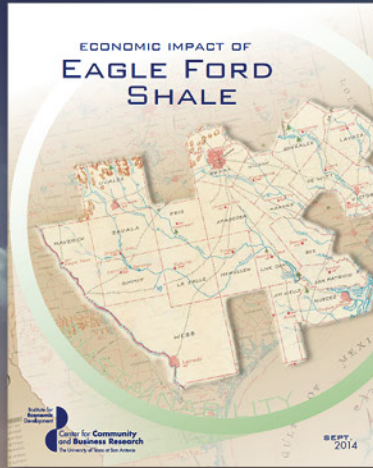
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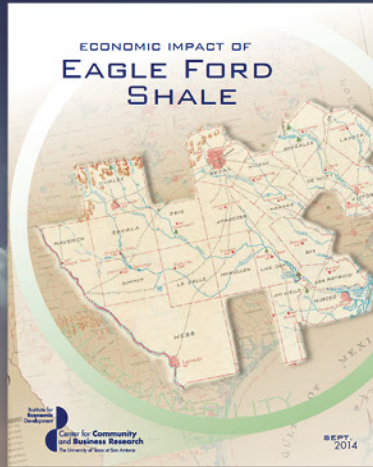
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In theory,
there is no
difference between
theory and practice;
in practice,
there is.

- Yogi Berra

UTSA has become the preeminent authority
on **economic development extension**



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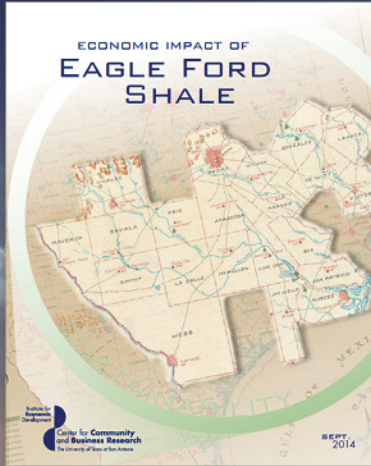
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**History doesn't
repeat itself.
But it does
rhyme.**

Mark Twain

UTSA – Emerging Tier 1 University



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California: **9** Tier 1 Universities

(Population 38 Million)

1. Stanford University (1900)
2. University of California, Berkeley (1900)
3. California Institute of Technology (1934)
4. University of Southern California (1969)
5. University of California, Los Angeles (1974)
6. University of California, San Diego (1982)
7. University of California, Santa Barbara (1995)
8. University of California, Davis (1996)
9. University of California, Irvine (1996)

New York: **6** Tier 1 Universities

(Population 19 Million)

1. Columbia University (1900)
2. Cornell University (1900)
3. University of Rochester (1941)
4. New York University (1950)
5. University at Buffalo, The State University of New York (1989)
6. Stony Brook University-The State University of New York (2001)

Texas: **Only 3** Tier 1 Universities

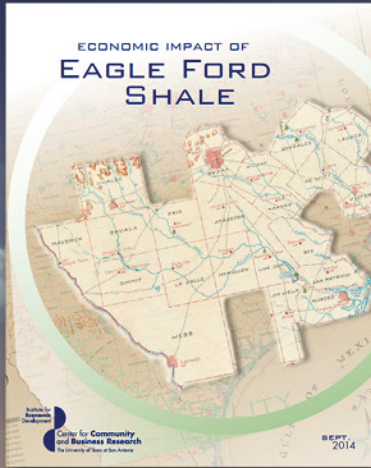
(Population 27 Million)

1. University of Texas at Austin (1929)
2. Rice University (1985)
3. Texas A&M University (2001)





Counties Included in Study Area



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Producing Counties:

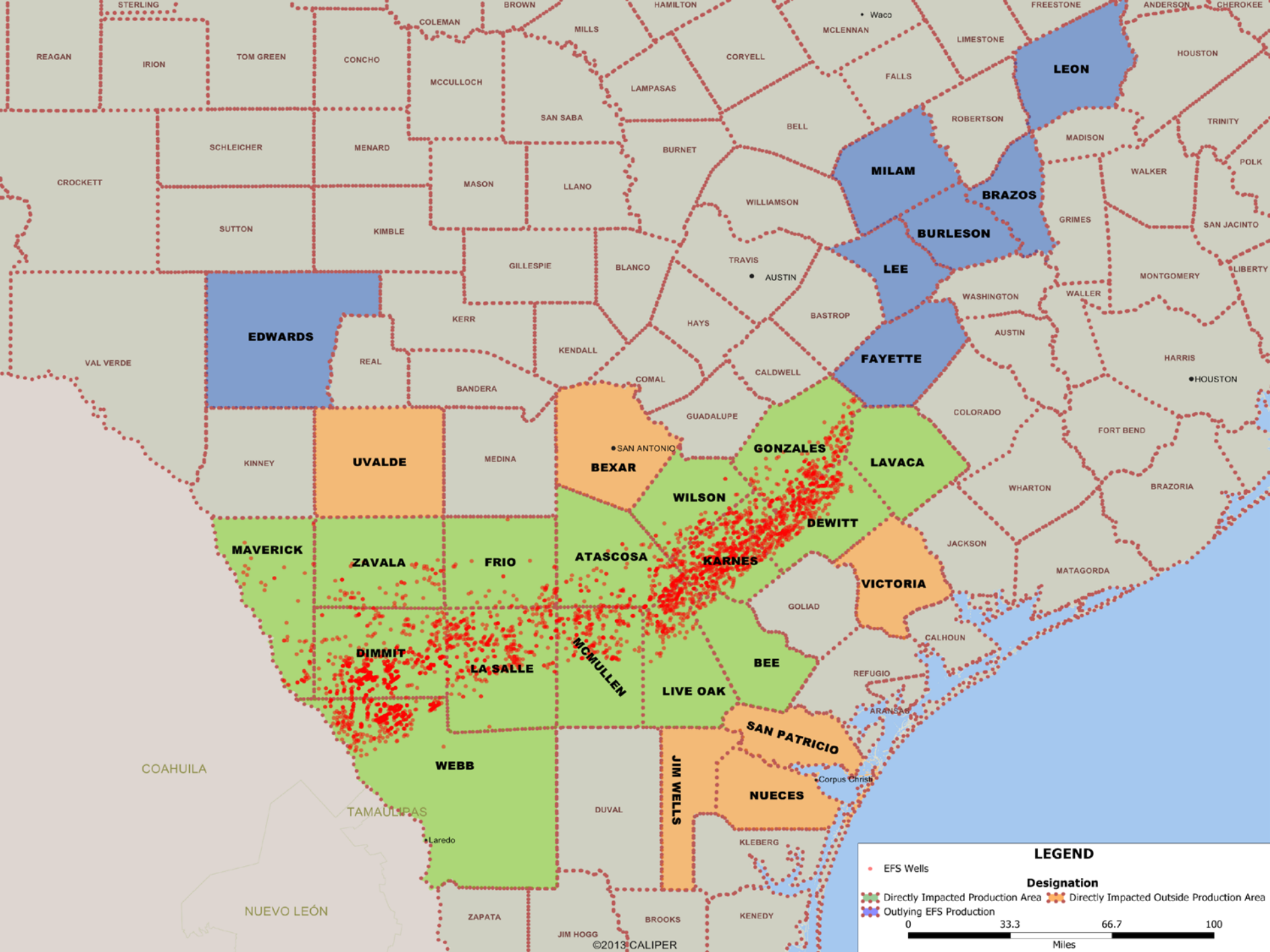
- Atascosa
- Bee
- DeWitt
- Dimmit
- Frio
- Gonzales
- Karnes
- La Salle
- Lavaca
- Live Oak
- Maverick
- McMullen
- Webb
- Wilson
- Zavala

Adjacent Counties:

- Bexar
- Jim Wells
- Nueces
- San Patricio
- Uvalde
- Victoria

Counties not included in the analysis are

Leon, Milam, Brazos, Burleson, Lee, Fayette, Lavaca, Edwards, Houston, and Wood

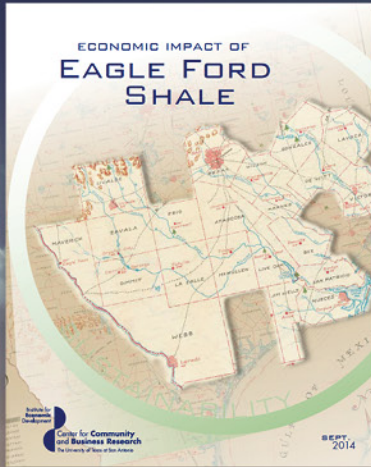


LEGEND

- EFS Wells
- █ Directly Impacted Production Area
- █ Directly Impacted Outside Production Area
- █ Outlying EFS Production

0 33.3 66.7 100
Miles

Eagle Ford Economic Reports



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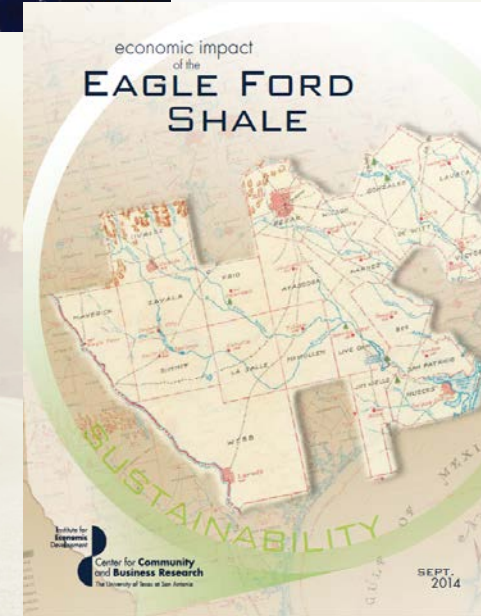
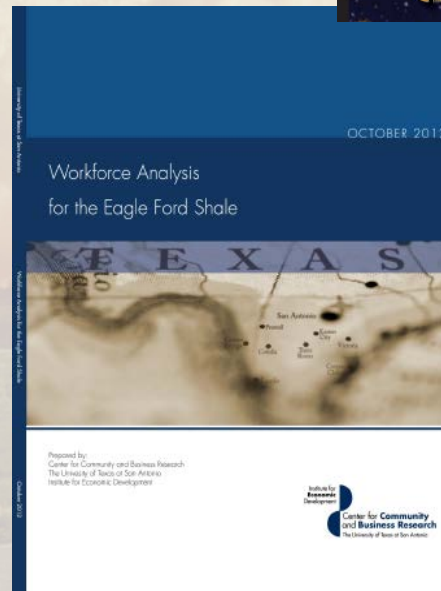
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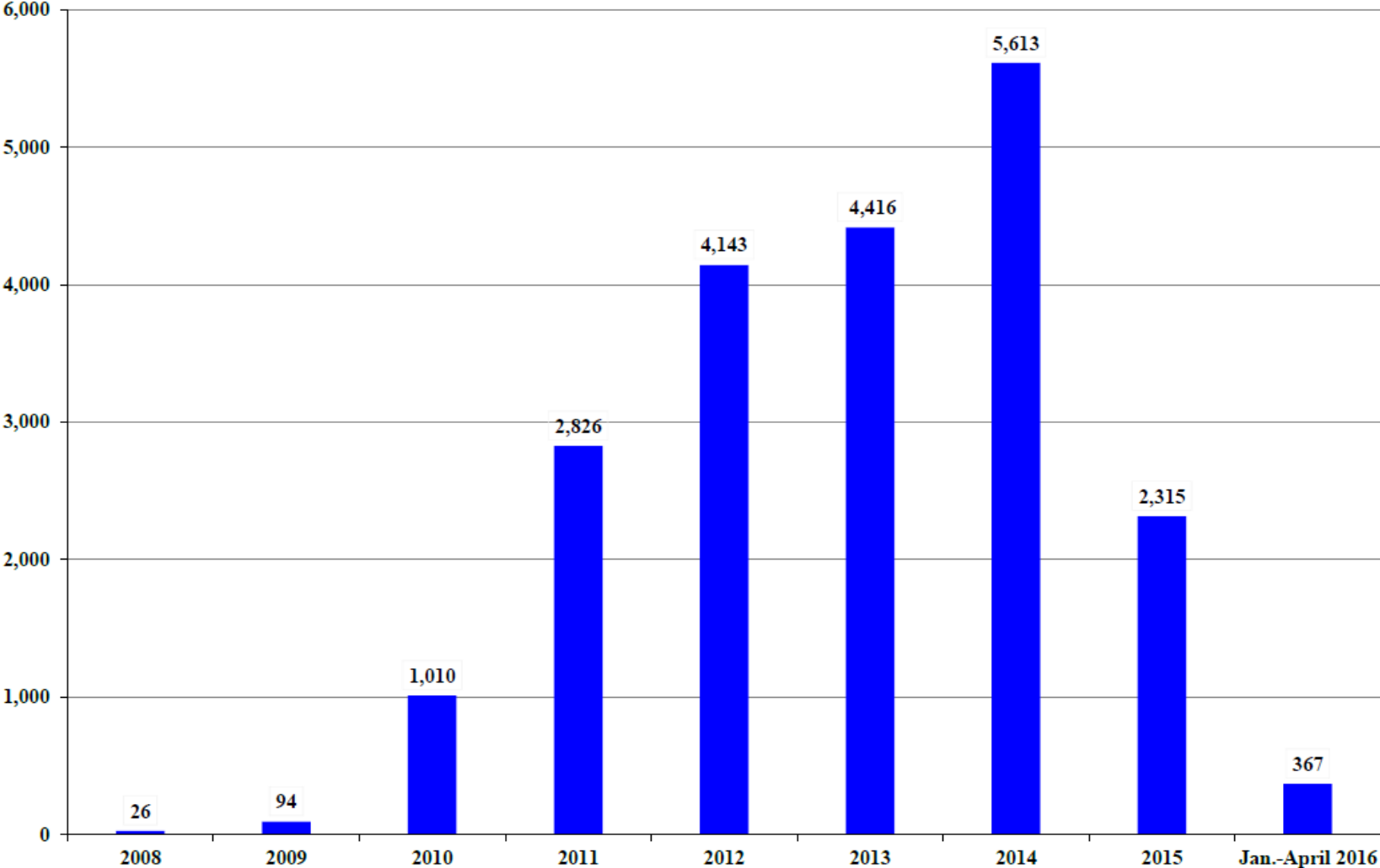


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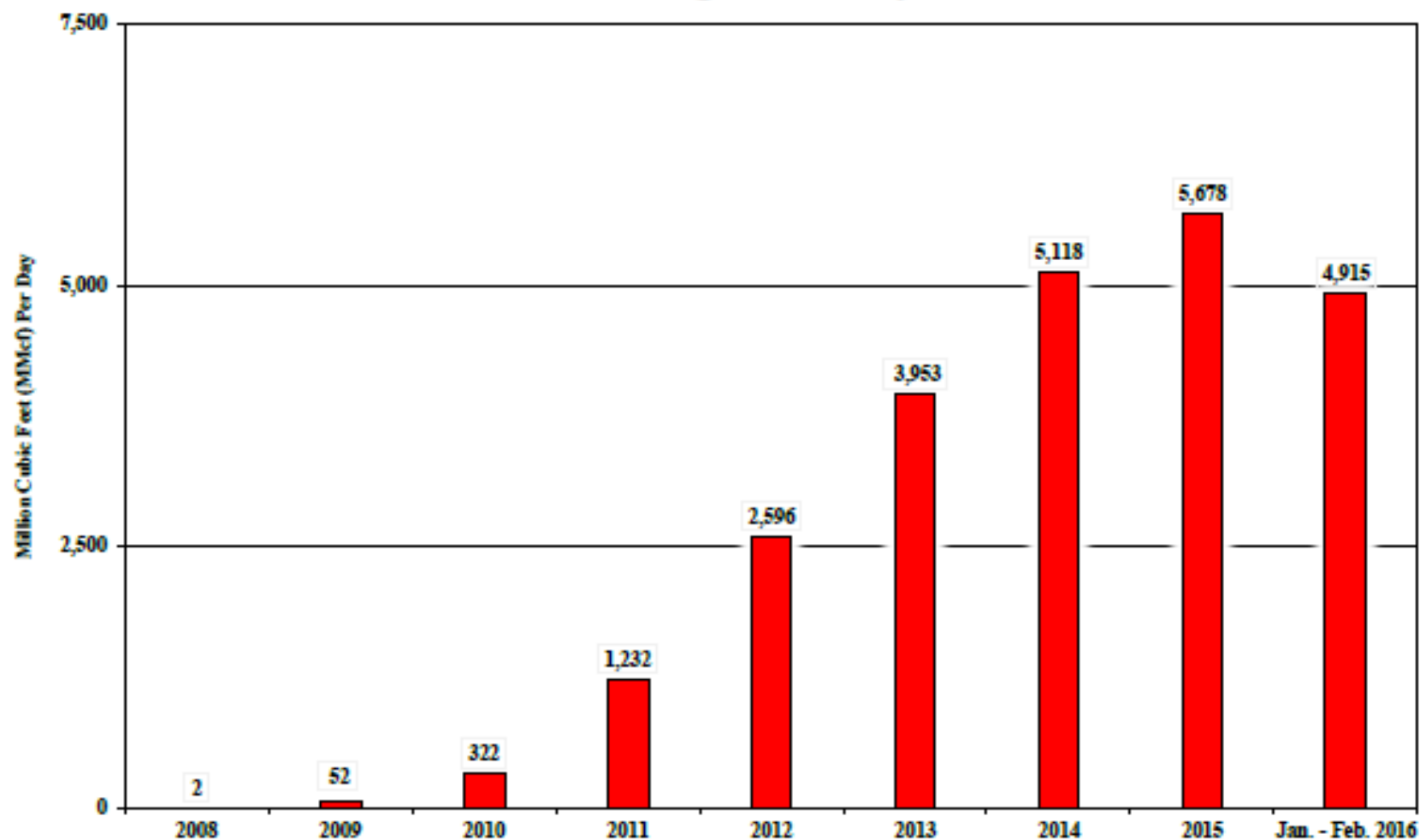
Texas Eagle Ford Shale Drilling Permits Issued 2008 through April 2016



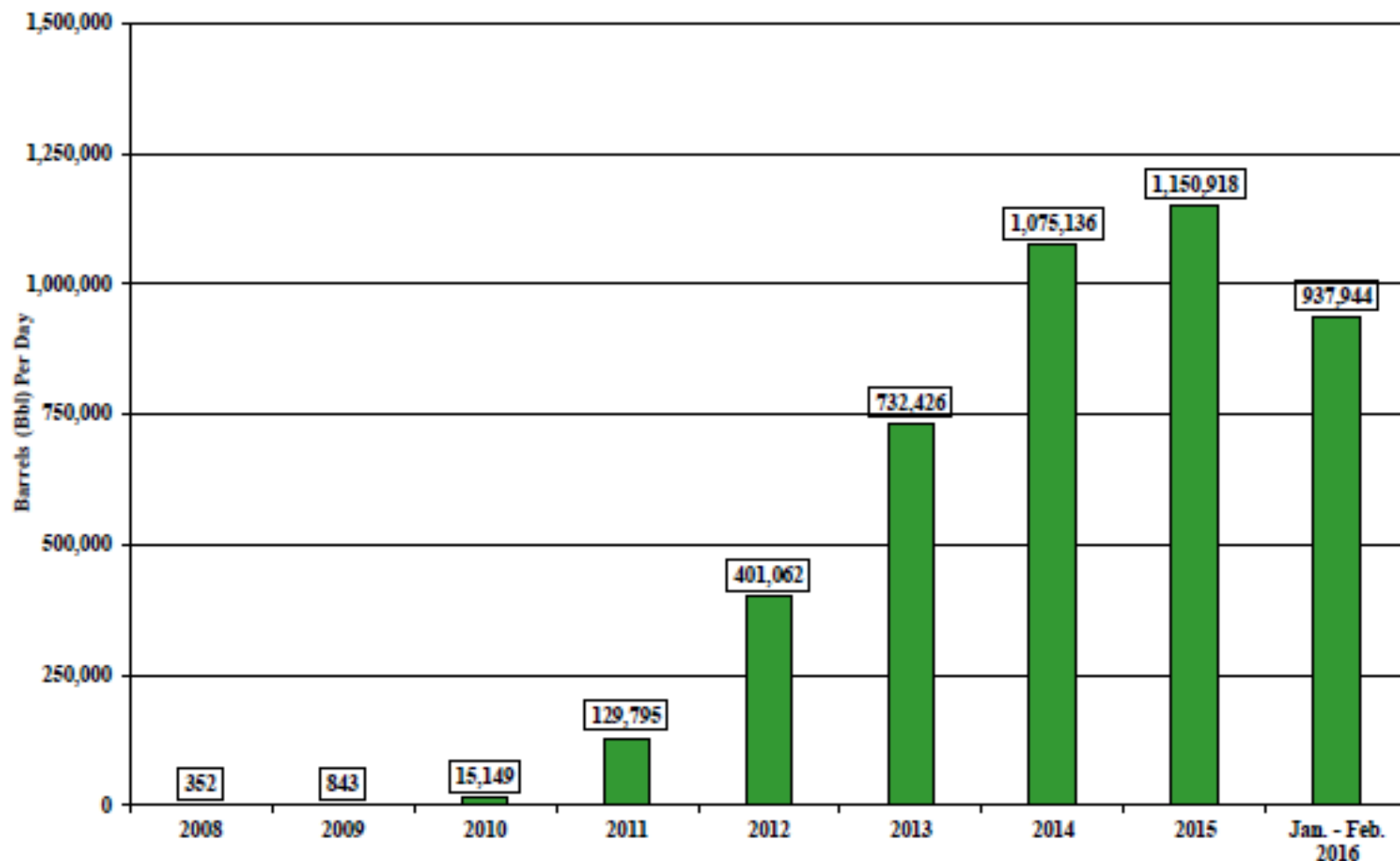
05/06/2016

Source: Texas Railroad Commission Drilling Permit Query (Includes New Drill & ReEnter Permits)

Texas Eagle Ford Shale Total Natural Gas Production 2008 through February 2016



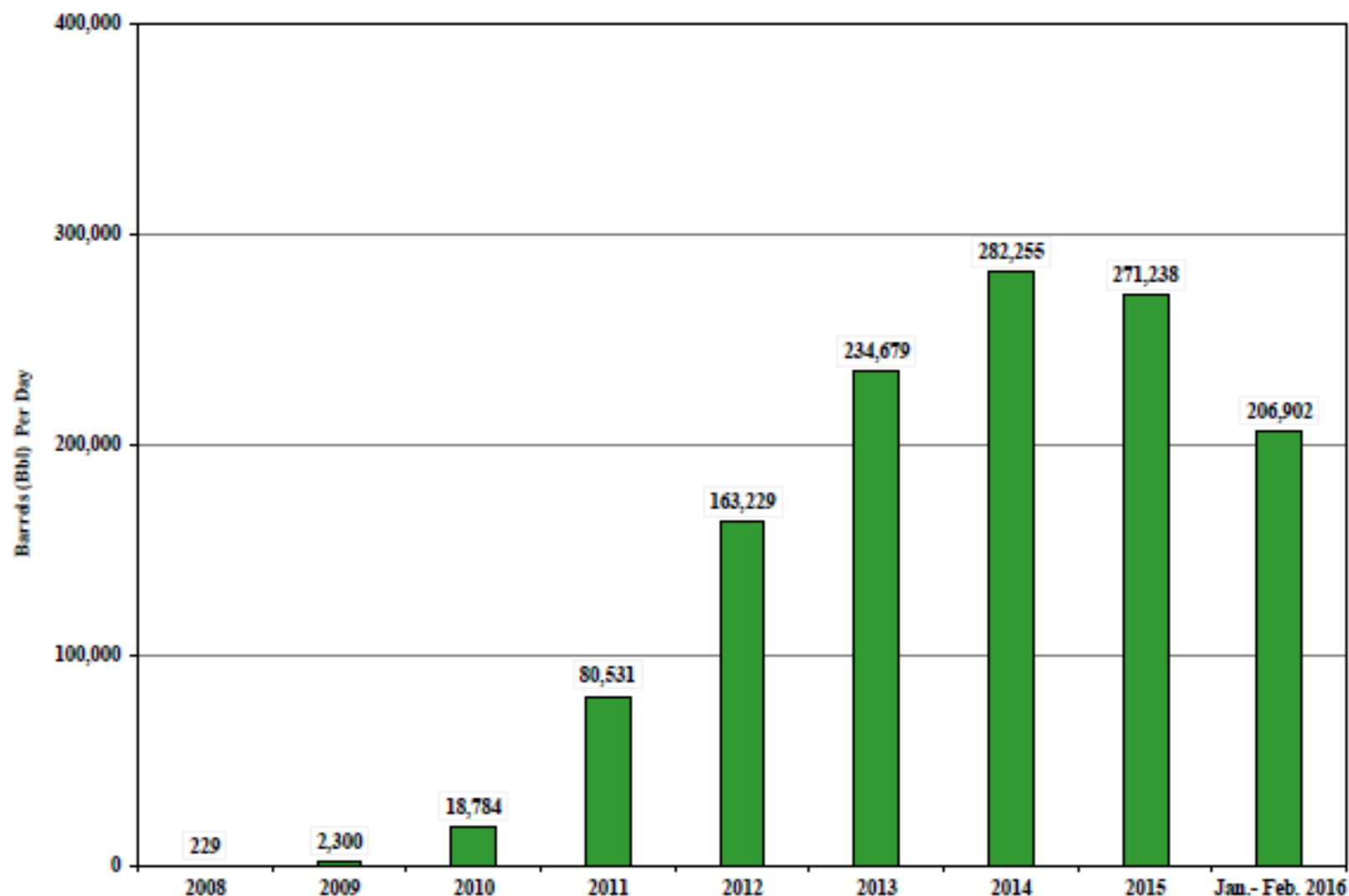
Texas Eagle Ford Shale Oil Production 2008 through February 2016



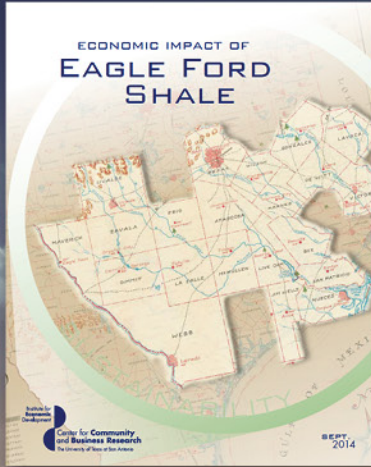
04/18/2016

Source: Railroad Commission of Texas Production Data Query System (PDQ)

Texas Eagle Ford Shale Condensate Production 2008 through February 2016



How Much Oil and Condensate Has Eagle Ford Produced To-Date?



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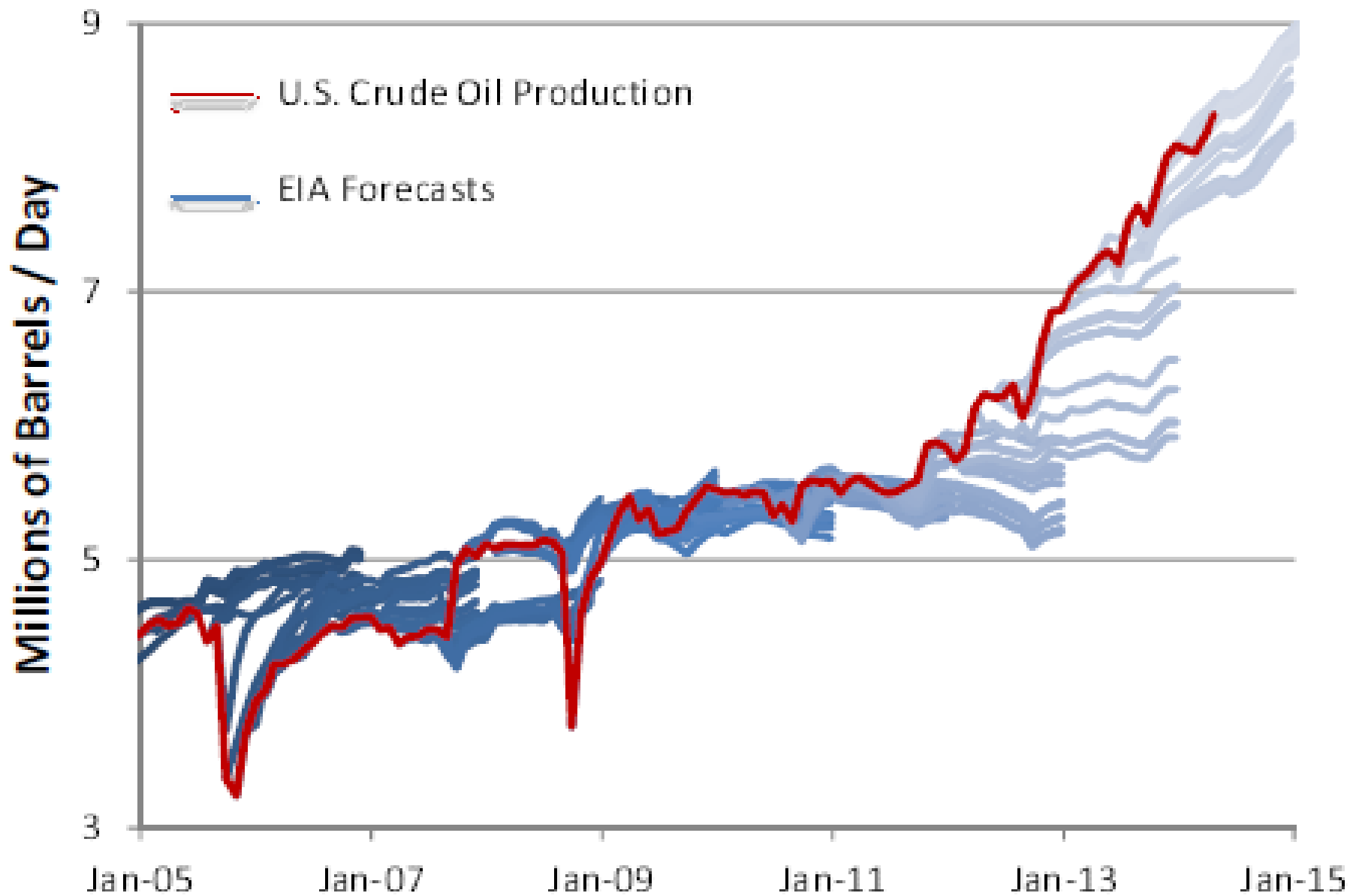
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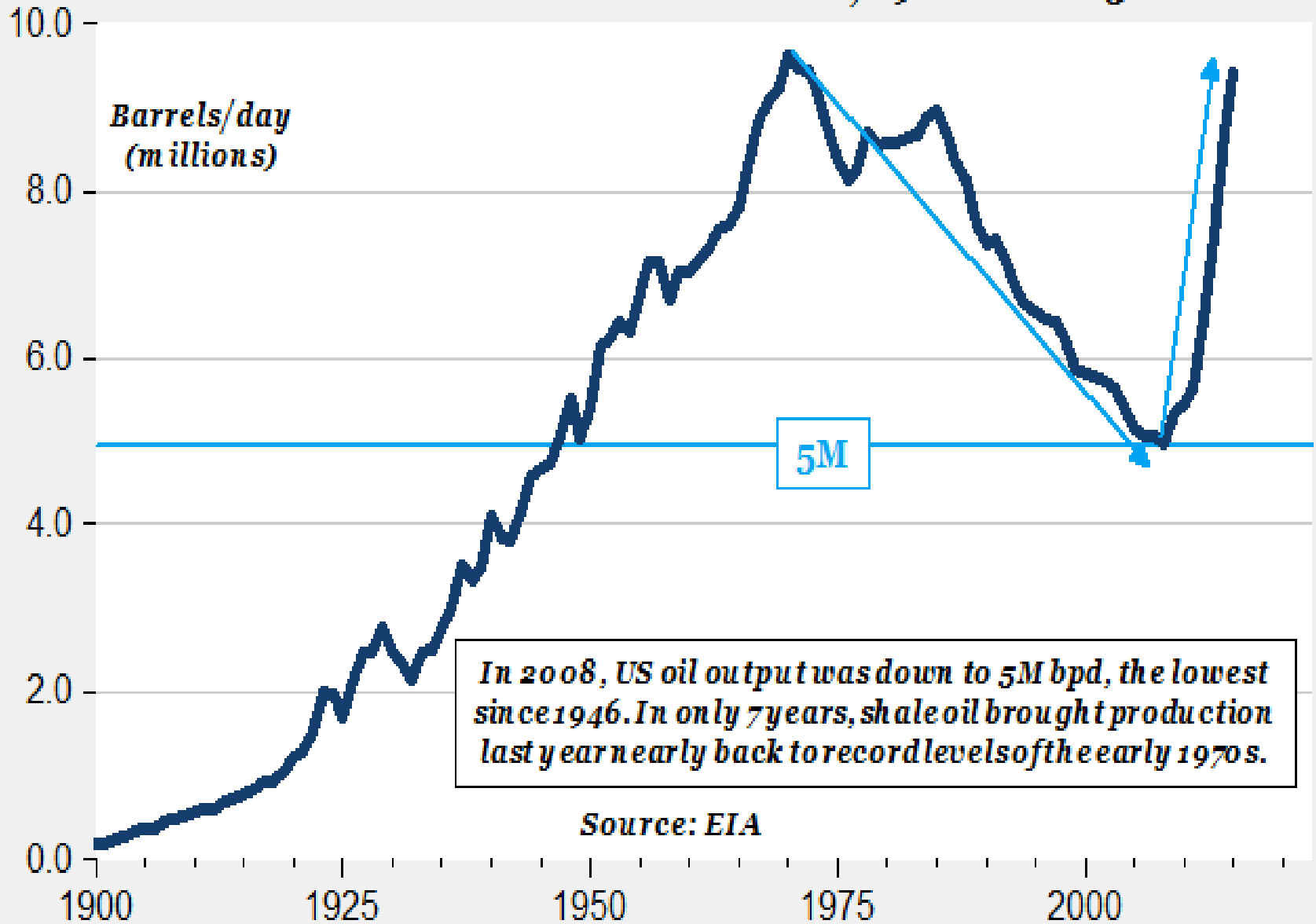
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1,425,753,280 Barrels
(over 1 billion)

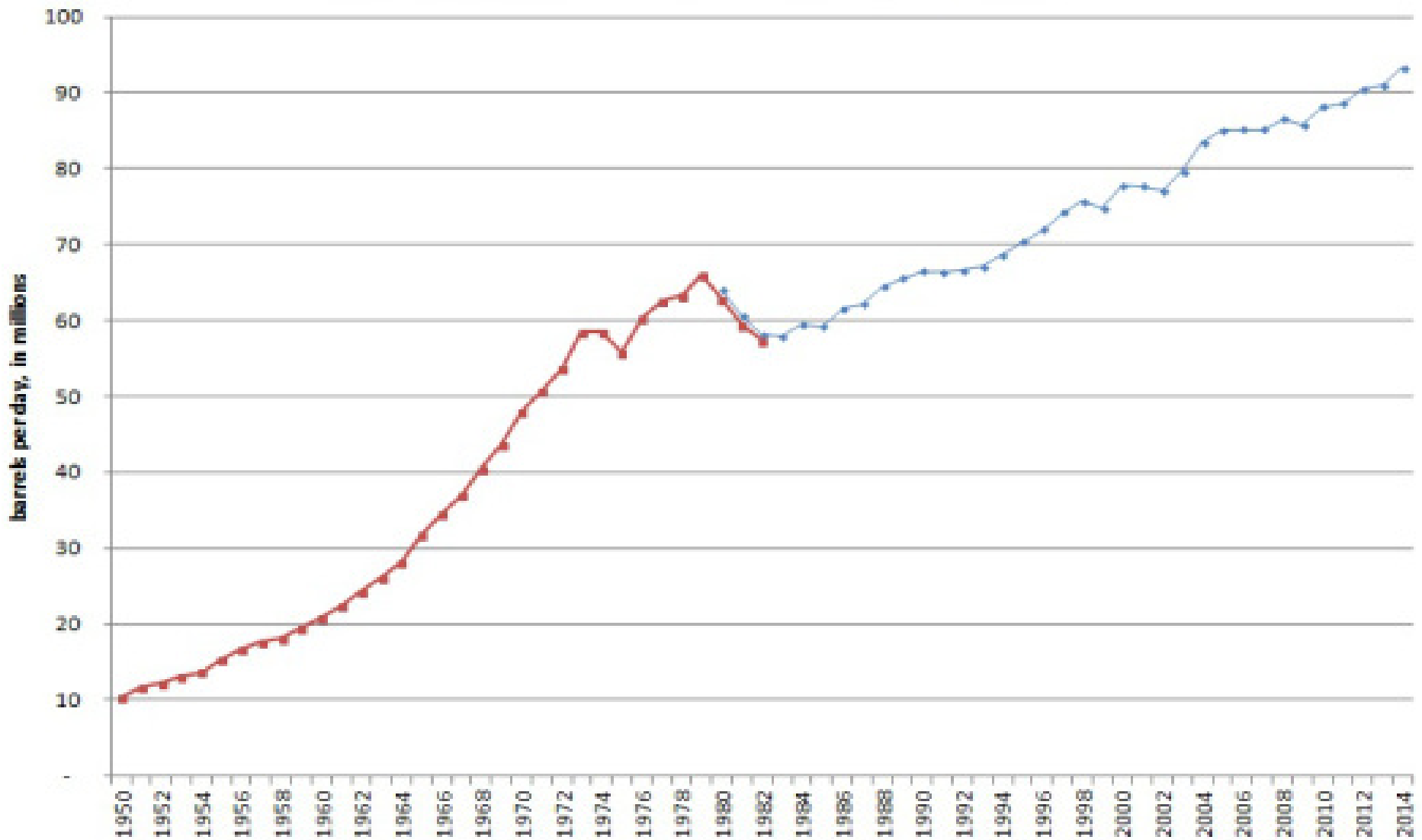
Panel B: EIA Forecasts of U.S. Crude Oil Production



US Crude Oil Production, 1900 to 2015



Worldwide production of oil, 1950 to 2014



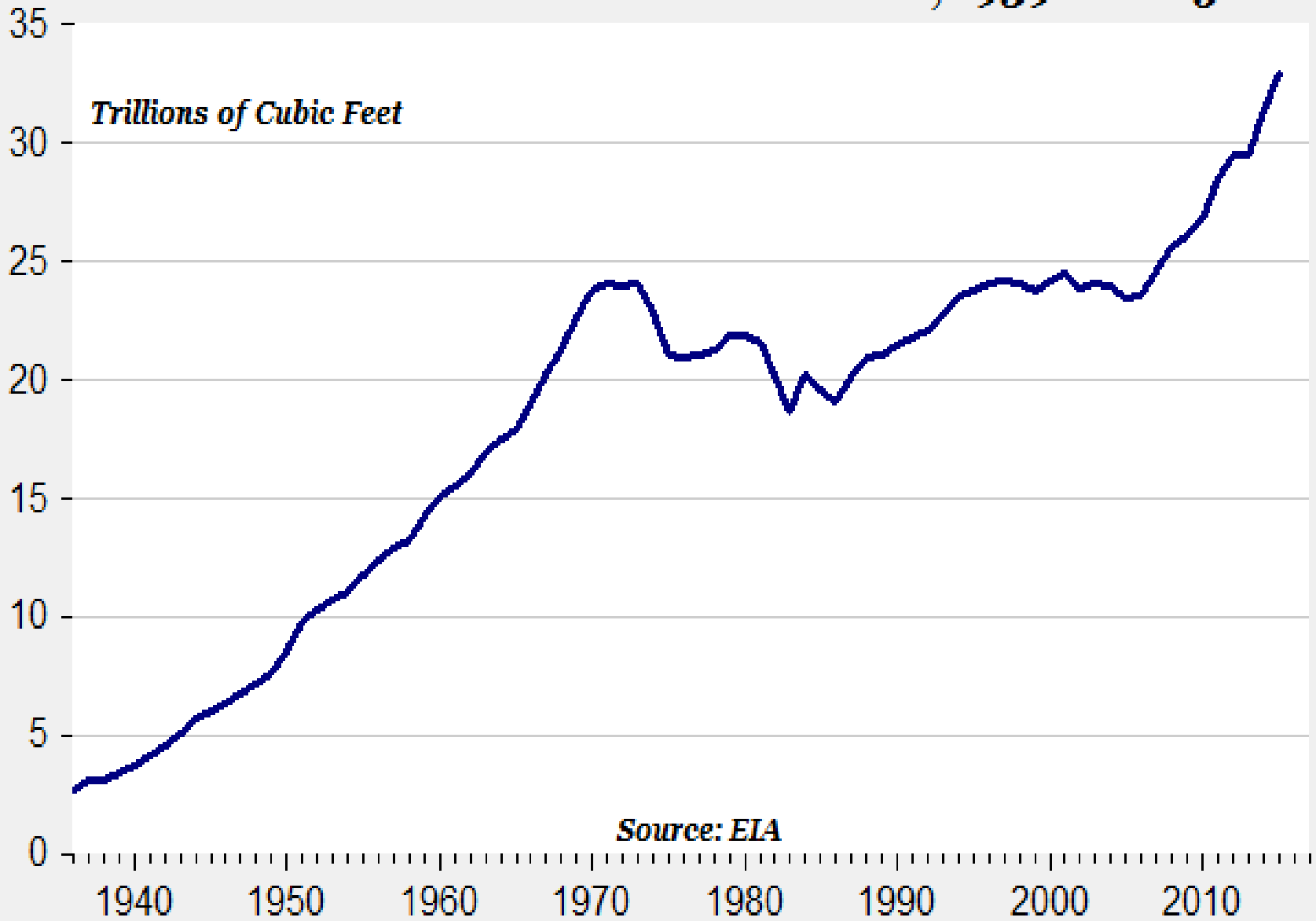
graph by outrunchange.com.

data from 1950 to 1982 from Earth Policy Institute: http://www.earth-policy.org/datacenter/pdf/book_wote_energy_oil.pdf

data from 1980 onward from U.S. Energy Information Administration:

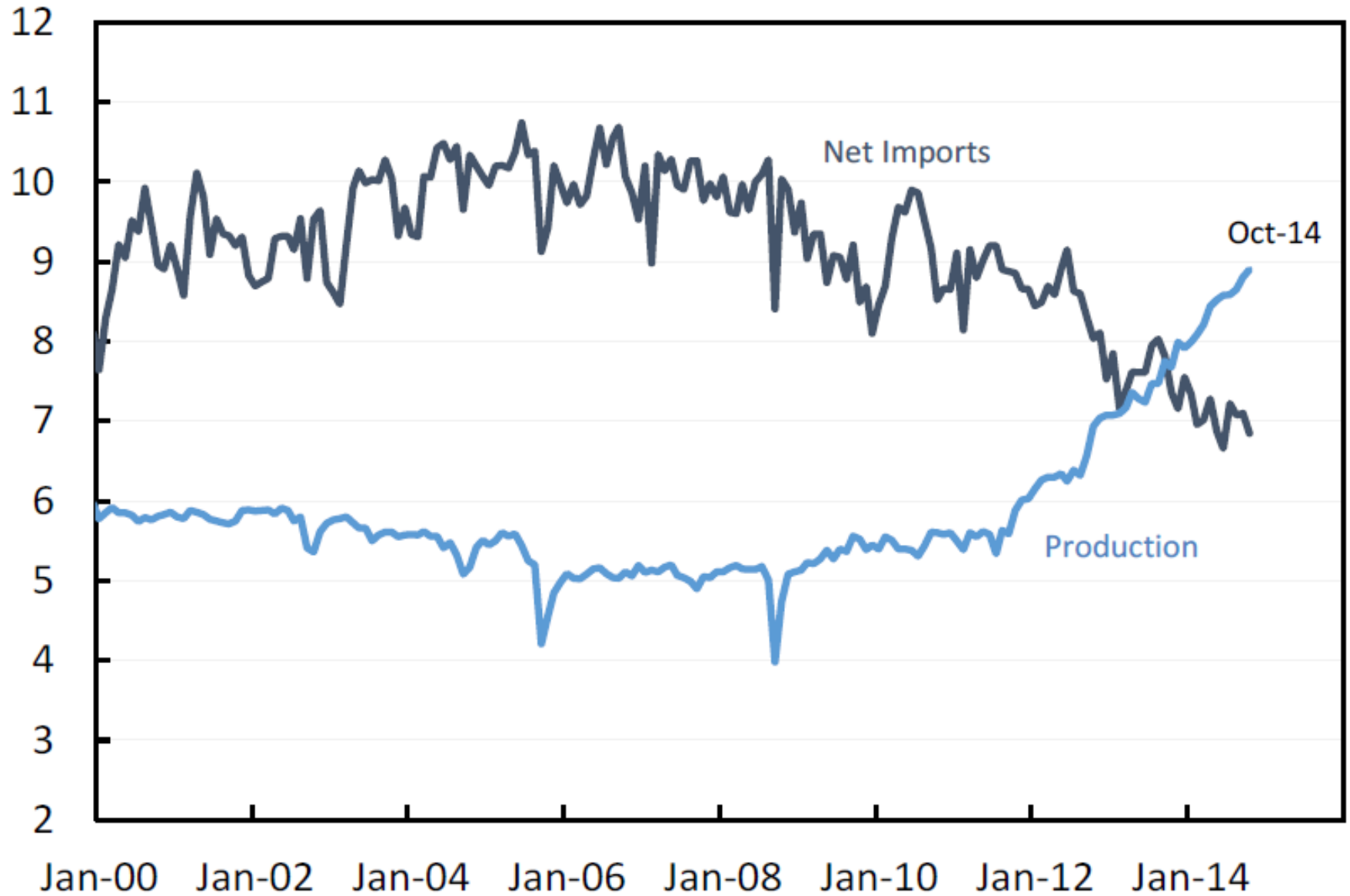
<https://www.eia.gov/cfapps/ipdbproject/iedindex3.cfm?tid=5&pid=53&aid=1&cid=ww,&syid=1980&eyid=2014&unit=TBPD>

US Annual Natural Gas Production, 1939 to 2015



Domestic Crude Oil Production and Net Imports

Million barrels per day



Crude oil

Imports (m barrels per day)

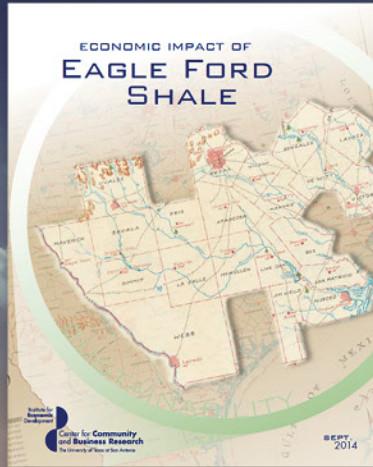


Source: Thomson Reuters Datastream

FT



How Many Companies Does It Take to Produce 75% Oil Output?



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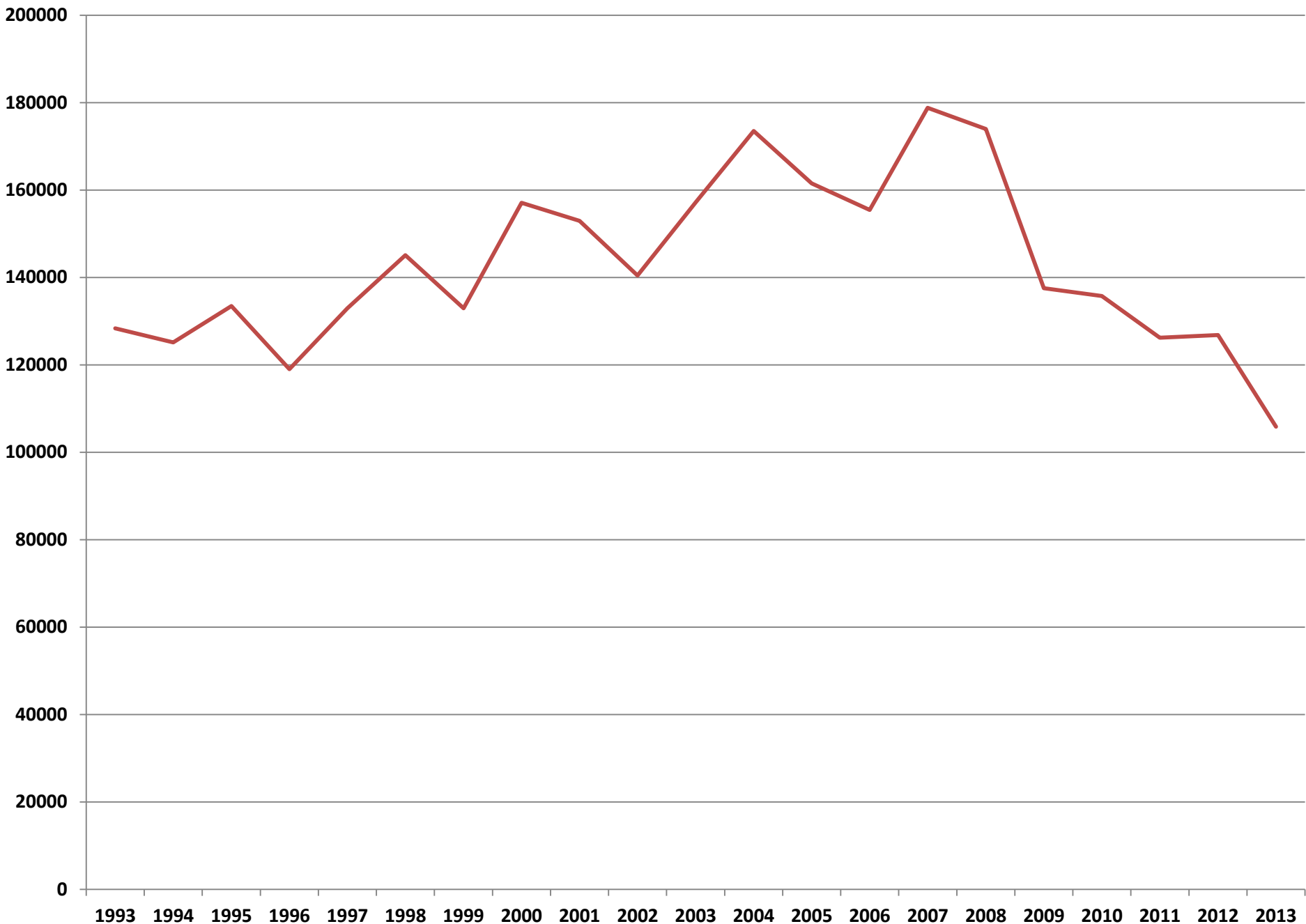
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- **U.S. – 77** (similar numbers for the UK and Canada)
- Russia – 4
- China – 3
- Brazil – 1
- In Saudi Arabia, Iran, Mexico and Kuwait **one** state producer accounts for nearly 100% of total output

U.S. is now the world's swing producer.

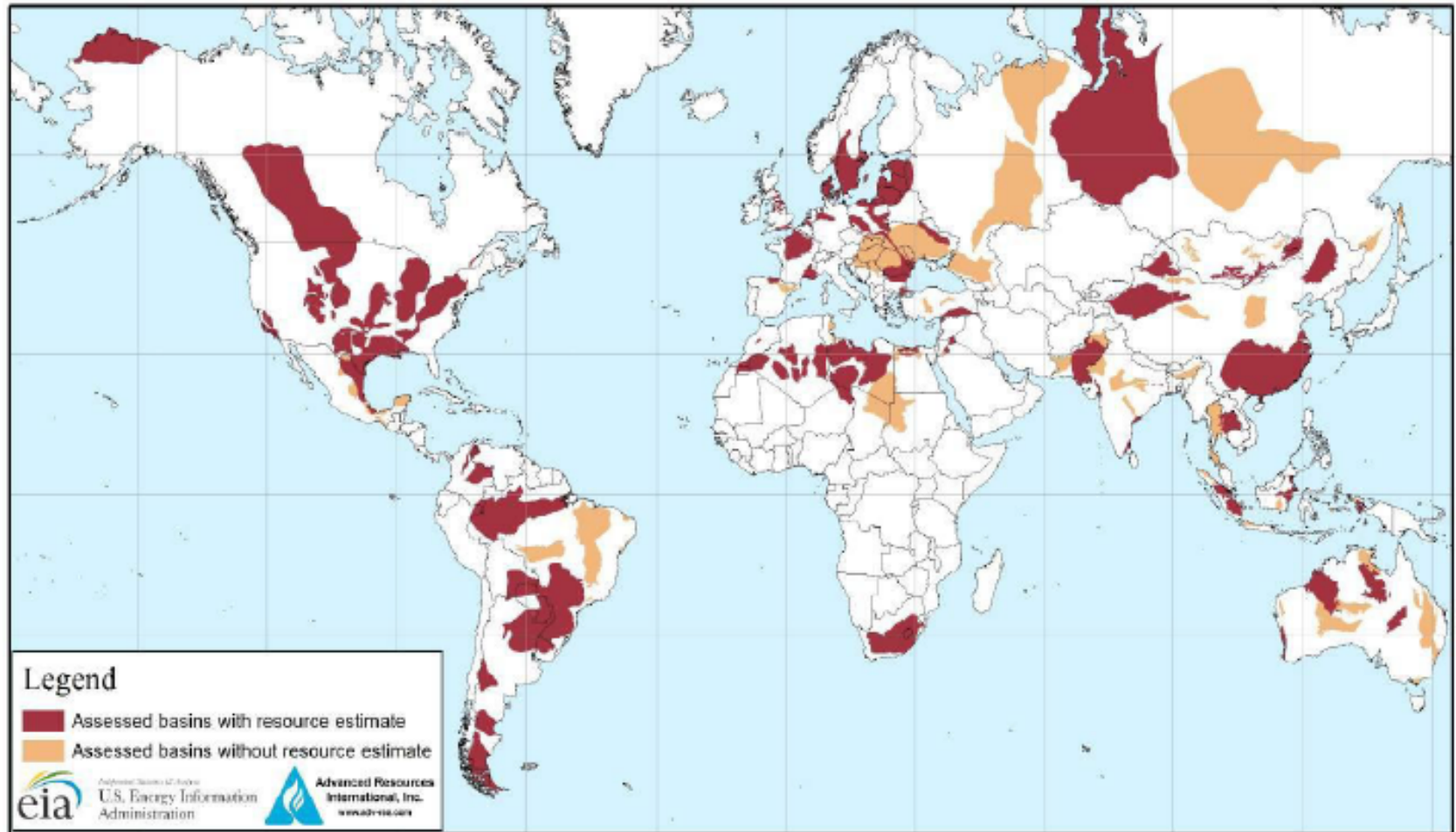
OPEC's New Revelation: There is No Minister of Shale!

Crude Oil U.S. Imports from OPEC Countries (000 Barrels)



Shale oil and gas have the potential to dramatically alter world energy markets

map of basins with assessed shale oil and gas formations, as of May 2013



Source: United States: EIA and USGS; Other basins: ARI



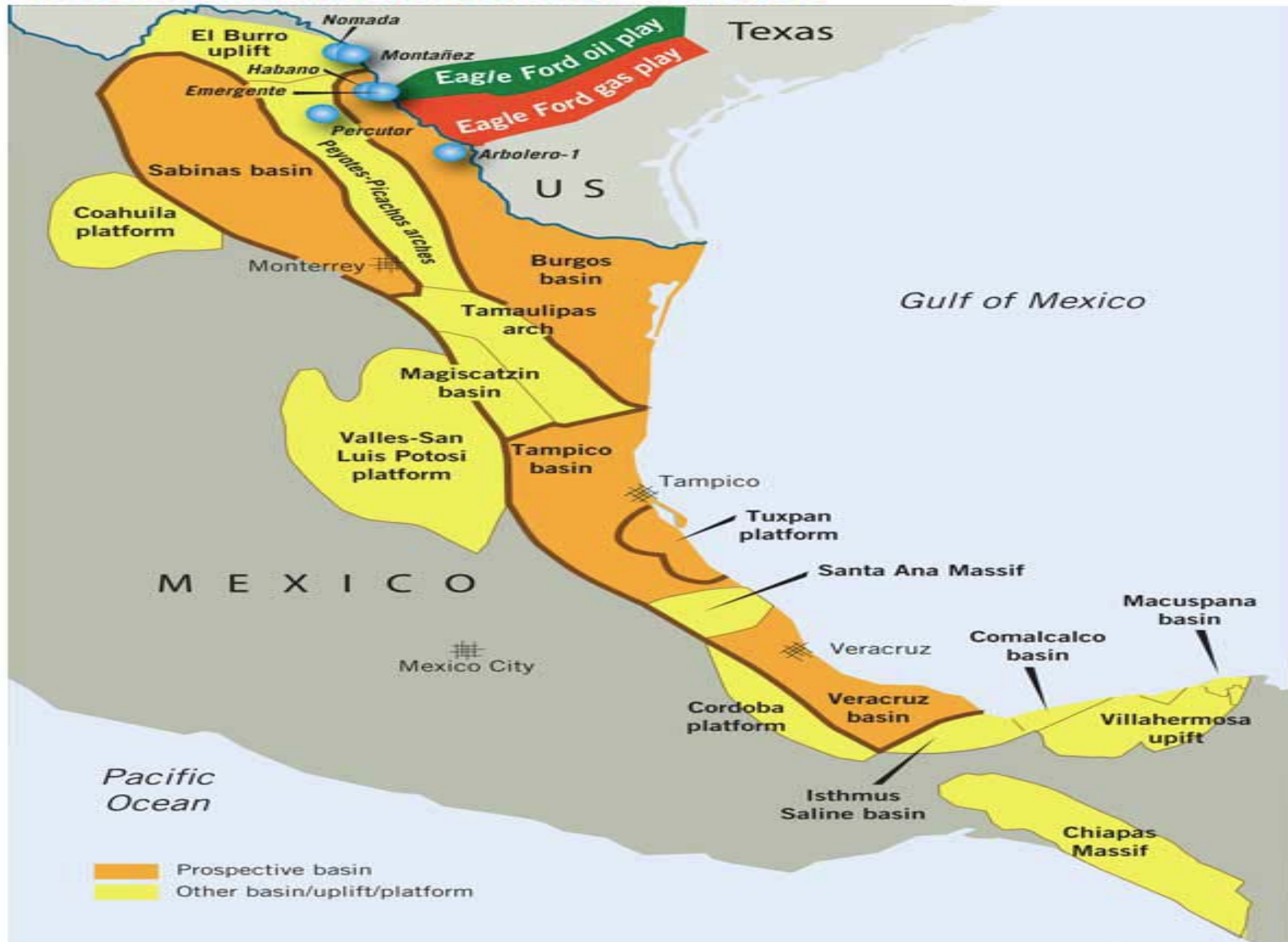
Economic Impact and Legal Analysis
of the Shale Oil and Gas Activities in

México

Preliminary Report



PROSPECTIVE SHALE BASINS OF EASTERN MEXICO



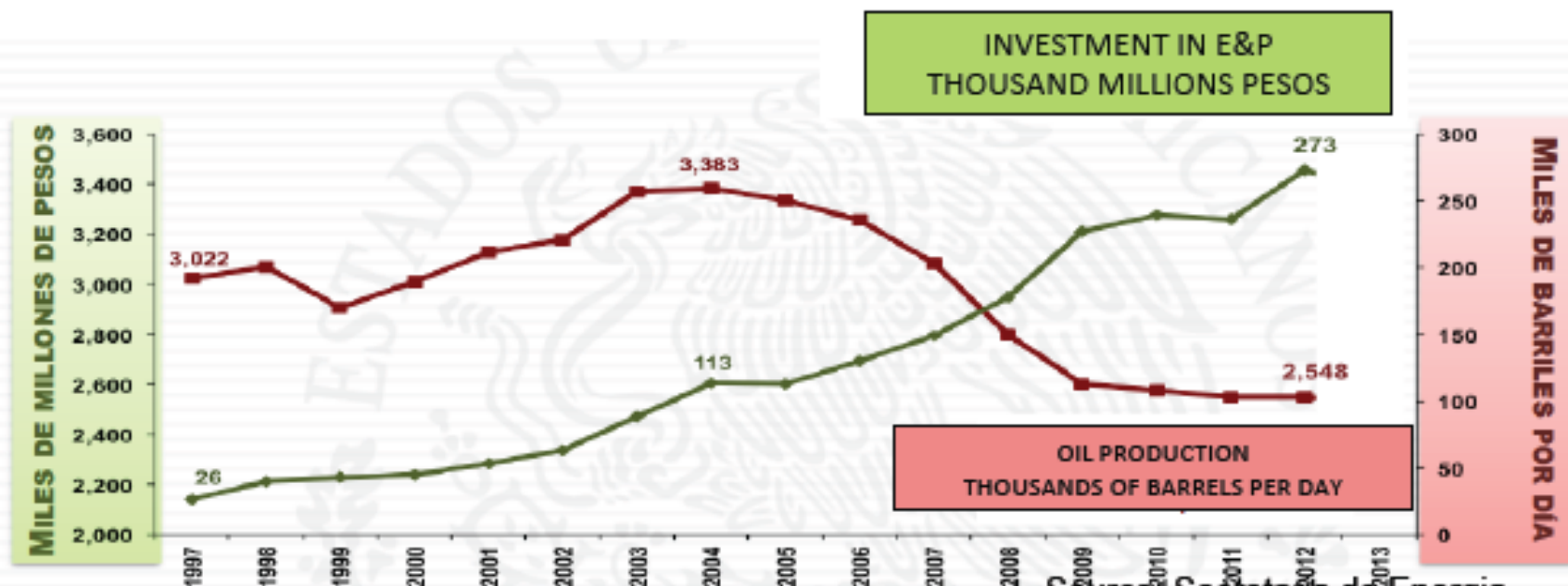




MEXICO'S ECONOMY AND HYDROCARBONS

Hydrocarbons represented 34% of the Federal budget.

- More investment
- Declining production
- Growing demand

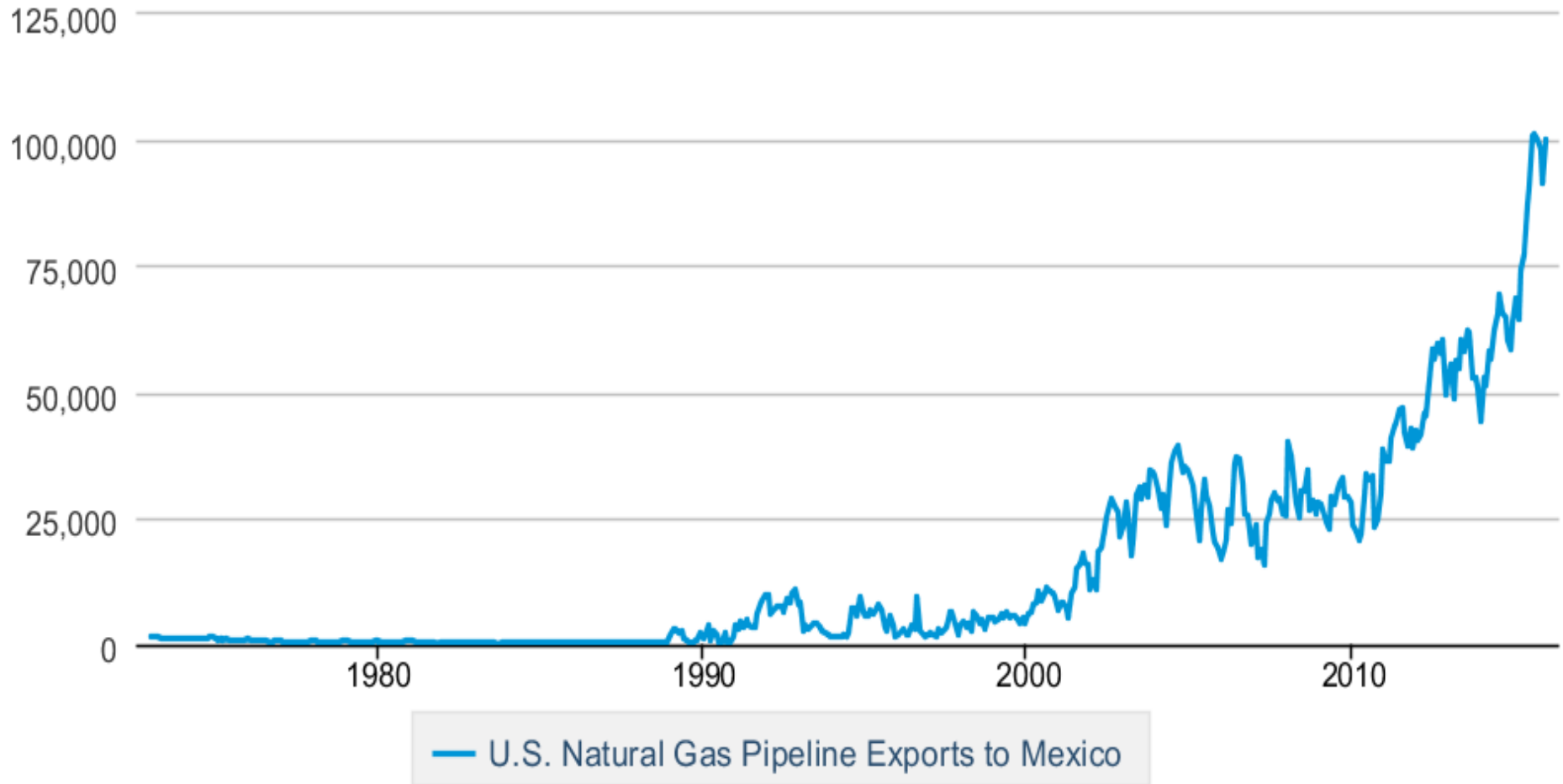


Source: Secretaria de Energia

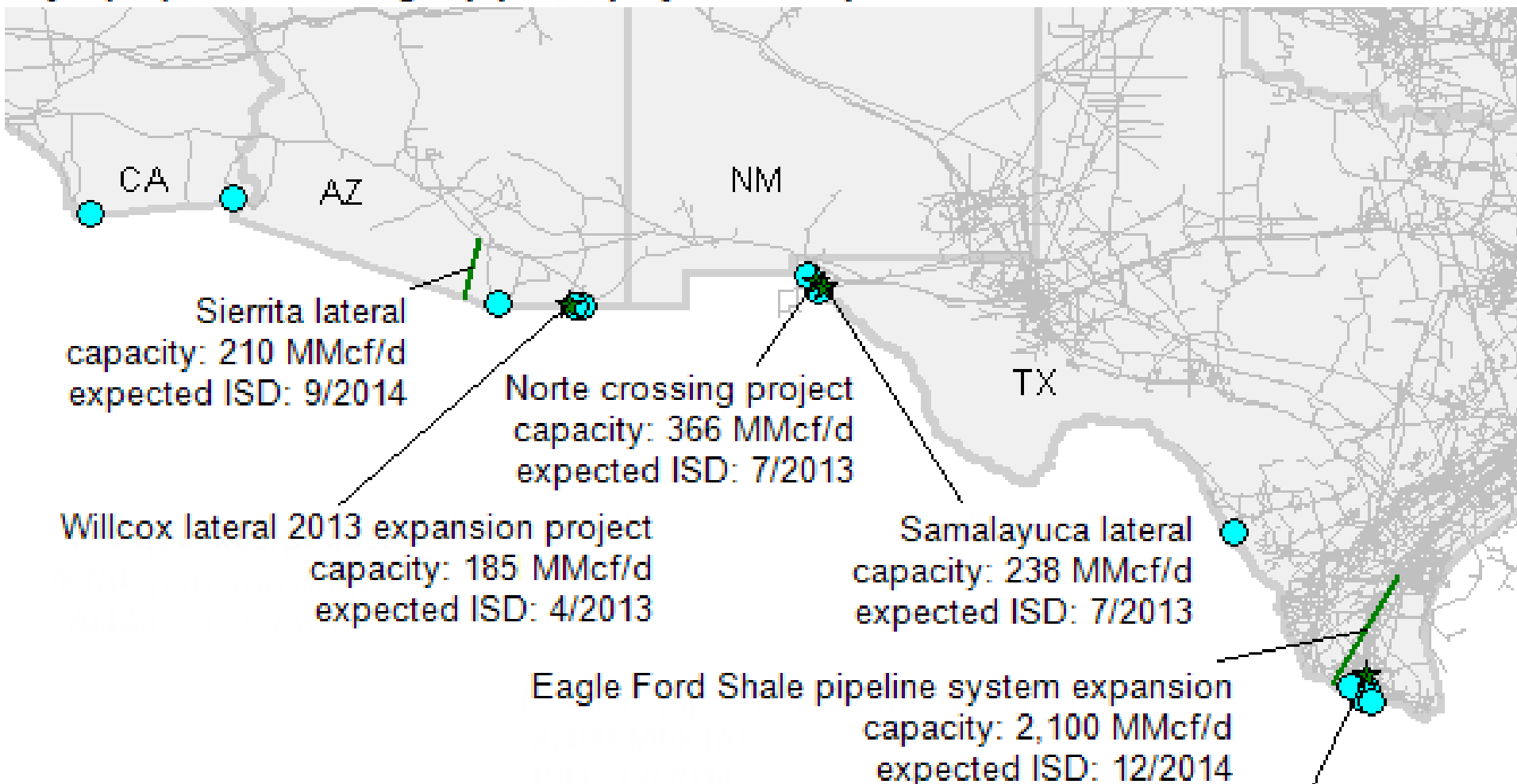
U.S. Natural Gas Pipeline Exports to Mexico

2013 – 660 billion cf
2014 – 730 billion cf
2015 – >1 trillion cf

Million Cubic Feet



Major proposed natural gas pipeline projects for exports to Mexico

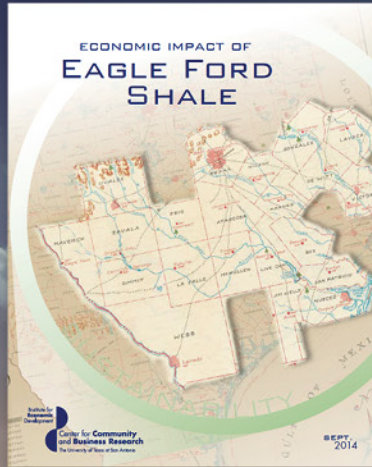


Legend

- ★ natural gas export projects less than 50 miles
- natural gas export projects greater than 50 miles
- natural gas export points of exit
- existing natural gas pipelines

ISD = in-service date

Implications of Mexican Energy Reform



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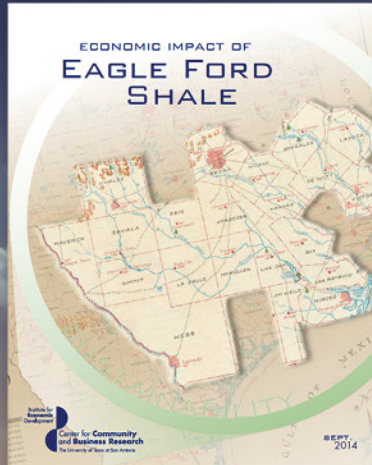
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- **New exploration, drilling and operational economic impact**
- **Related midstream development (pipeline and storage) impact**
- **Results of rulemaking process**
- **Infrastructure issues**
- **Security issues**
- **Workforce needs**
- **Doing business with PEMEX**

How Is Energy Reform Likely to Proceed in Mexico?



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- PEMEX will focus on **conventional and deep water** opportunities
- Initial private company E&P efforts will be focused on **shale oil opportunities**
- **Wider availability of geological information** in Northern Mexico will be important to private E&P efforts
- **Natural gas pipeline infrastructure** in Mexico will be built out before gas production begins
- **Mexico-U.S. (Texas) partnership** opportunities will abound
- Opportunities for support services (**temporary housing, food service, trucking, welding, etc.**) will be significant

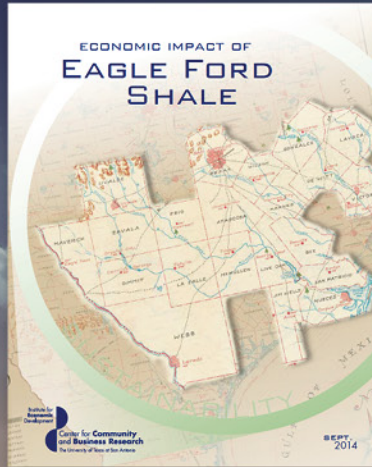
ECONOMIC IMPACT
STUDY

ONLINE PLATFORM
CONNECT B2B WITHIN
ENERGY SECTOR IN
MEXICO AND TEXAS

LEGAL ANALYSIS

BUSINESS ROADMAP
ON HOW TO DO
BUSINESS IN THE
ENERGY SECTOR

Total Economic Output Impact in 2013 21-County Study Region



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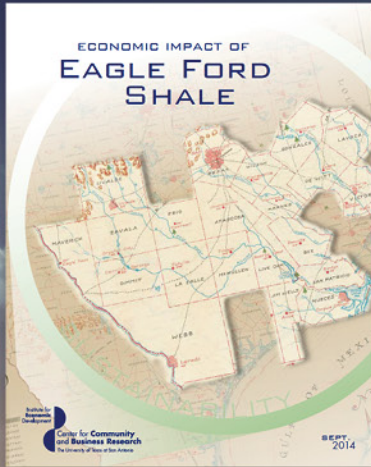
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- Over **\$87 billion** in economic output (up from \$61B in 2012 and \$25B in 2011)
- Over **154,000** full-time jobs supported (up from 116,000 in 2012 and 47,097 in 2011)
- Over **\$5.6 billion** in salaries and benefits paid to workers (up from \$4.7B in 2012 and \$3.1B in 2011)
- Over **\$42 billion** in gross regional product (up from \$28B in 2012 and \$12.63B in 2011)
- Over **\$2.2 billion** in state revenues (up from \$1.2B in 2012 and \$358 million in 2011)
- Over **\$2.2 billion** in local government revenues (up from \$1B in 2012 and \$257 million in 2011)

Moderate Scenario Estimated Combined Impacts for 2023 (21-County Area)



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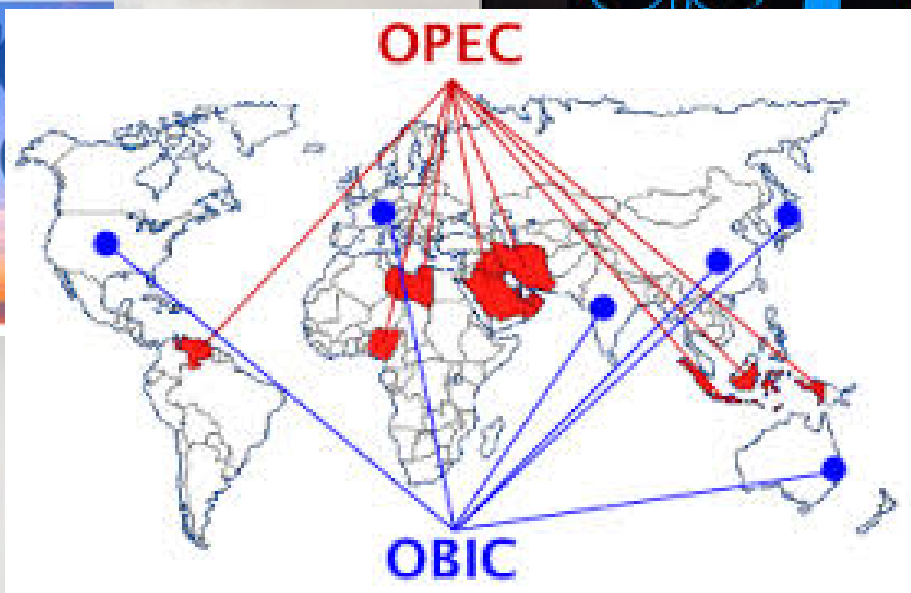
- More than **\$137 billion** in total economic output
(at \$65/bbl: **\$48-68 billion**)
- **196,660** full-time jobs supported
(at \$65/bbl: **72,000-101,000** full-time jobs supported)
- **\$12 billion** in salaries and benefits paid
- **\$72 billion** in gross regional product
- **\$4 billion** in state revenues
- **\$4 billion** in local government revenues

Changchun, Northeast China – August 2013





Organization of the
Petroleum Exporting Countries



OPEC
ORGANIZATION OF
PETROLEUM
EXPORTING
COUNTRIES



Wireframe glimpse of the Shah Deniz 2 platforms in Azerbaijan

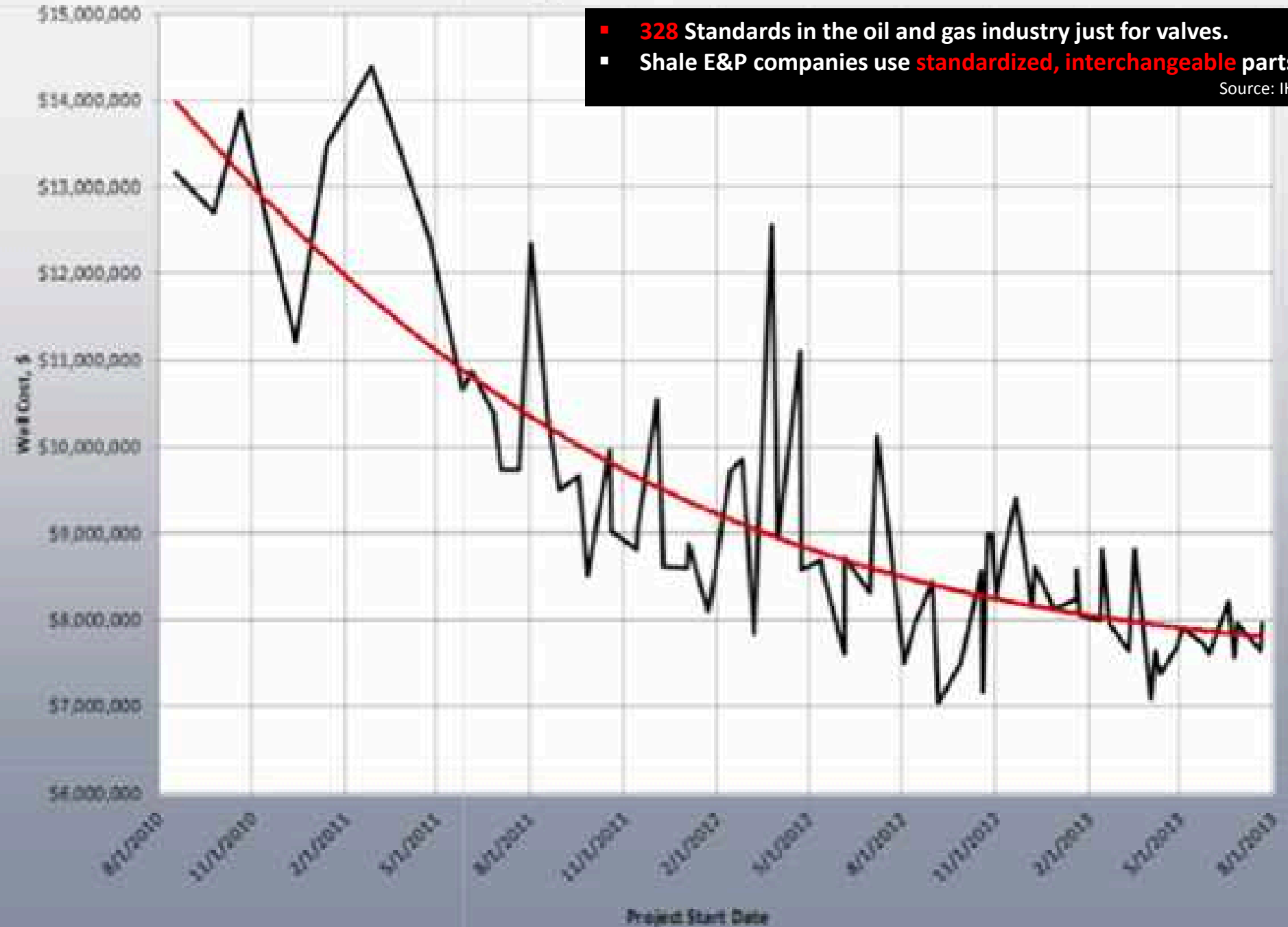




Eagle Ford Well Costs

- 328 Standards in the oil and gas industry just for valves.
- Shale E&P companies use **standardized, interchangeable** parts.

Source: IHS





CAUTION

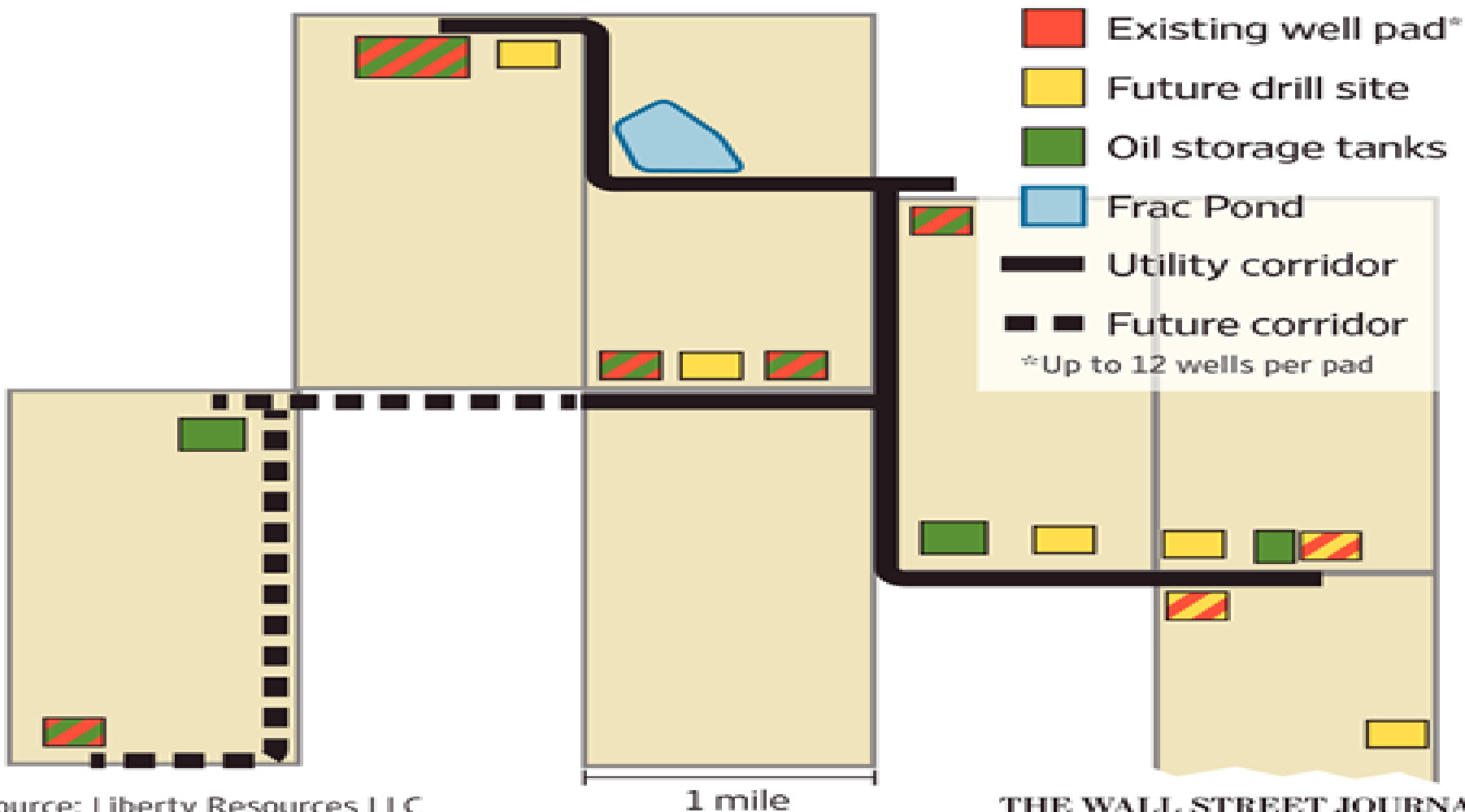
ARE YOUR ELEVATORS
LATCHED AROUND
YOUR DRILL PIPE?
PATTERSON

Building an Oil Factory

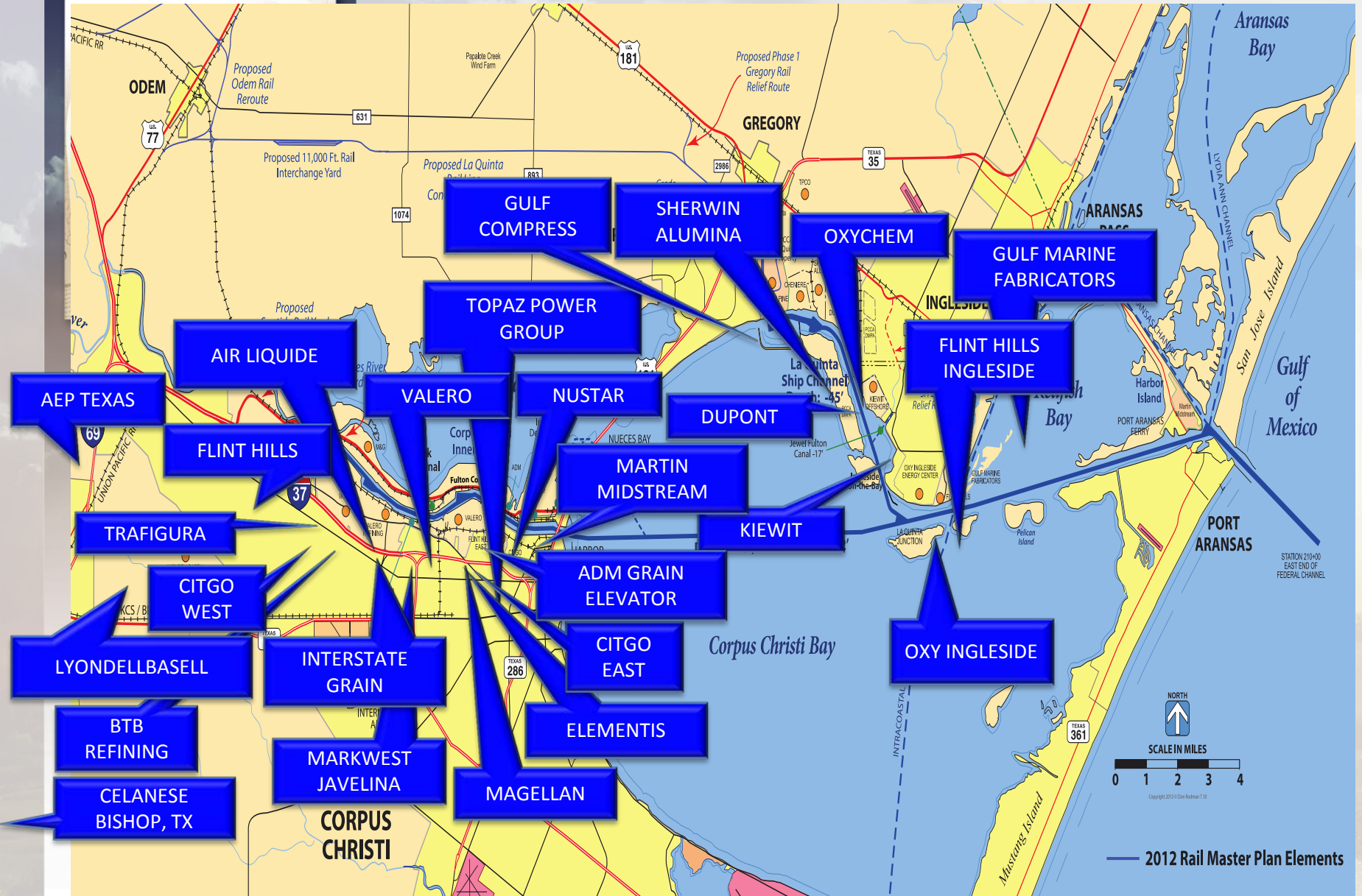
Instead of drilling wells on an ad hoc basis, Liberty Resources is developing a 96-well North Dakota development called Stomping Horse in a methodical manner to reduce costs. The company has built a "utility corridor" that connects and services the well pads, reducing the need for heavy truck traffic and long runs of pipeline to isolated units.



- ◆ **A network** of 16-inch pipe will collect the natural gas for sale; a 6.5-inch oil pipeline will gather the oil.
- ◆ **Natural gas** will also be captured and piped around the project to power drilling rigs and other equipment.
- ◆ **Water for hydraulic-fracturing** operations in the 96 wells will come from a single "frac pond" connected by pipeline to the well pads.
- ◆ **A saltwater disposal** well will take wastewater via pipeline from oil-extraction operations.



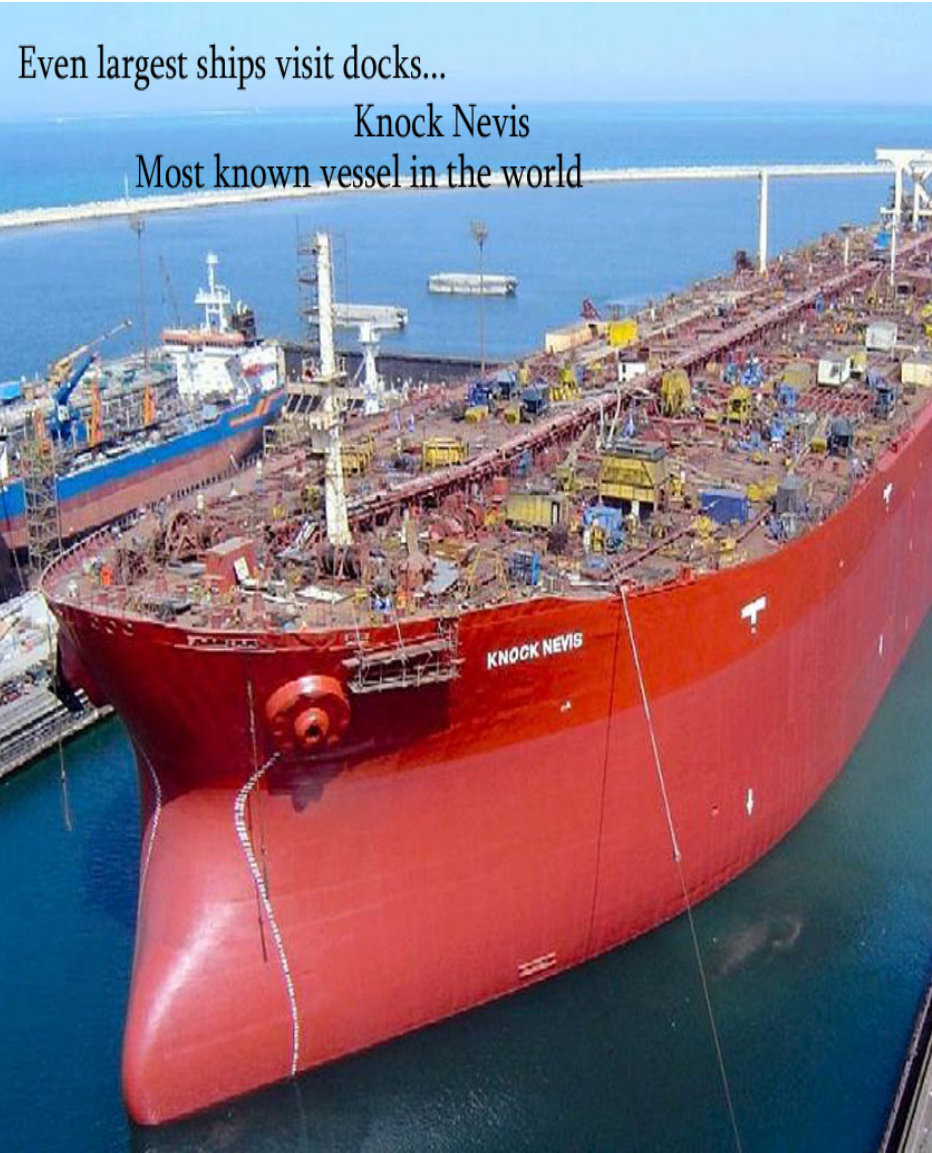
Port of Corpus Christi TODAY



Why Do We Have a Global Oil Market?

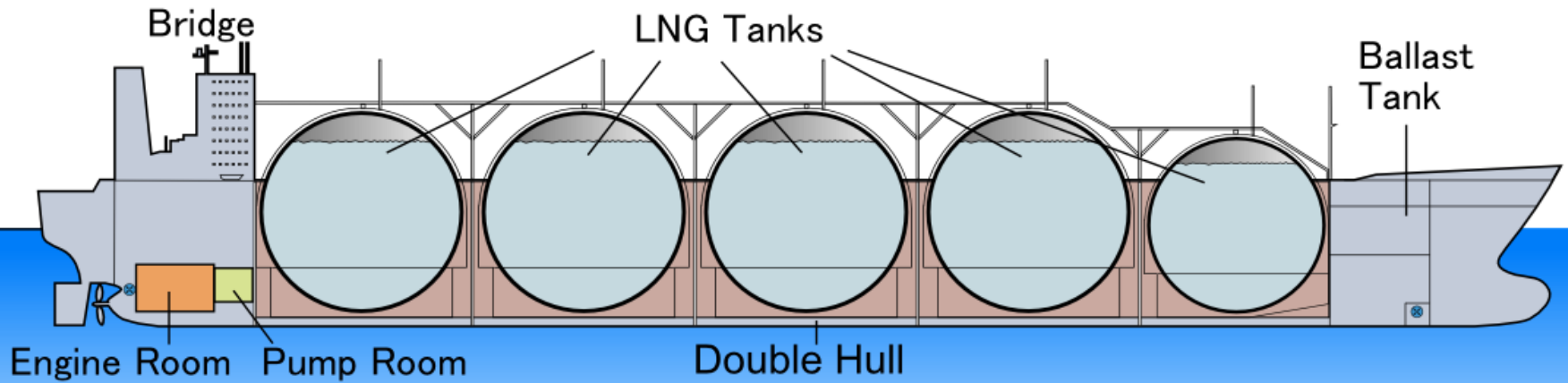
Even largest ships visit docks...

Knock Nevis
Most known vessel in the world



The Shape of Things to Come

LNG tanker (side view)

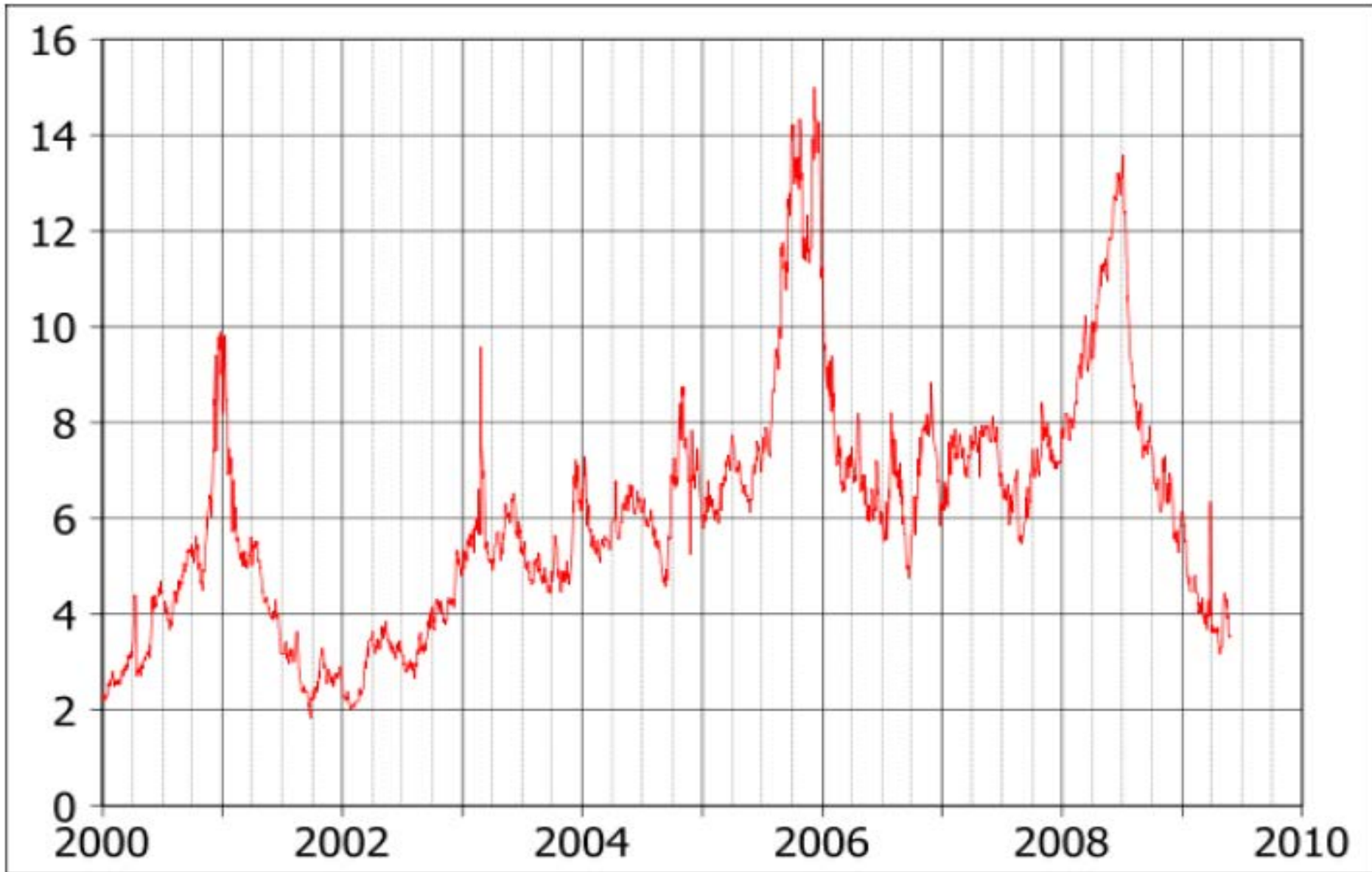


Gasoline vs. Natural Gas

- **Approximately 115,000 conventional gasoline stations in the U.S.**
- **Approximately 16,000 conventional gasoline stations in Texas**
- **Approximately 1550 CNG fueling stations in the U.S.**
- **Approximately 120 CNG fueling stations in Texas**

Historic Natural Gas Price Volatility Has Subsided

(Henry Hub)



Factors That Are Driving Natural Gas Demand

- **Input to Electric Generation Power Plants**
- **Feedstock for Manufacturers Facilities**
 - (Chemicals, Plastics, Fertilizers, Steel, etc.)
- **Conversion of Local Fleets to CNG Vehicles**
- **LNG Export**

There's no chance that the iPhone is going to get any significant market share. No chance



Microsoft CEO Steve Ballmer, 2007.

NOT THERE YET

Notable past predictions of peak oil that didn't turn out

1885 The state geologist of Pennsylvania warns that the “amazing exhibition of oil” is only a “temporary and vanishing phenomenon.” And John Archbold, John D. Rockefeller’s partner in Standard Oil, sells some company shares at a discount, fearing that oil will run out.



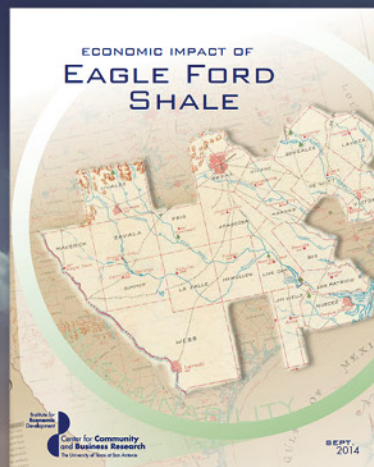
2005 Energy tycoon T. Boone Pickens tells a conference of alternative-fuel advocates:



"Global oil [production] is 84 million barrels [per day]. I don't believe you can get it any more than 84 million barrels. I don't care what

Abdullah, Putin or anybody else says about oil reserves or production. I think they are on decline in the biggest oil fields in the world today."

> In 2013, global oil production will top 90 million barrels a day.



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Oil Price Prediction Hall of Fame

Why Oil Prices Won't Fall Below \$100 a Barrel

Chad Shoop, The Sovereign Investor Daily - September 1, 2014

Oil won't drop below \$100 in 2014, Iran says

Mohsen Qamsari, director for international affairs at the National Iranian Oil Company – May 24, 2014

Oil prices won't fall below \$100

Petroleum Policy Intelligence – July 23, 2012

OPEC Won't Let Crude Oil Fall Below \$100

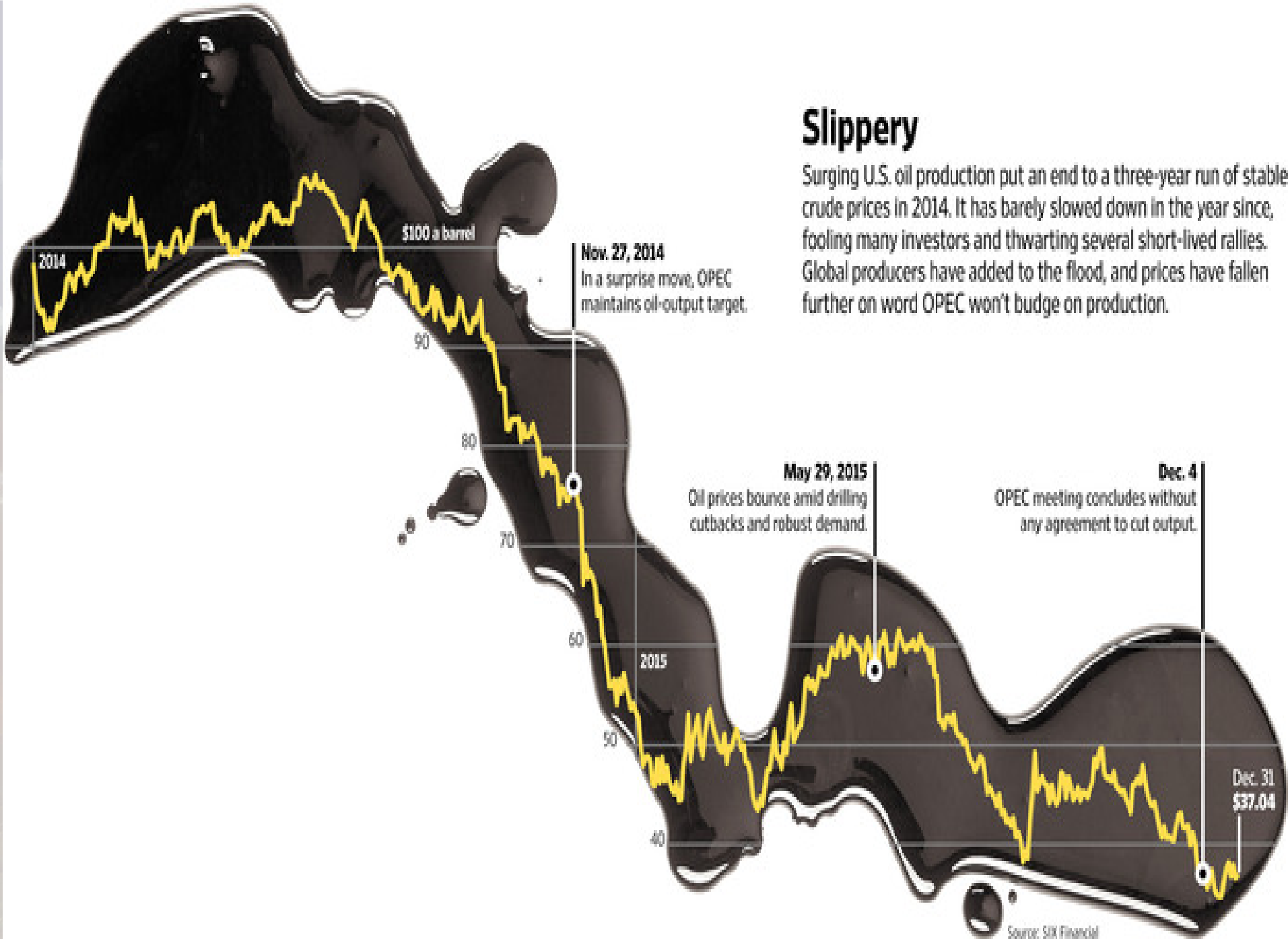
Rafael Correa, President of Ecuador – September 27, 2008

Oil prices won't drop below \$100

Yusuf bin Ahmed Kanoo group managing director Khalid Mohammed Kanoo – May 27, 2008

Pickens says oil won't go below \$100

August 14, 2008

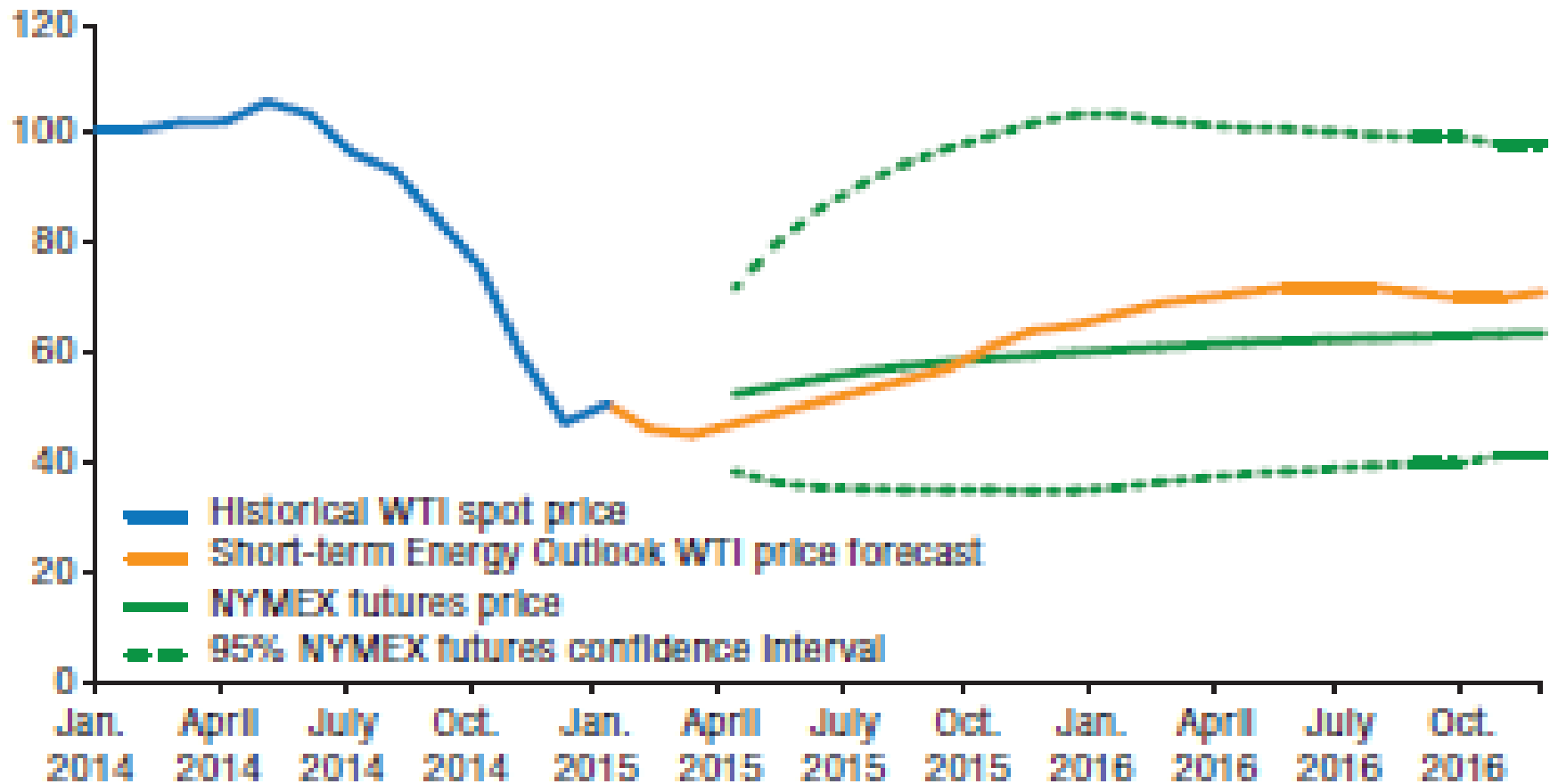


Source: SIX Financial
THE WALL STREET JOURNAL.

Chart 5

Prices Expected to Increase by 2016

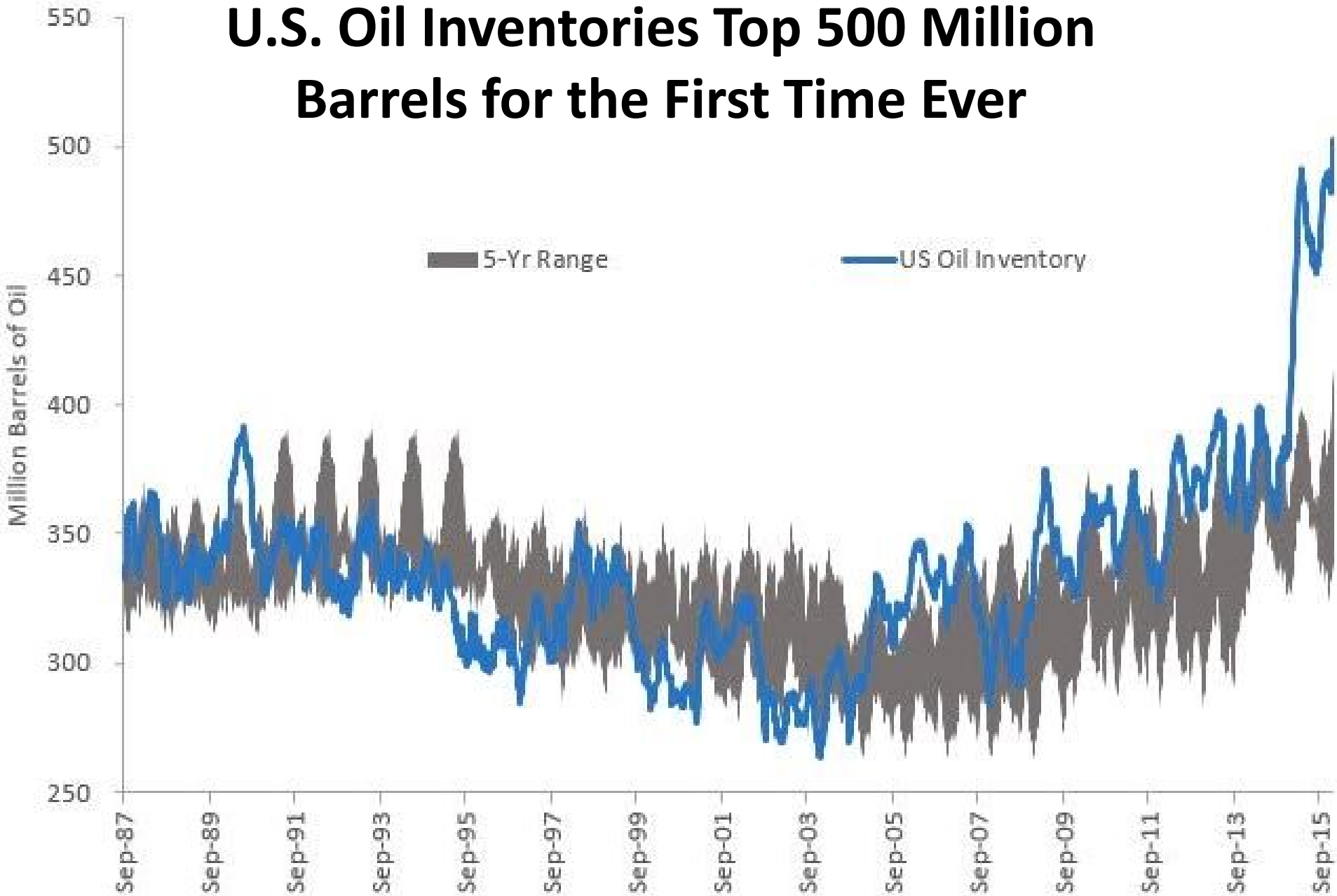
Dollars per barrel



NOTE: WTI is West Texas Intermediate crude oil. NYMEX refers to the price previously pegged to the New York Mercantile Exchange.

SOURCE: U.S. Energy Information Administration.

U.S. Oil Inventories Top 500 Million Barrels for the First Time Ever



The Second Act in Oil Market Rebalancing

Clearing inventories accumulated since 2014 could take until next decade



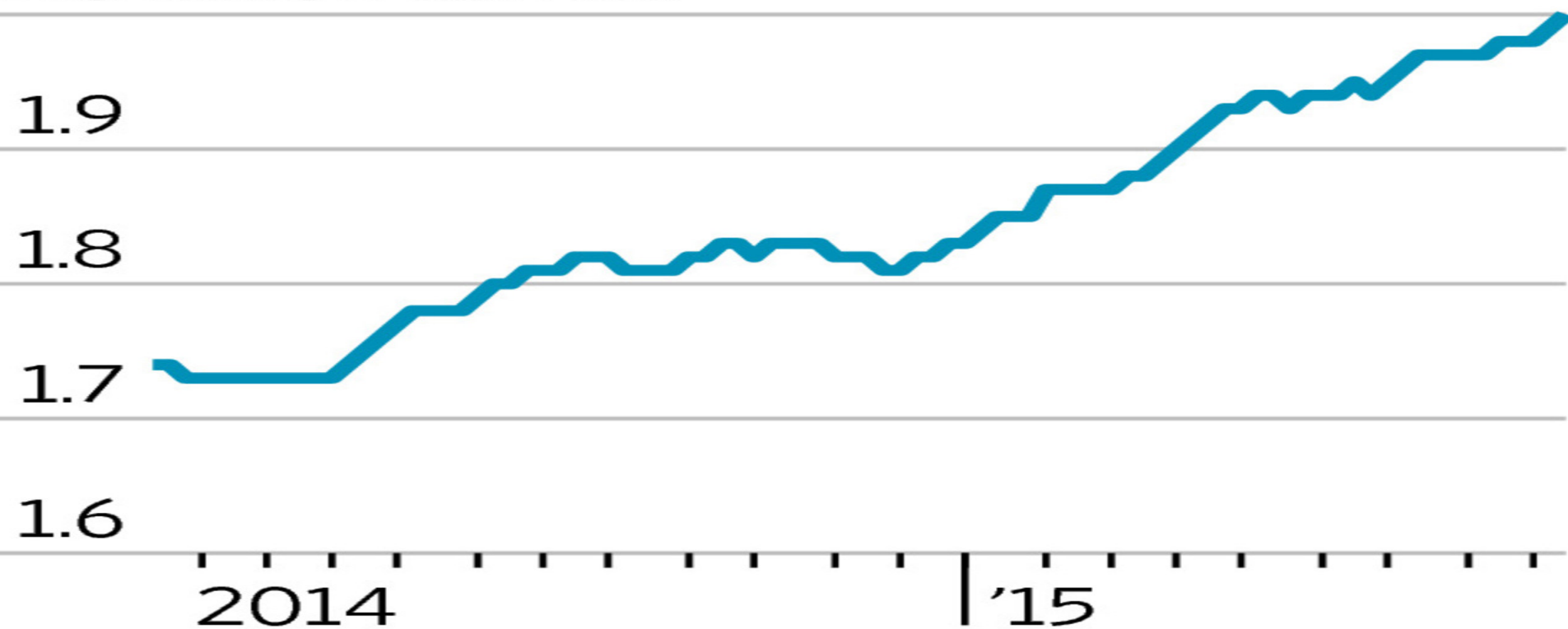
Source: International Energy Agency

Bloomberg 

Fill'er Up

U.S. inventories of crude and refined products

2.0 billion barrels



Source: Energy Information Administration

THE WALL STREET JOURNAL.

The Next Glut

Oil inventories in developed nations already at record 3 billion barrels



Source: International Energy Agency

Bloomberg 

COMPLETE LIST OF NORTH AMERICAN BANKRUPTCIES 2015

E&P

	FILING DATE	COURT	CASE NUMBER	DEBTOR	SECURED	UNSECURED	TOTAL
1	1/3/2015	W.D. TEX.	15-10004	WBH ENERGY PARTNERS	\$ 48,947,377.62	\$ 3,275.00	\$ 48,950,652.62
2	2/20/2015	CANADA		IVANHOE ENERGY INC.	\$ 17,236,442.95	\$ 60,218,069.25	\$ 77,454,512.21
3	3/8/2015	W.D. TEX.	15-10336	DUNE ENERGY INC.	\$ 107,981,306.07	\$ -	\$ 107,981,306.07
4	3/9/2015	S.D. TEX.	15-60016	BPZ RESOURCES, INC.	\$ -	\$ 238,571,858.05	\$ 238,571,858.05
5	3/17/2015	D. DEL.	15-10585	QUICKSILVER RESOURCES	\$ 1,098,174,135.00	\$ 976,022,953.04	\$ 2,074,197,088.04
6	3/30/2015	CANADA		LARICINA ENERGY	\$ 122,113,986.46	\$ 11,261,947.01	\$ 133,375,933.47
7	4/13/2015	CANADA		**SHORELINE ENERGY	\$ -	\$ 17,388,039.52	\$ 17,388,039.52
8	4/30/2015	N.D. TEX.	15-31858	ERG RESOURCES, LLC	\$ 400,000,000.00	\$ 1,624,304.00	\$ 401,624,304.00
9	5/8/2015	COLO.	15-15073	AMERICAN EAGLE ENERGY CORP.	\$ 181,517,589.33	\$ 12,086,524.22	\$ 193,604,113.55
10	5/15/2015	N.D. TEX.	15-41961	DUER WAGNER OIL & GAS	\$ 120,071,039.11	\$ 2,171,700.32	\$ 122,242,739.43
11	5/21/2015	COLO.	15-15610	SUN RIVER ENERGY	\$ 10,412,000.00	\$ 1,240,160.00	\$ 11,652,160.00
12	6/3/2015	W.D. TEX.	15-51396	PRIMERA ENERGY	\$ 975,082.31	\$ 6,226,930.80	\$ 7,202,013.11
13	6/18/2015	W.D. LA.	15-50748	SARATOGA RESOURCES (HARVEST OIL & GAS)	\$ 199,207,911.48	\$ 6,872,096.64	\$ 206,080,008.12
14	7/8/2015	COLO.	15-17608	***SEFTON RESOURCES	\$ -	\$ -	\$ -
15	7/10/2015	W.D. TEX.	15-70098	ARABELLA PETROLEUM	\$ -	\$ 18,225,398.06	\$ 18,225,398.06
16	7/15/2015	D. DEL.	15-11520	MILAGRO OIL & GAS, INC.	\$ 417,508,106.16	\$ 655,226,617.00	\$ 1,072,734,723.16
17	7/15/2015	S.D.N.Y.	15-11835	SABINE OIL & GAS	\$ 1,659,821,675.00	\$ 1,201,384,671.27	\$ 2,861,206,346.27
18	8/3/2015	W.D. TEX.	15-70104	AMERICAN STANDARD ENERGY CORP. A DELAWARE CORP.	\$ 38,363,937.99	\$ 136,000.00	\$ 38,499,937.99
19	8/6/2015	S.D. TEX.	15-34221	LUCA INTERNATIONAL GROUP LLC	\$ 16,331.26	\$ 2,828,437.18	\$ 2,844,768.44
20	8/10/2015	W.D. LA.	15-50986	SAMCO OIL, LLC	\$ 536,189.71	\$ 393,315.25	\$ 929,504.96
21	8/11/2015	S.D. TEX.	15-34287	BLACK ELK ENERGY OFFSHORE	\$ 68,567,000.00	\$ 76,166,488.88	\$ 144,733,488.88
22	8/14/2015	CANADA		**WALDRON ENERGY	\$ 5,818,501.13	\$ -	\$ 5,818,501.13
23	8/25/2015	CANADA		WINDFIRE RESOURCES	\$ 667,954.89	\$ 601,421.54	\$ 1,269,376.43
24	8/28/2015	N.D. TEX.	15-33460	SABLE OPERATING COMPANY	\$ 13,522,258.05	\$ 3,014,953.69	\$ 16,537,211.74
25	8/28/2015	CANADA		**COGI LIMITED PARTNERSHIP	\$ 25,480,464.96	\$ -	\$ 25,480,464.96
26	8/31/2015	E.D. LA.	15-12229	AMERICAN NATURAL ENERGY CORPORATION	\$ 3,663,925.01	\$ 19,047,525.30	\$ 22,711,450.31
27	8/31/2015	E.D. TEX.	15-41561	ARMADA OIL INC.	\$ 1,265,351.87	\$ 1,840,991.94	\$ 3,106,343.81
28	9/1/2015	D. MASS	15-13441	BUCKINGHAM OIL INTERESTS, INC.	\$ 2,963,267.07	\$ 615,008.88	\$ 3,578,275.95
29	9/2/2015	E.D. TEX.	15-41607	CONTINENTAL EXPLORATION, LLC	\$ 1,692,770.12	\$ 2,646,979.55	\$ 4,339,749.67
30	9/16/2015	D. DEL.	15-11934	SAMSON RESOURCES CORPORATION	\$ 1,953,122,364.15	\$ 2,378,653,125.00	\$ 4,331,775,489.15
31	10/1/2015	ALASKA	15-00236	MILLER ENERGY RESOURCES, INC.	\$ 192,725,976.00	\$ 22,821,740.56	\$ 215,547,716.56
32	10/22/2015	N.D. TEX.	15-34245	AIX ENERGY INC.	\$ 23,097,666.67	\$ 11,733,596.08	\$ 34,831,262.75
33	10/26/2015	S.D. TEX.	15-35615	RAAM GLOBAL ENERGY COMPANY	\$ 304,135,336.00	\$ -	\$ 304,135,336.00
34	10/31/2015	W.D. TEX.	15-52637	REPUBLIC RESOURCES, LLC	\$ 725,844.61	\$ 10,489,383.83	\$ 11,215,228.44
35	11/5/2015	D. COLO.	15-22395	ESCALERA RESOURCES CO.	\$ 39,575,049.63	\$ 3,306,459.33	\$ 42,881,508.96
36	11/9/2015	D. DEL.	15-12263	PARALLEL ENERGY LP	\$ 163,522,337.10	\$ 5,425,930.86	\$ 168,948,267.96
37	12/7/2015	N.D. TEX.	15-44931	*ENERGY & EXPLORATION PARTNERS, INC.	\$ 765,300,000.00	\$ 439,345,134.00	\$ 1,204,645,134.00
38	12/8/2015	N.D. TEX.	15-34956	TRANSOCEANIC CORPORATION	\$ 21,506,821.00	\$ 481,150.00	\$ 21,987,971.00
39	12/11/2015	D. DEL.	15-12500	*CUBIC ENERGY, INC.	\$ 126,400,000.00	\$ -	\$ 126,400,000.00
40	12/15/2015	D. DEL.	15-12533	*MAGNUM HUNTER RESOURCES CORPORATION	\$ 419,800,000.00	\$ 600,000,000.00	\$ 1,019,800,000.00
41	12/17/2015	D. DEL.	15-12566	*NEW GULF RESOURCES, LLC	\$ 403,000,000.00	\$ 172,000,000.00	\$ 575,000,000.00
42	12/31/2015	D. DEL.	15-12670	*SWIFT ENERGY COMPANY	\$ 330,000,000.00	\$ 955,100,000.00	\$ 1,285,100,000.00
	TOTAL				\$ 9,289,435,998.72	\$ 7,915,172,186.05	\$ 17,204,608,184.77

*Debt estimated per First Day Declarations; schedules not yet available

**Schedule of assets and liabilities pending; debts estimated from other filings

***Involuntary chapter 7 filing; subsequently dismissed

(As of January 6, 2016)

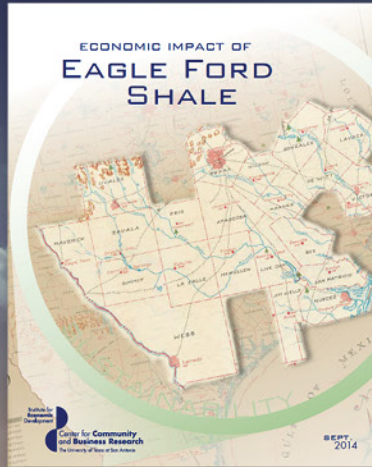
NORTH AMERICAN MIDDLE-MARKET OILFIELD SERVICES BANKRUPTCIES IN 2015

FILING DATE	COURT	CASE NUMBER	DEBTOR	SECURED	UNSECURED	TOTAL	
1	1/15/2015	WD TEXAS	15-50161	GASFRAC ENERGY SERVICES, INC. **	\$ 24,872,458	\$ 47,340,907	\$ 72,213,365
2	2/5/2015	SD TEXAS	15-30786	CALMENA ENERGY SERVICES, INC.**	\$ 16,508,671	\$ 0	\$ 16,508,671
3	2/6/2015	WD PENN	15-20390	NORTH SHORE ENERGY SERVICES, LLC	\$ 45,000	\$ 1,429,550	\$ 1,474,550
4	2/19/2015	CANADA		LEADER ENERGY SERVICES**	\$ 9,379,927	\$ 8,384,929	\$ 17,764,857
5	3/3/2015	DELAWARE	1:15-BK-10458	CAL DIVE INTERNATIONAL, INC.	\$ 199,800,000	\$ 111,539,932	\$ 311,339,932
6	3/4/2015	SD TEXAS	15-70116	SUMMIT WELL SERVICES, LLC	\$ 1,286,368	\$ 425,916	\$ 1,712,284
7	4/30/2015	NEW MEX.	15-11137	HORIZON WELL SERVICES, LLC	\$ 2,912,058	\$ 1,266,464	\$ 4,178,523
8	5/17/2015	ND TEXAS	4:15-BK-41974	FRAC SPECIALISTS, LLC	\$ 39,110,986	\$ 7,597,925	\$ 46,708,911
9	5/18/2015	WD OKLAHOMA	15-11872	LONESTAR GEOPHYSICAL SURVEYS, LLC **	\$ 0	\$ 13,400,000	\$ 13,400,000
10	6/8/2015	CANADA		BIG EAGLE HYDRO-VAC, INC.	\$ 39,048,721	\$ 2,380,969	\$ 41,429,691
11	6/10/2015	WD TEXAS	15-70082	2 D'S OILFIELD SERVICES, INC.	\$ 2,291,570	\$ 819,279	\$ 3,110,850
12	6/11/2015	CANADA		HC PIPER MANUFACTURING, INC.**	\$ 2,218,286	\$ 805,014	\$ 3,023,300
13	6/12/2015	ND TEX	15-42370	ALL OUT ENERGY SERVICES, LLC	\$ 1,556,713	\$ 141,018	\$ 1,697,731
14	6/19/2015	DELAWARE	15-11326	CITADEL ENERGY SERVICES, LLC	\$ 149,718	\$ 3,251,848	\$ 3,401,566
15	6/21/2015	SD TEXAS	15-20241	TANK 1 SERVICES, LLC	\$ 3,969,381	\$ 2,255,206	\$ 6,224,588
16	7/17/2015	CANADA		TORRAC OILFIELD SERVICES, LTD.**	\$ 0	\$ 4,610,478	\$ 4,610,478
17	8/13/2015	DELAWARE	15-11685	HERCULES OFFSHORE, INC.**	\$ 0	\$ 1,306,971,541	\$ 1,306,971,541
18	8/18/2015	CANADA		AQUA-PURE VENTURES, INC.**	\$ 10,739,685	\$ 198,722	\$ 10,938,408
19	8/27/2015	WD TEXAS	5:15-BK-52071	FOURWINDS LOGISTICS A/K/A FWLL, LLC***	\$ 0	\$ 5,516,046	\$ 5,516,046
20	9/1/2015	WD TEXAS	5:15-BK-52159	JM OILFIELD SERVICES, INC. ***	\$ 14,260,489	\$ 6,558,349	\$ 20,818,838
21	9/7/2015	SD TEXAS	4:15-BK-34736	DIVERSE ENERGY SYSTEMS, LLC	\$ 18,848,378	\$ 29,915,797	\$ 48,764,175
22	9/18/2015	SD TEXAS	6:15-BK-60070	HII TECHNOLOGIES, INC.	\$ 14,654,006	\$ 4,332,870	\$ 18,986,876
23	9/18/2015	WD TEXAS	5:15-BK-52267	BMC OILFIELD SUPPLY, LLC***	\$ 0	\$ 2,201,358	\$ 2,201,358
24	9/18/2015	WD TEXAS	5:15-BK-52270	NEW VOYAGE ENTERPRISES, LLC***	\$ 0	\$ 511,780	\$ 511,780
25	9/21/2015	WD LOUISIANA	5:15-BK-11758	ELITE COIL TUBING SOLUTIONS, LLC***	\$ 12,000,000	\$ 11,402,567	\$ 23,402,567
26	9/25/2015	SD TEXAS	15-35003	ENERGY OILFIELD SERVICES, LLC***	\$ 3,260,142	\$ 1,586,326	\$ 4,846,468
27	10/2/2015	CANADA		GROUNDFORCE GEODRILLING SOLUTIONS, INC.**	\$ 10,110,076	\$ 7,014,059	\$ 17,124,135
28	10/12/2015	WD TEXAS	15-70136	TRINITY ENVIRONMENTAL SERVICES, LLC	\$ 186,468,225	\$ 726,624	\$ 187,194,850
29	10/16/2015	WD LOUISIANA	4:15-BK-51336	A&B VALVE AND PIPING SYSTEMS, LLC	\$ 13,396,849	\$ 17,072,484	\$ 30,469,334
30	10/20/2015	SD TEXAS	15-35530	BLUEWATER INDUSTRIES LP***	\$ 0	\$ 133,281,713	\$ 133,281,713
31	10/23/2015	COLORADO	15-21821	ENSECO ENERGY SERVICES CORP.**	\$ 11,855,648	\$ 2,134,465	\$ 13,990,114
32	11/9/2015	WD PENN	15-70766	SOMERSET REGIONAL WATER RESOURCES, LLC	\$ 24,132,148	\$ 11,690,898	\$ 35,823,046
33	11/24/2015	WD TEXAS	15-70162	ANIMAS WELL SERVICES, LLC	\$ 5,056,648	\$ 1,562,558	\$ 6,619,206
34	11/24/2015	ED TEXAS	15-60796	TORQUED-UP ENERGY SERVICES, INC.	\$ 12,307,762	\$ 37,058,707	\$ 49,366,469
35	12/3/2015	DELAWARE	15-12422-BLS	VANTAGE DRILLING CO.*	\$ 2,629,230,429	\$ 143,924,728	\$ 2,773,155,157
36	12/14/2015	WYOMING	15-20821/ 15-20822	STRATA ENERGY SERVICES INC.*	\$ 19,875,810	\$ 3,203,555	\$ 23,079,366
37	12/16/2015	SD TEXAS	15-36563	NOVA DIRECTIONAL, INC.****	\$ 0	\$ 0	\$ 0
38	12/16/2015	COLORADO	15-23704	CASCADE INTEGRATED SERVICES, LLC*	\$ 4,200,000	\$ 1,500,000	\$ 5,700,000
39	12/17/2015	ARIZONA	15-15859	RDX TECHNOLOGIES COPORATION****	\$ 0	\$ 0	\$ 0
TOTAL					\$ 3,333,546,151	\$ 1,934,014,574	\$ 5,267,560,725

US Total Rig Count Hits Lowest Level On Record



Source: Baker Hughes



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OIL & GAS BUSINESS MAGAZINE

“The oil price drop came as a surprise. It captured my country in a state in which we were not sufficiently diversified.”

Angolan Finance Minister Armando Manuel

IMF Annual Meetings

October 6-11, 2015

Lima Peru



PLUMMETING PRODUCTION



BOOMTOWNS BUSTING

When oil and gas companies slash jobs and production, it has a trickle-down effect on the local economy. Hotels, restaurants and other small businesses that depend on oil and gas workers start seeing a dip in revenue, which has an impact on the state budget as a whole. Unemployment rates are creeping up, too.

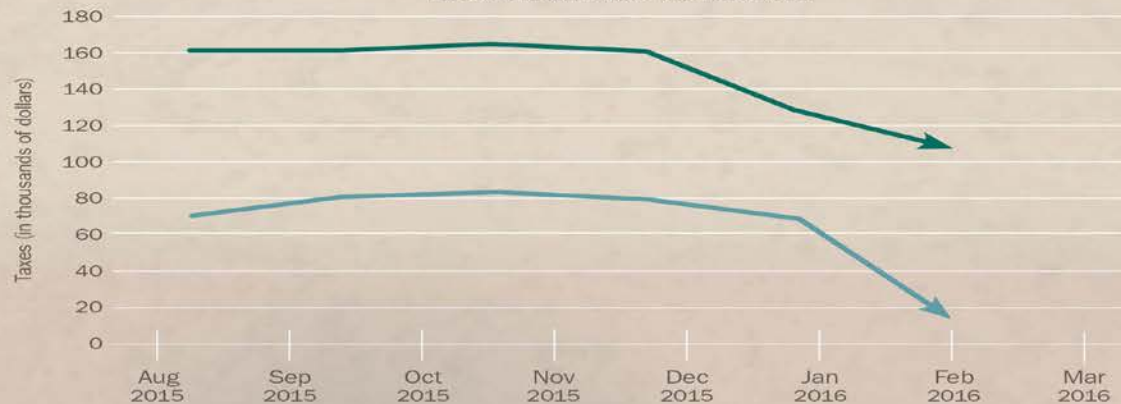


TAKING STOCK

The oil and gas industry fuels the state budget primarily through sales and production taxes. The budget currently has a \$4 billion surplus, but if oil prices remain low, Texas might need to dip into its Rainy Day Fund.

- Oil Production/Regulation Taxes
- Natural Gas Production Tax

TEXAS OIL AND GAS TAX REVENUE



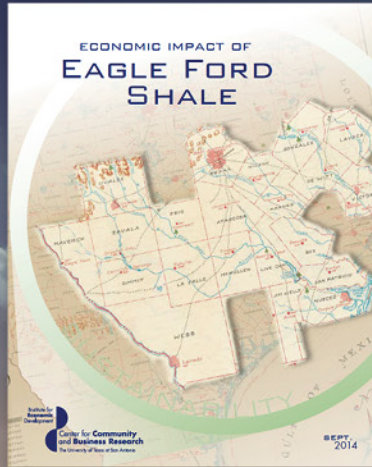
Change in hotel revenues in top oil-producing counties

These 10 counties were Texas' top oil producers when prices peaked in mid-2014. Once rumbling with activity, their hotels have seen the steepest drop in revenues amid the drilling slowdown.

County	2015 revenues	2014 revenues	Percent change
Karnes	\$16.9 million	\$23.4 million	-27.6%
La Salle	\$15.4 million	\$26 million	-40.6%
DeWitt	\$9 million	\$14.9 million	-39.2%
Gonzales	\$7 million	\$11.9 million	-40.9%
McMullen	\$2.1 million	\$2.6 million	-20.4%
Andrews	\$5.6 million	\$8.6 million	-34.7%
Ector	\$80.6 million	\$108.7 million	-25.8%
Upton	\$749,000	\$1.1 million	-29.2%
Martin	\$2.6 million	\$3.6 million	-26.3%
Dimmit	\$9.5 million	\$13 million	-27.0%

- Data from [Source Strategies Inc.](#)

Medium-Long Term Strategies for Success



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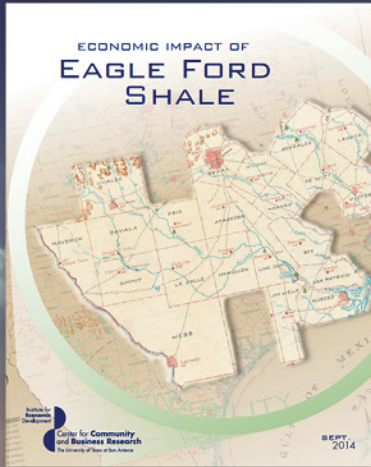
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OIL & GAS BUSINESS MAGAZINE

- Look for **Opportunities to Diversify** the Local Economy (**Destination Locations**)
- **Rediscover Your Community's History** and Architecture as a Tool for Economic Development (**Why was the City Founded in the First Place?**)
- Seize the Opportunity to Implement **Form-Based Zoning That Emphasizes Mixed-Use**, Flexibility, Livability and Sustainability
- **Forge Linkages, Alliances** and Engage Other EFS Communities, Higher Education Institutions
- Identify **Best Practices** from Other Shale Plays
- **Work with Elected Representatives** at the Municipal, County, State and National Levels on Infrastructure Planning

Looking Beyond Eagle Ford:

Basics of Sustainable Infrastructure

(Key to Attracting New Residents, Visitors and Industry)



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- **Better Roadways**
- **Improved Medical Facilities**
- **Broadband Networks**
- **More Housing Options**
- **Adequate Water and Power Supply, Improved Waste Management**
- **Better Quality K-12 and Vocational Education**
- **Improved Aesthetics, Elimination of Blight, Land Recycling**
(Bulldozing Derelict Houses, Cleaning Up Junkyards; Renovation and/or Repurposing of Historical Buildings)
- **Branding: Identity, Gateways**
- **Livability: Public Amenities that Improve the Desirability of the Community and Quality of Life** (Lakes, Parks, Hike/Bike Trails, Walkable Neighborhoods)


Why would someone want to live in or visit your community?

CITY OF GONZALES



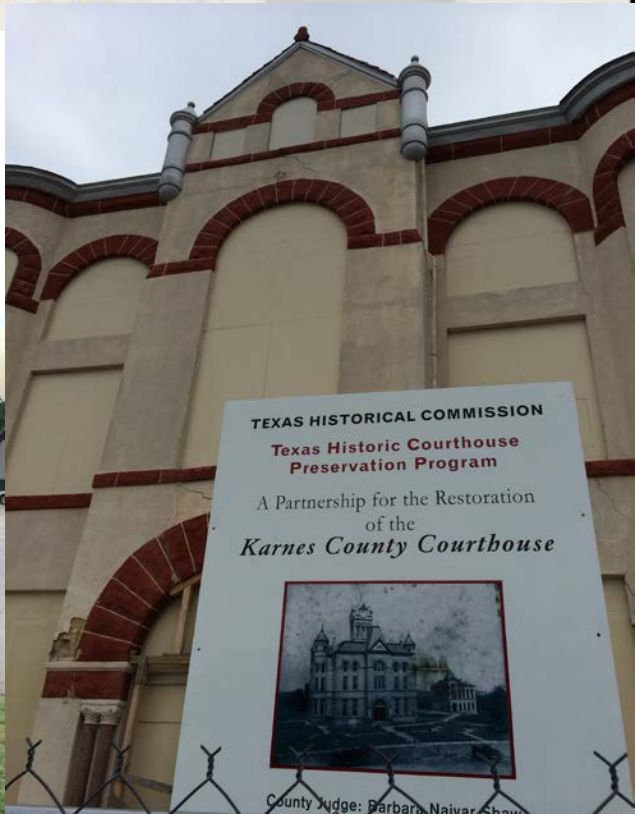
COME AND TAKE IT



GONZALEZ 



The ALCALDE HOTEL & GRILL





PLEASANTON





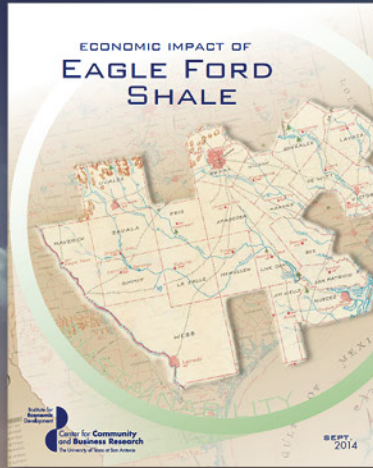
COTULLA



Chuck's Bar and Dancehall - Cotulla, TX



Conservation Fund



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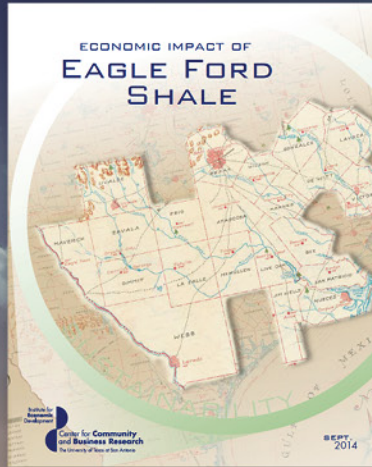
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The Future Ain't What It Used To Be

- Yogi Berra





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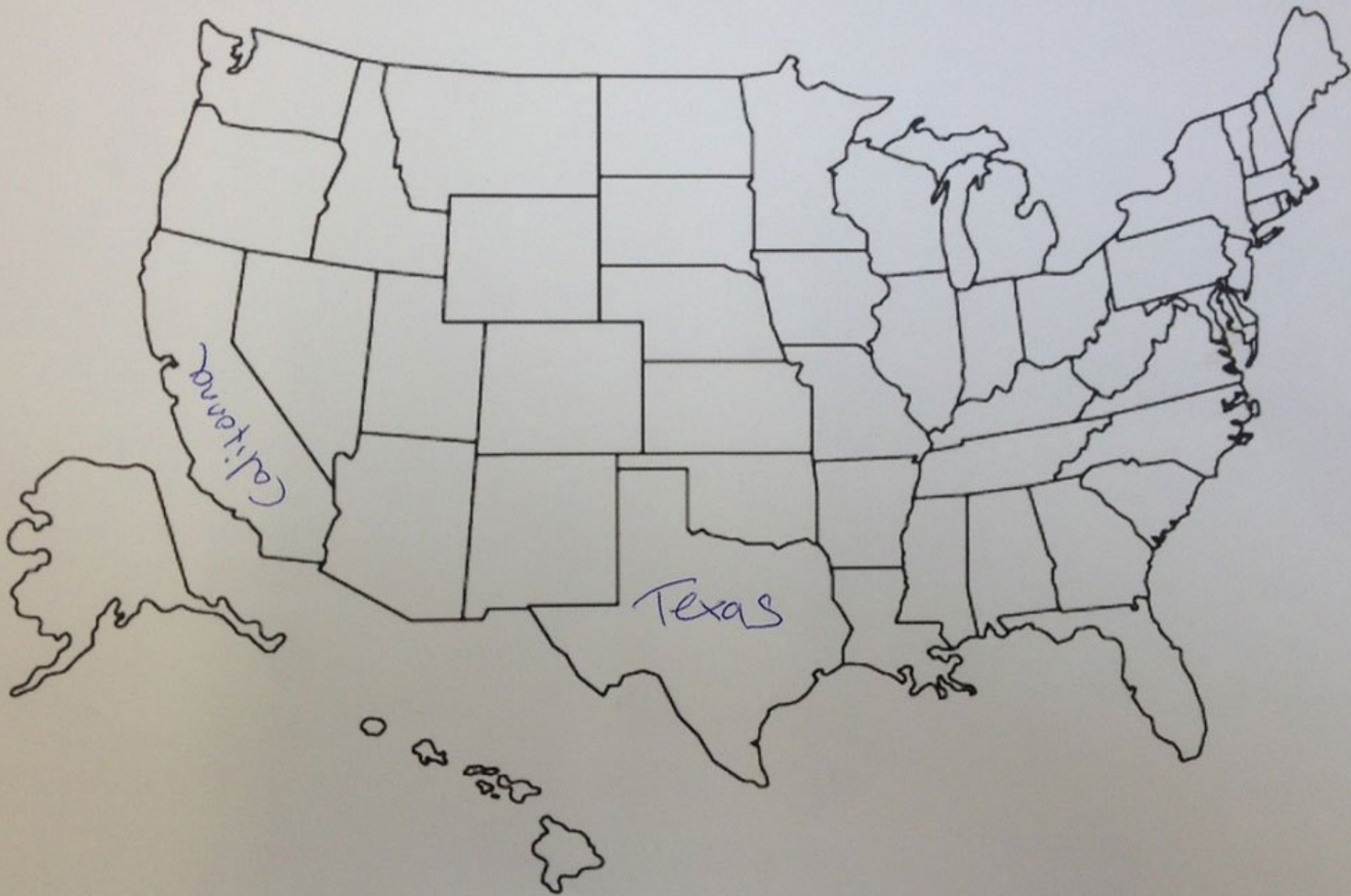
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“We have the greatest history of *any* state in the union—there’s nothing to compare to it. That’s not Texas brag. **More books have been written about Texas than any state in the union. In fact, there are more books about Texas than all the rest of the states combined.** And it’s not because we have so many history professors in Texas. It’s that we have such a diverse and colorful history.”

James Perry Bryan, Jr.
from Texas Monthly August 2015



California

Texas





I
HAVE
LITERALLY
NO
IDEA

A DOG!

Somewhere
in
here is New
York

North +
South
Carolina

New
Mexico?

NEW
HAMPSHIRE?

Alaska

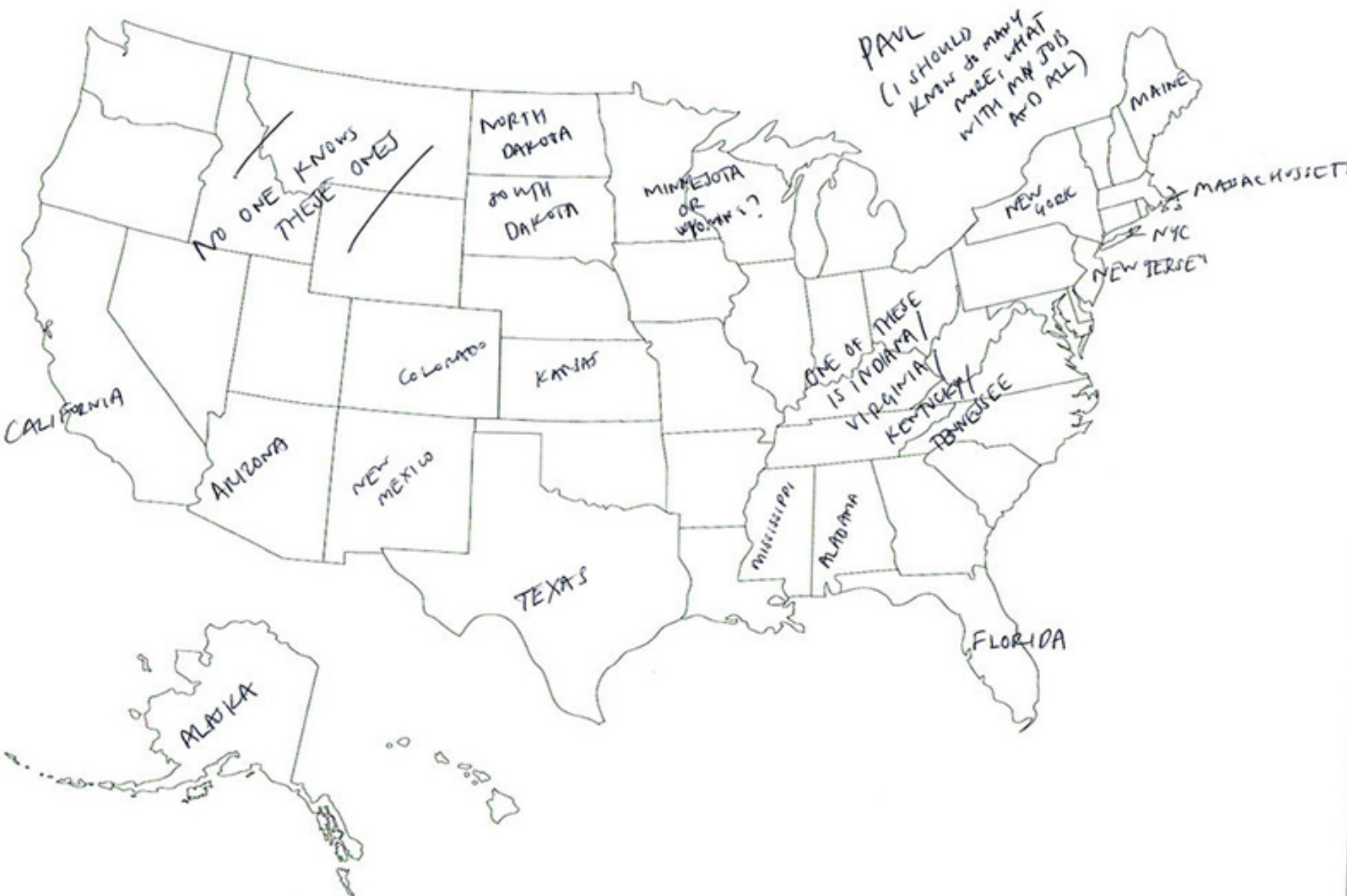
Hawaii

Texas

Florida

COLD |-----| HOT

Africa



NO ONE KNOWS THESE ONE

PAUL
(I SHOULD KNOW & MANY MORE, WHAT WITH MY JOB AND ALL)

ONE OF THESE IS INDIANA

MASSACHUSETTS

NYC

CALIFORNIA

ARIZONA

NEW MEXICO

TEXAS

Colorado

KANSAS

NORTH DAKOTA

SOUTH DAKOTA

MINNESOTA OR WYOMING?

MISSISSIPPI

ALABAMA

KENTUCKY

TENNESSEE

FLORIDA

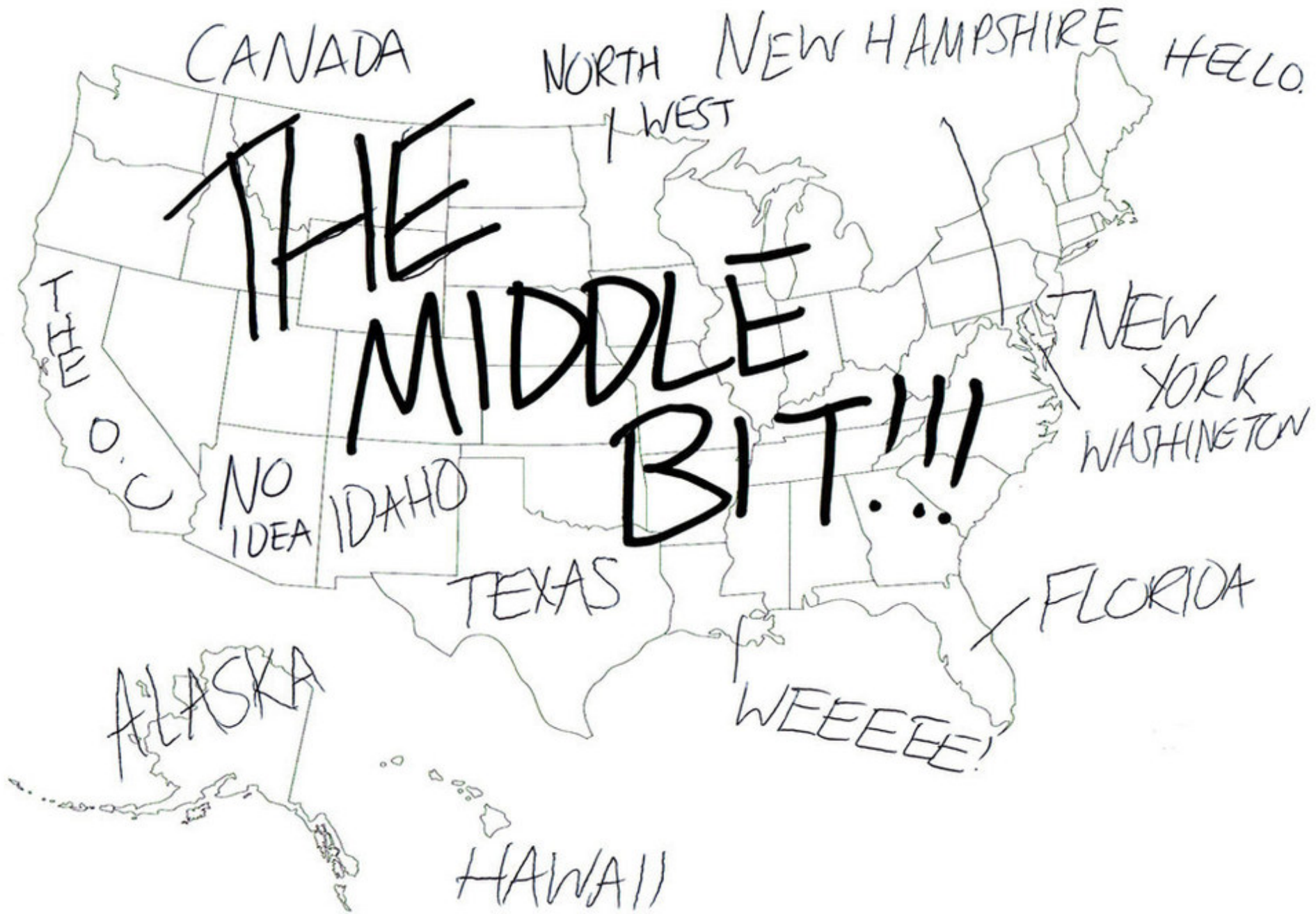
NEW YORK

NEW JERSEY

MAINE

ALASKA





CANADA

NORTH NEW HAMPSHIRE HELLO.

WEST

THE MIDDLE BIT!!!

NEW YORK WASHINGTON

FLORIDA

WEEEEEE!

HAWAII

ALASKA

TEXAS

IDAHO

NO IDEA

O.C.

HILL

Alaska be up there ↗

Sparkling vampire state. Washington?

Sorry, no idea about this one

Dakotas

A vowel state. Ohio?

Square 1

Chicago

Detroit

New England

NYC

DC

Whatever

Vegas

Utah

Square 2

Kansas?

The river. Missypissy?

Virginias

and Carolinas

Cali

Dunno, but this must be the one when the bordermaker broke his ruler

Is this where your government hides aliens?

A straighter copy of Florida

South Whatever
(also zombies)

TEXAS

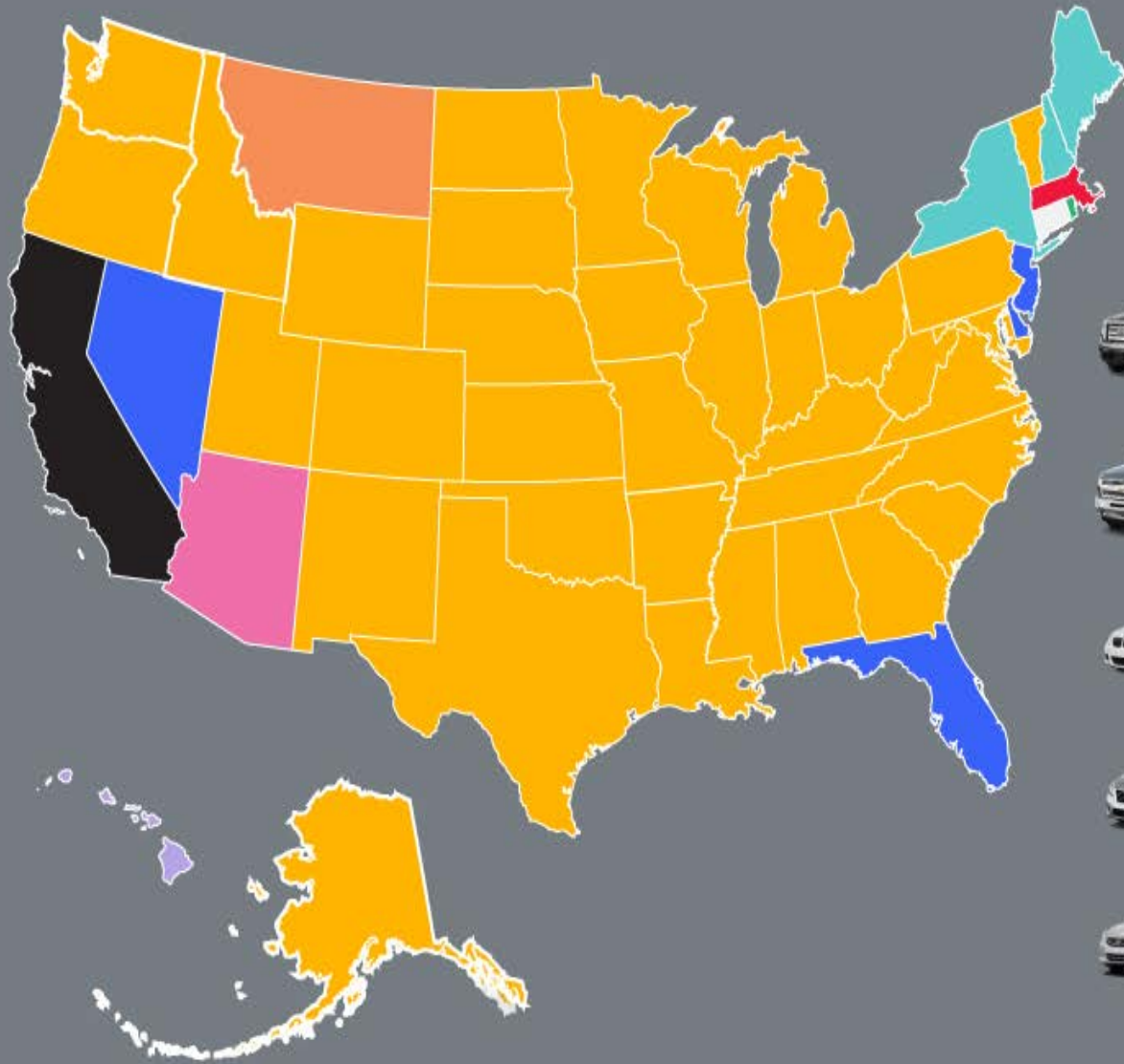
French guys with hurricanes, right?

Florida

Hawaii be down there ↙



MOST POPULAR VEHICLE BY STATE

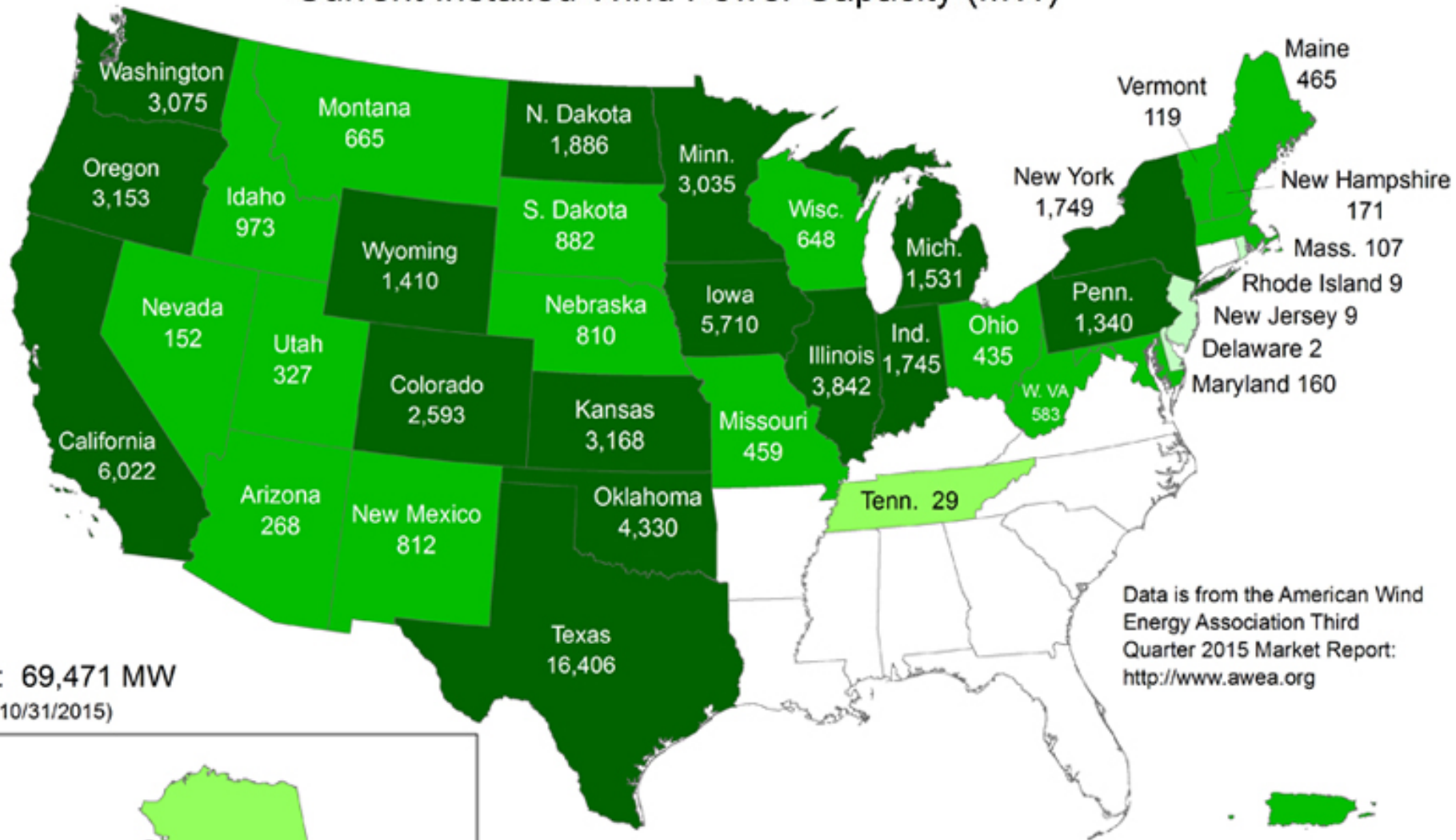


IT'S SO HOT IN TEXAS



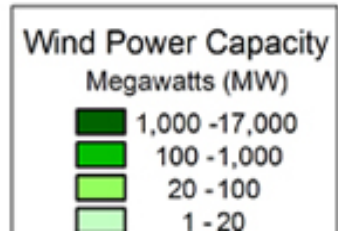
WE'VE INSTALLED FANS OUTSIDE

Current Installed Wind Power Capacity (MW)



Data is from the American Wind Energy Association Third Quarter 2015 Market Report: <http://www.awea.org>

Total: 69,471 MW
(As of 10/31/2015)



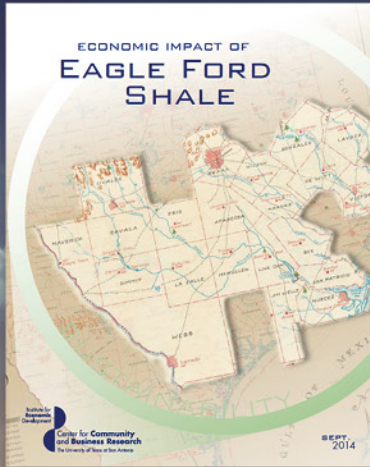


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Thank you!

Eagle Ford and Oil Prices

June 2016



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Principal Investigator: Thomas Tunstall, Ph.D.

Lead Investigator: Javier Oyakawa, M.A., M.Sc.

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