

University of Texas at San Antonio Institute for Economic Development

- **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)**

UTSA Institute for Economic Development

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

UTSA Institute for Economic Development

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**

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**

History doesn't repeat
itself.

But it does rhyme.

Mark Twain

UTSA – Emerging Tier 1 University

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

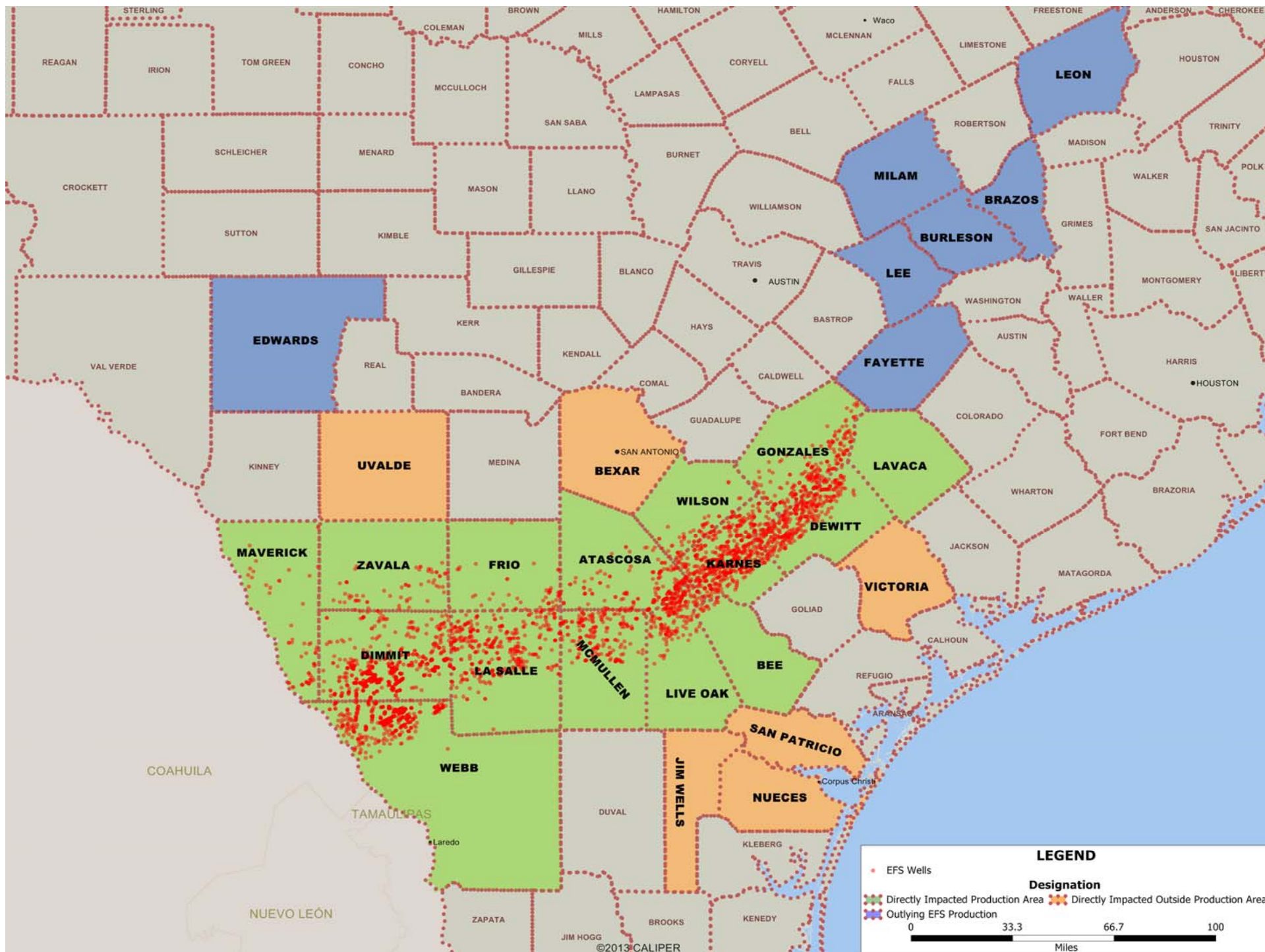
Producing Counties:

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

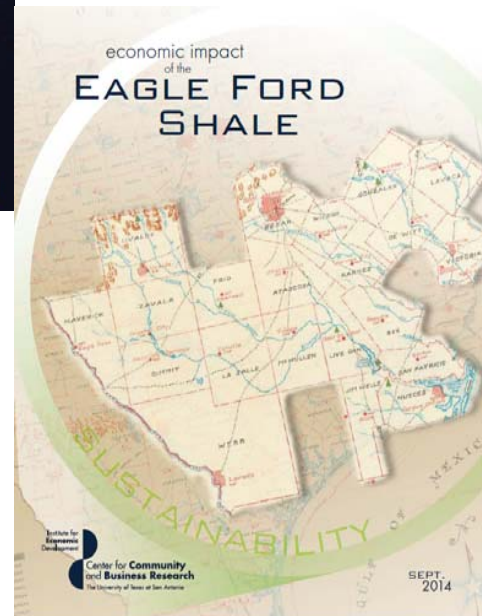
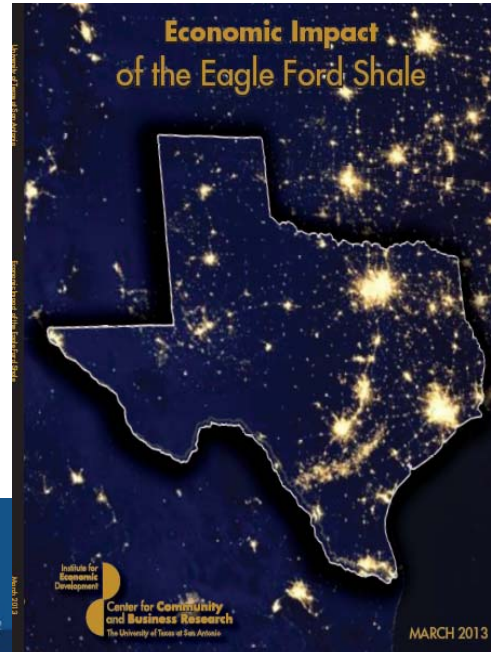
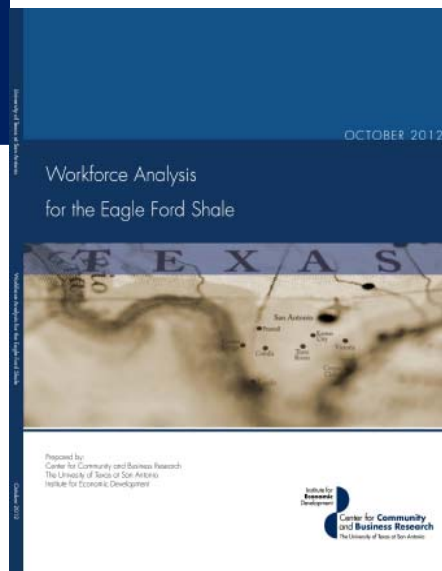
Adjacent Counties:

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

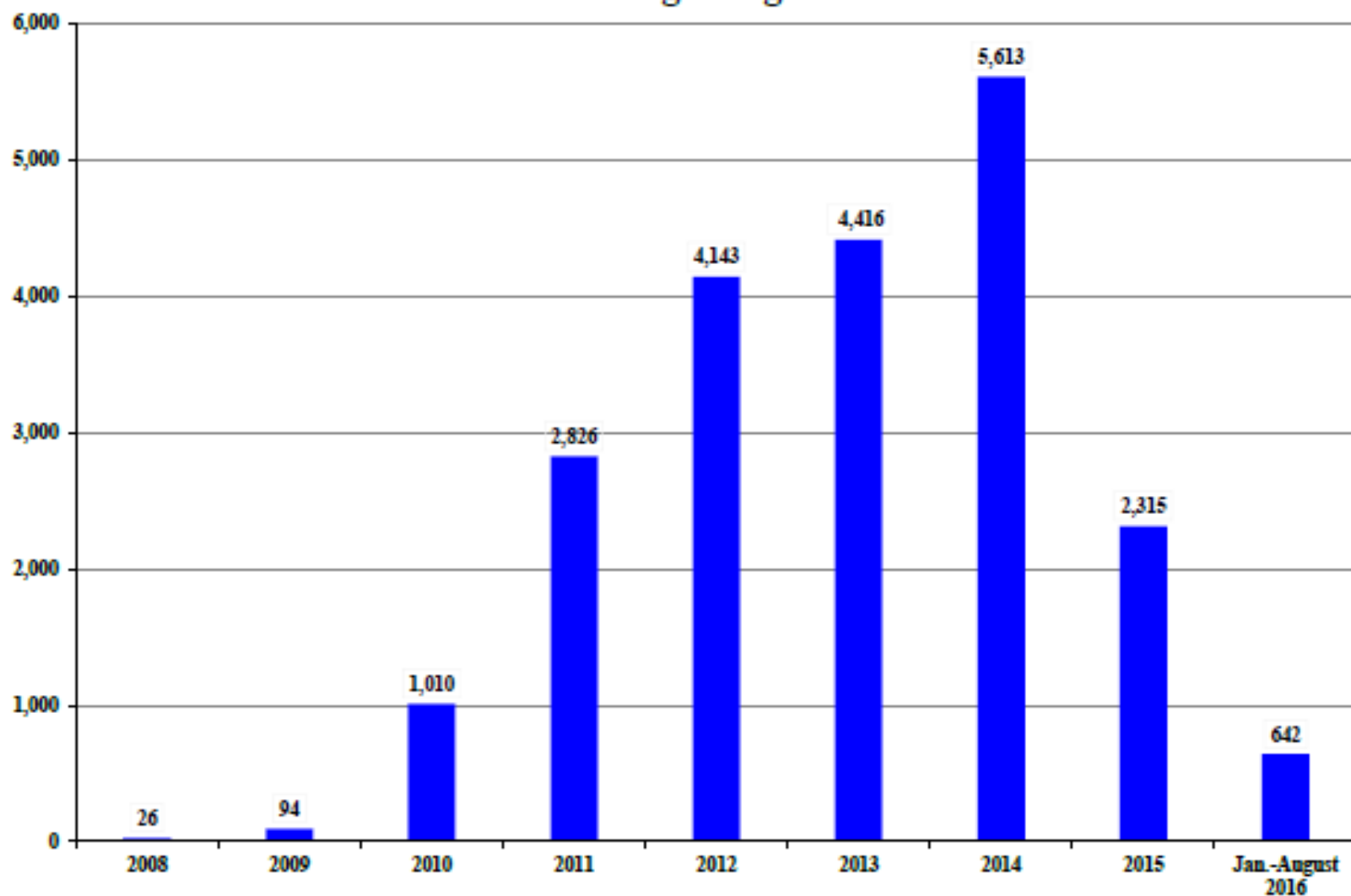
Counties not included in the analysis are
Leon, Milam, Brazos, Burleson, Lee, Fayette, Lavaca, Edwards, Houston, and Wood



Eagle Ford Economic Reports



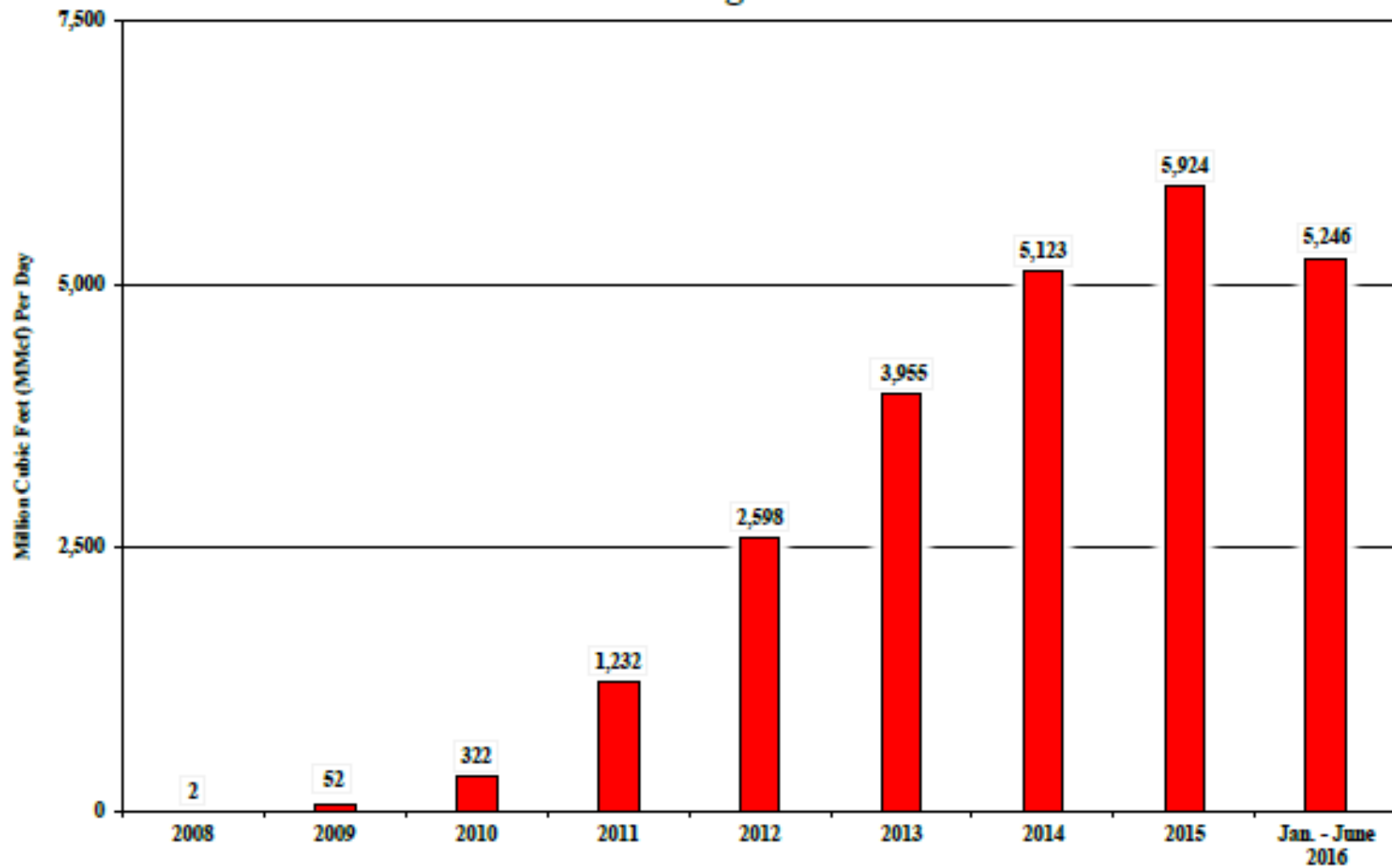
Texas Eagle Ford Shale Drilling Permits Issued 2008 through August 2016



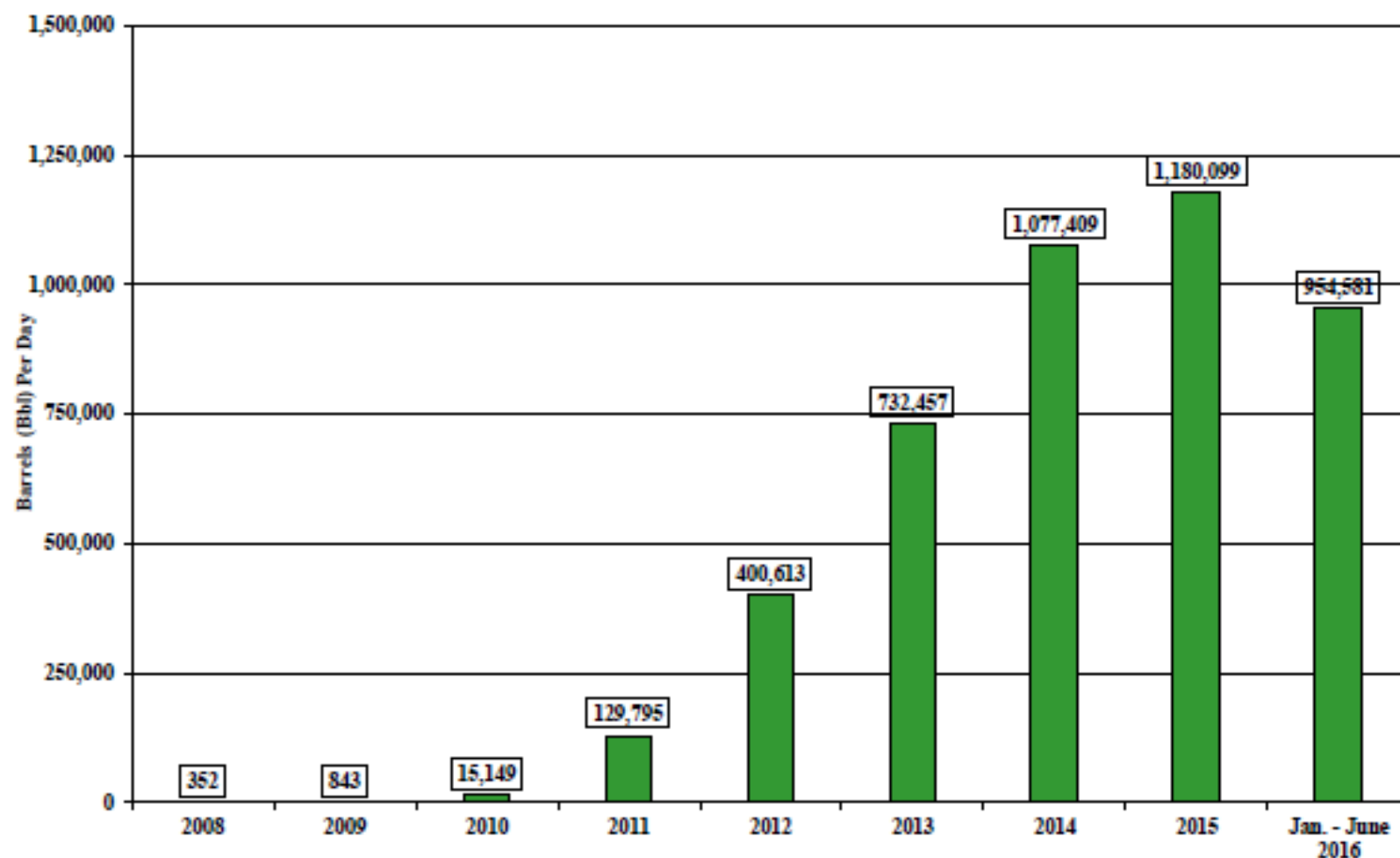
09/06/2016

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

**Texas Eagle Ford Shale
Total Natural Gas Production
2008 through June 2016**



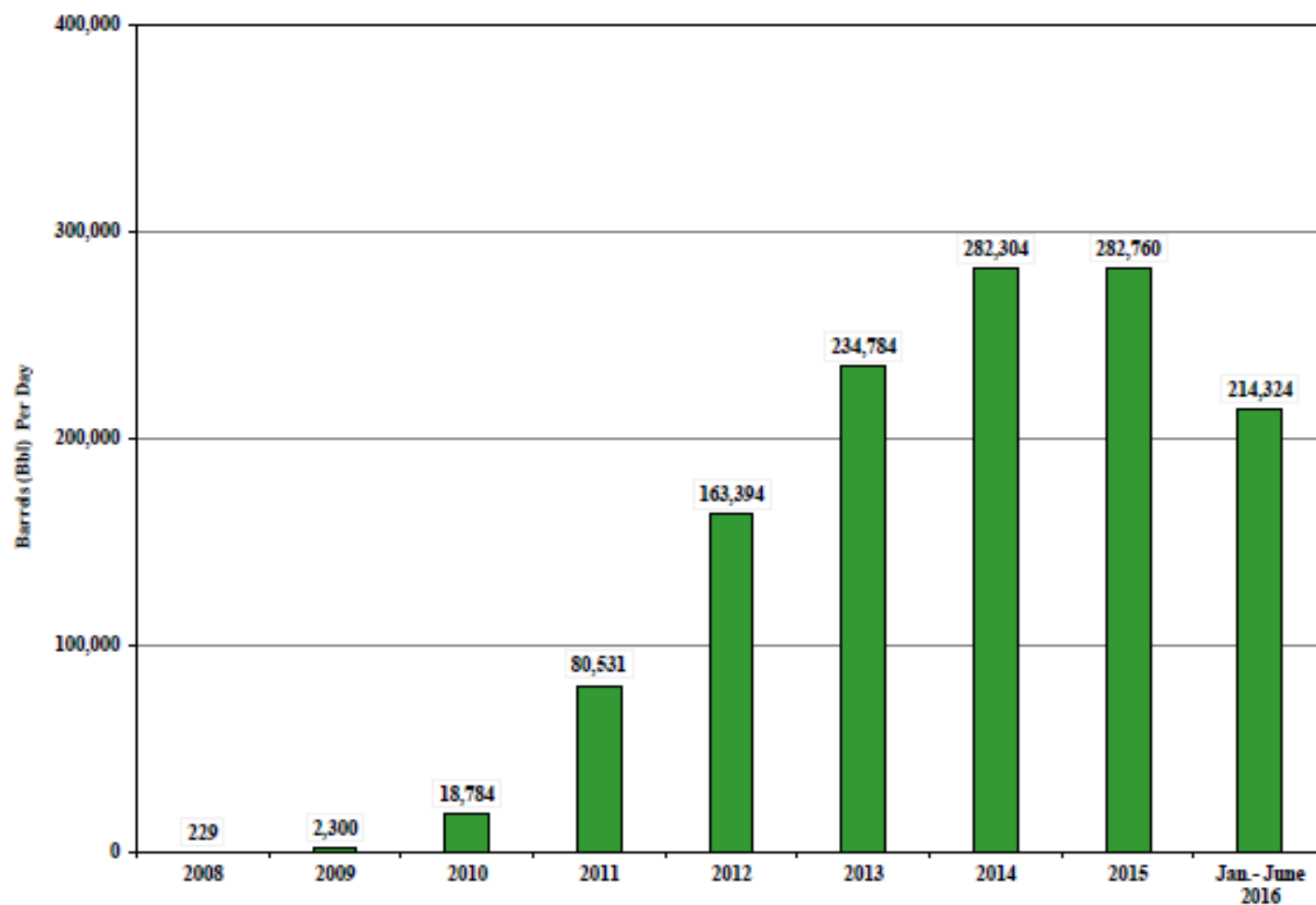
Texas Eagle Ford Shale Oil Production 2008 through June 2016



08/22/2016

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

Texas Eagle Ford Shale Condensate Production 2008 through June 2016



08/22/2016

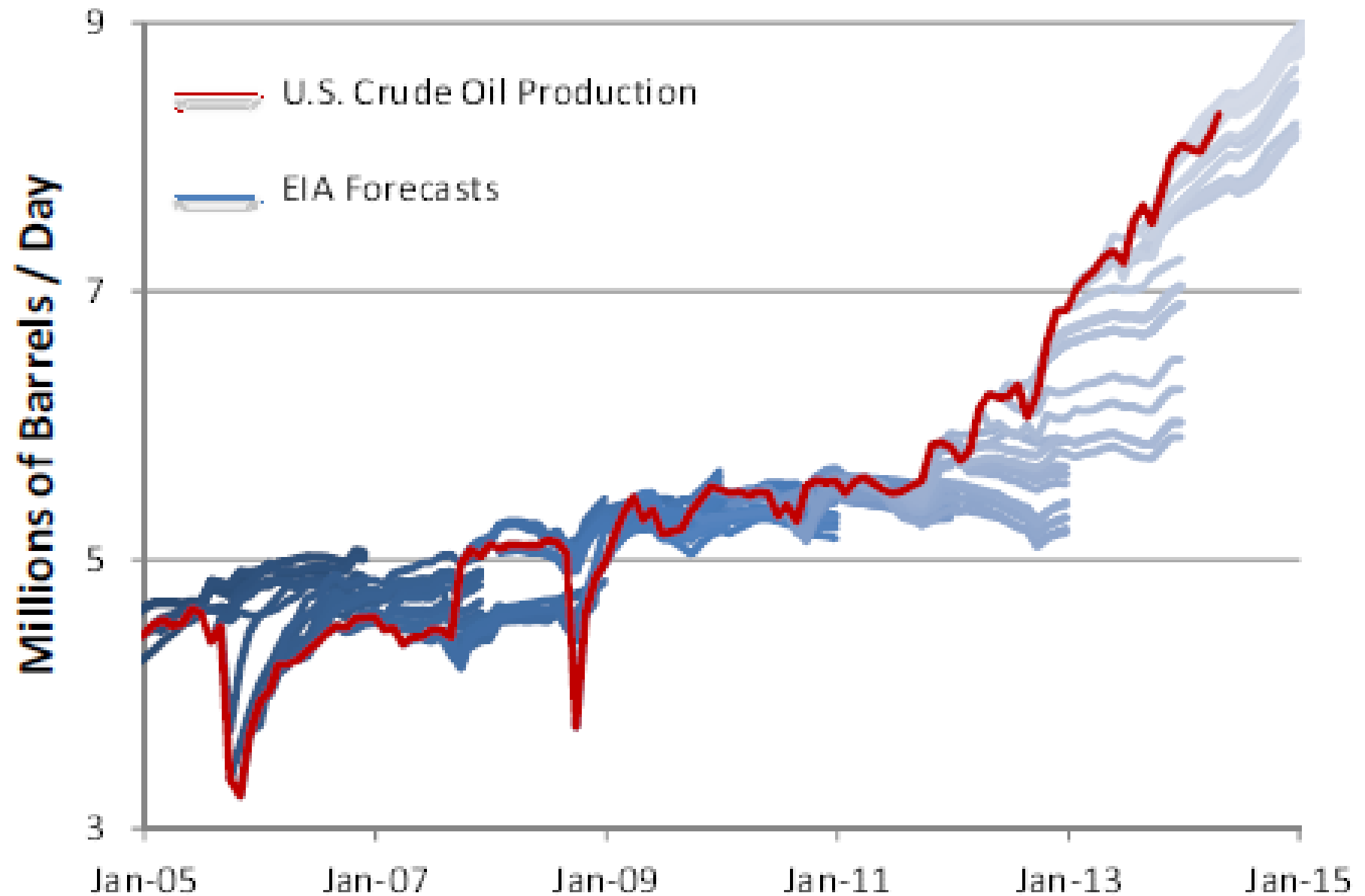
Source: Railroad Commission of Texas Production Data Query System (PDQ)

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

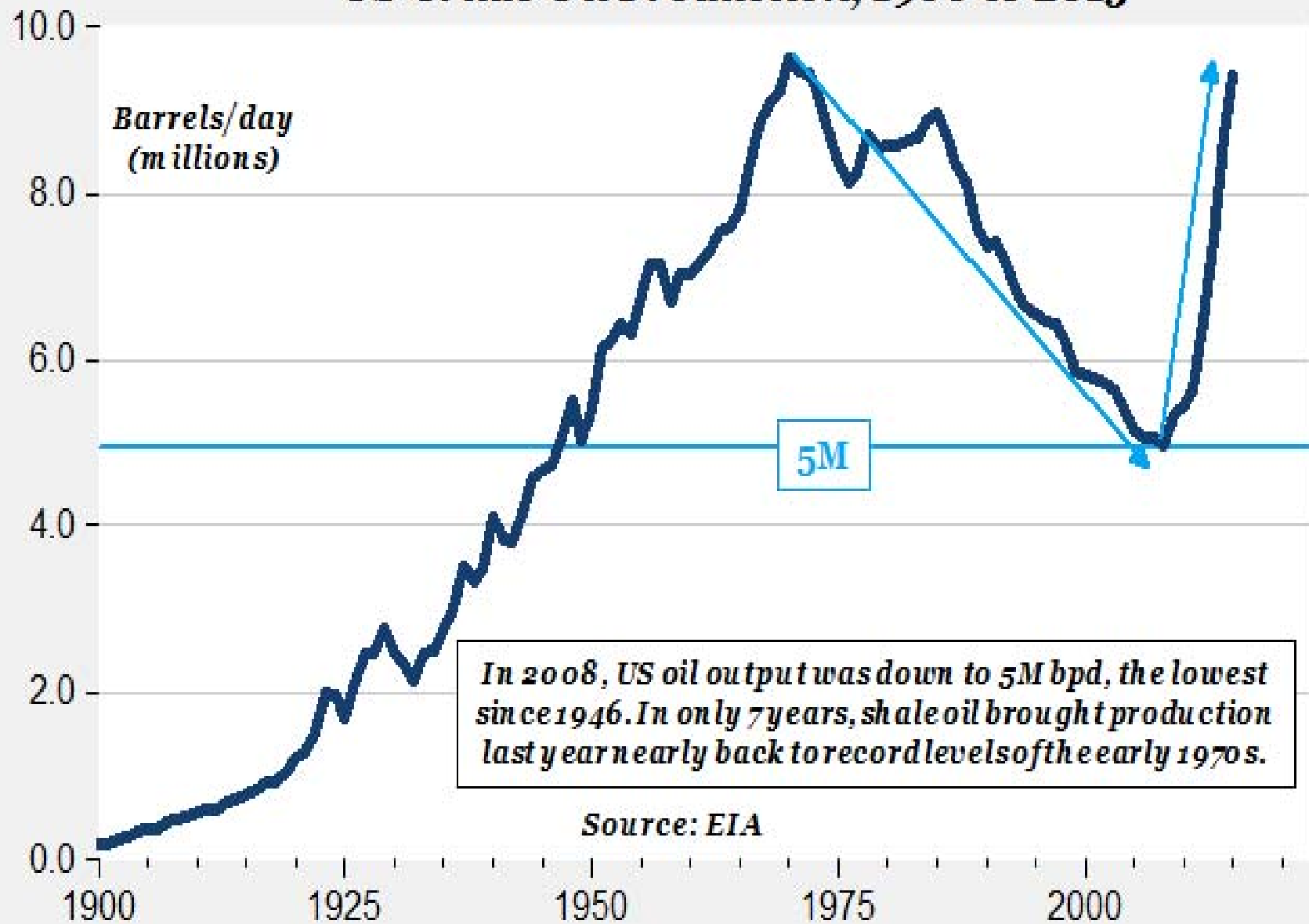
1,891,794,488 Barrels

(approaching 2 billion)

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

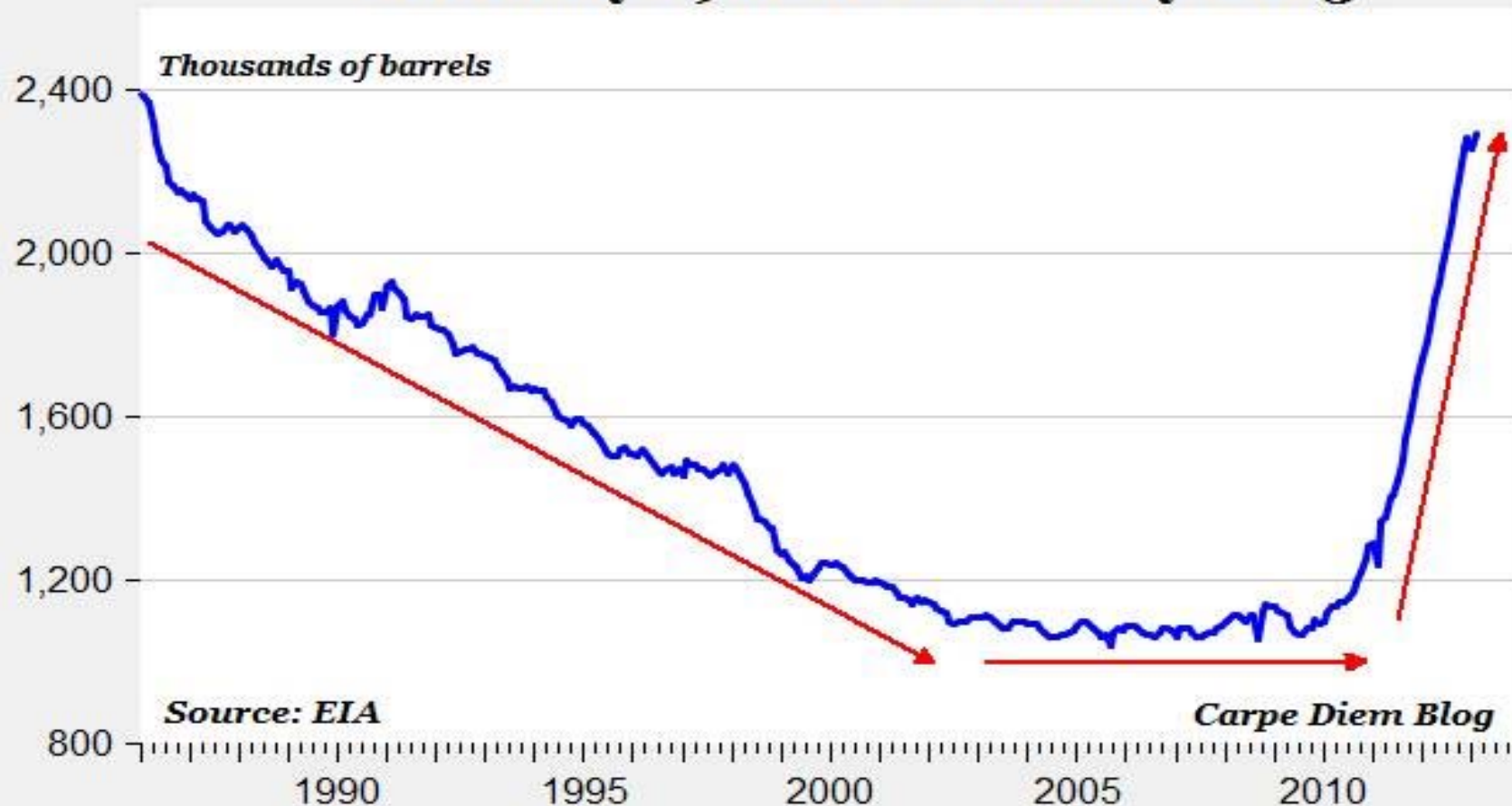


US Crude Oil Production, 1900 to 2015



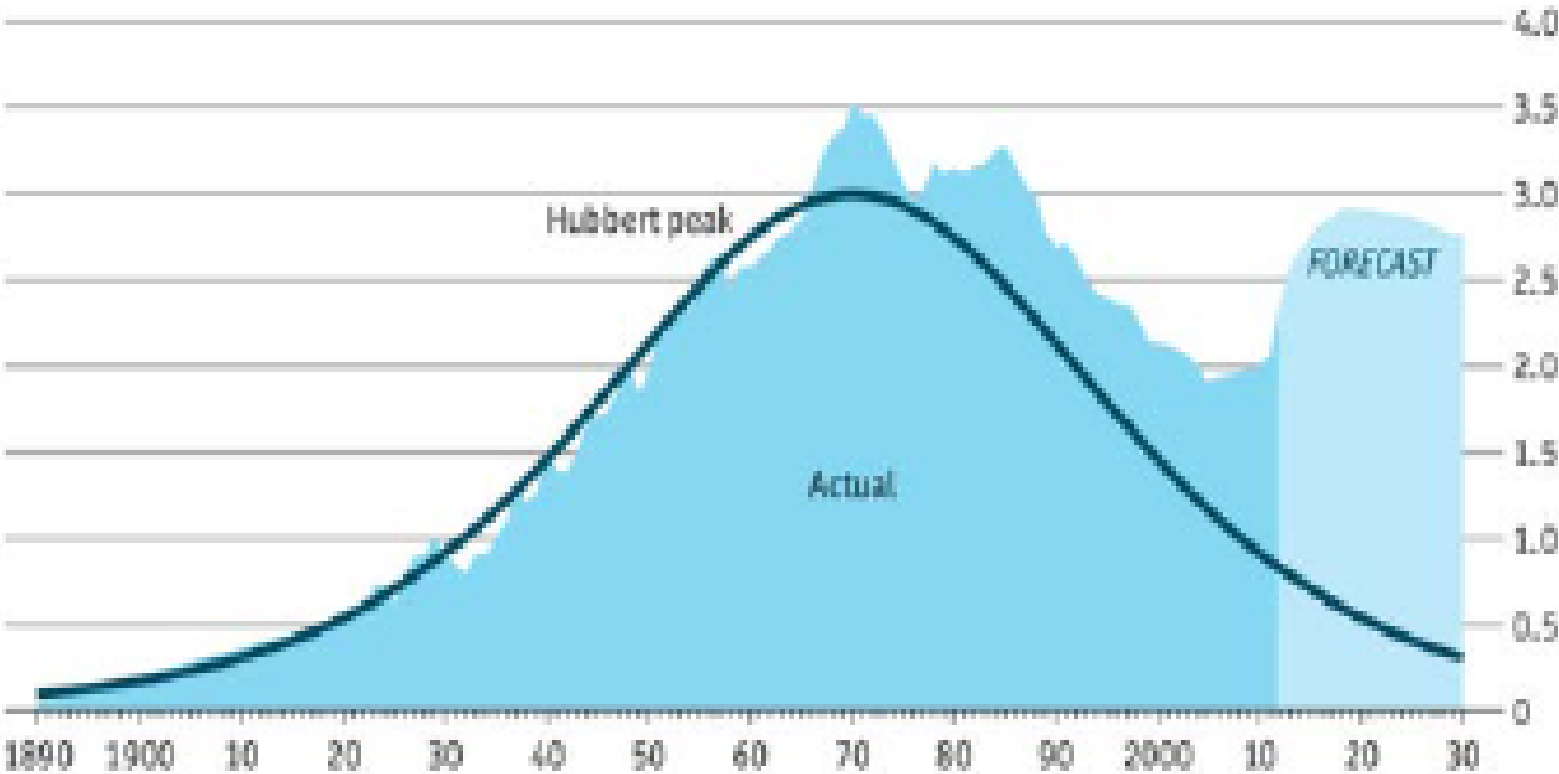
Texas Oil Production Surpassed 1988 Levels in September 2012

Texas: Daily Oil Production January 1986 to February 2013



American^a crude oil production

Billion barrels per year



Source: BP

^a48 states including Alaska

1956

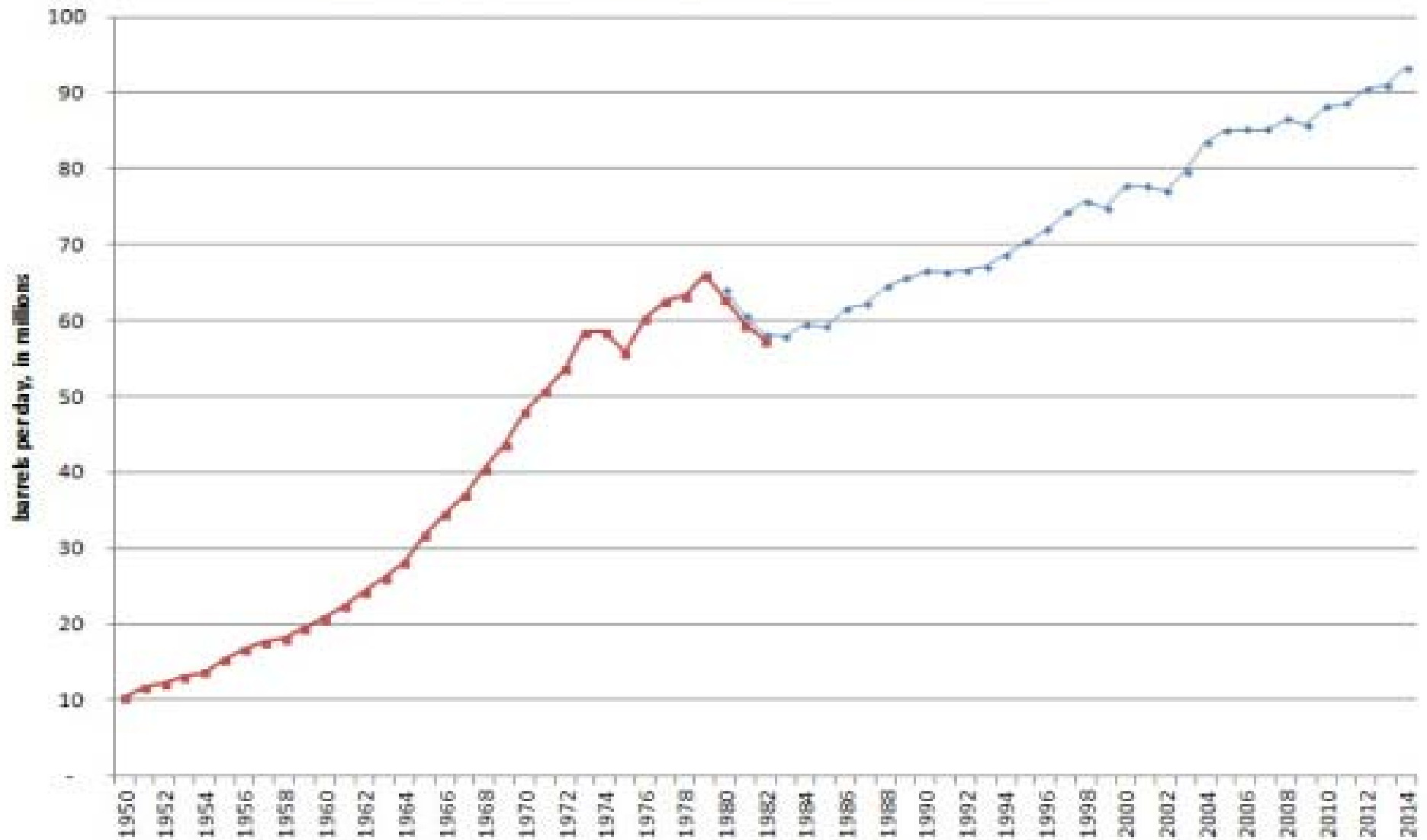
M. King Hubbert,
a geologist for Shell Oil, says that

*U.S. oil production will
likely peak between 1965
and 1970 and decline
steadily thereafter.*

• Output will indeed peak in 1970 and
then trend downward—but it will jump
by two-thirds from 2009 to mid-2014.



Worldwide production of oil, 1950 to 2014



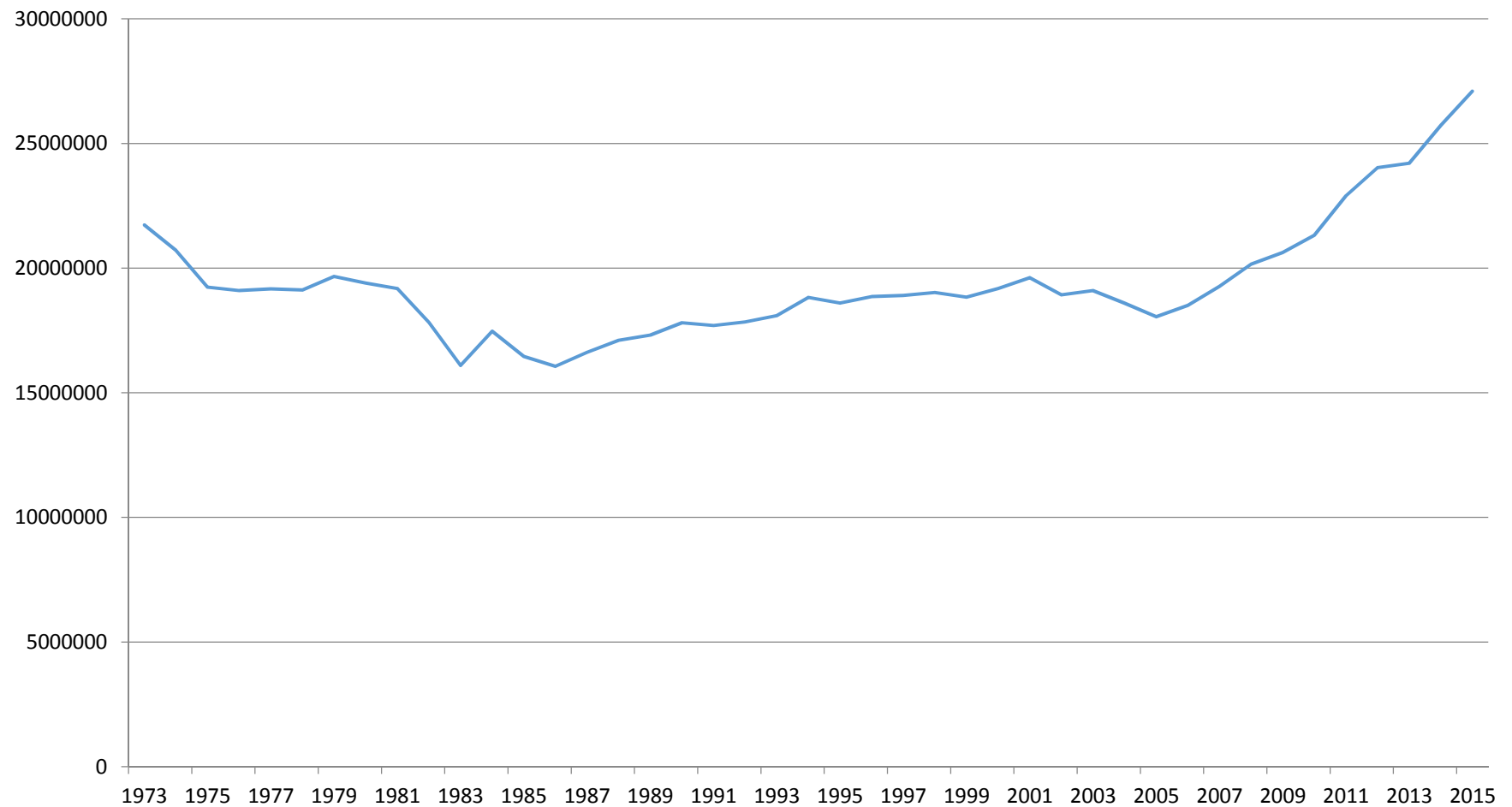
graph by outrunchange.com.

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>

U.S. Natural Gas Production 1973-2015





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

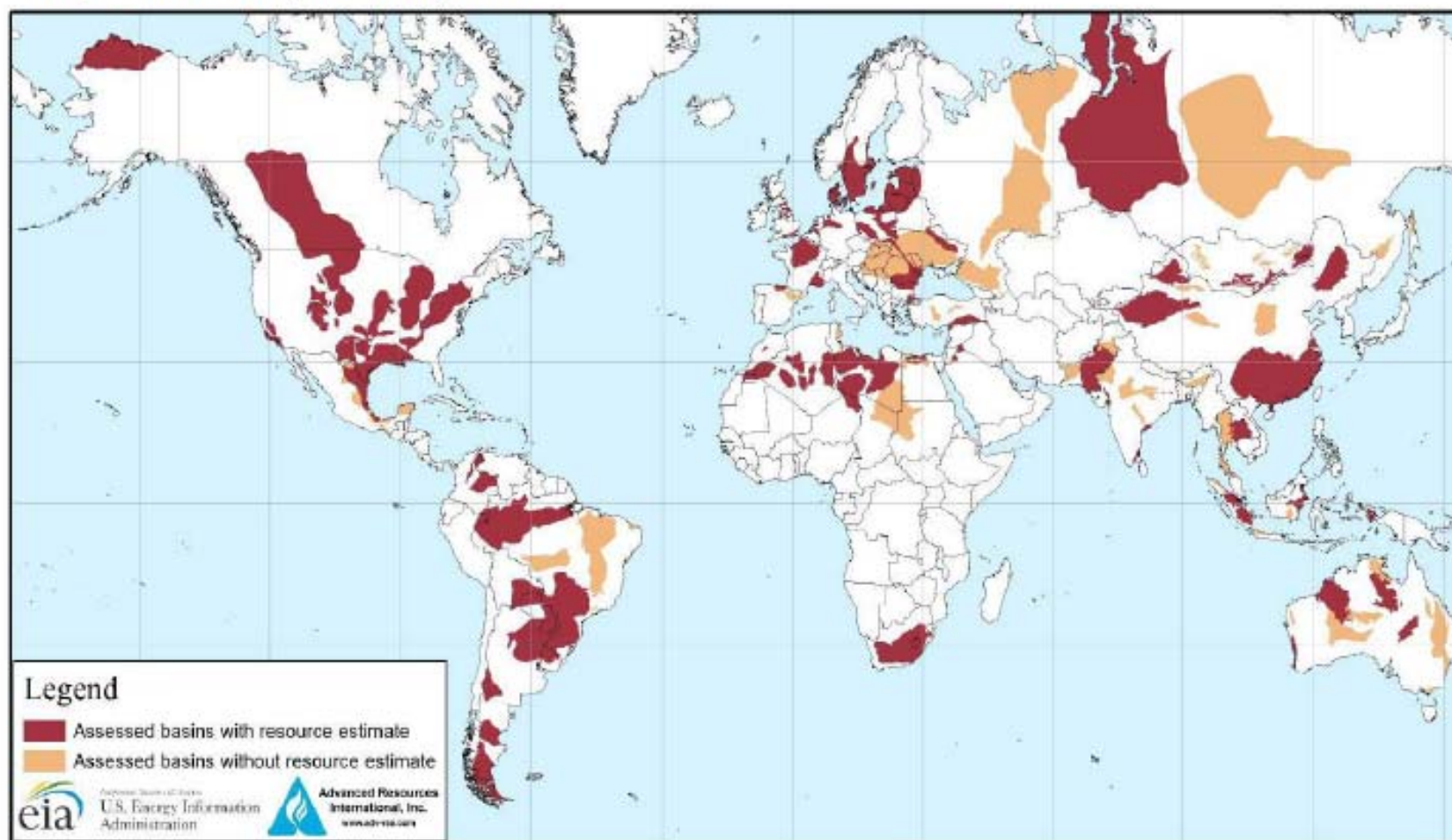
- **U.S. – 77** (similar numbers for the UK and Canada)
- **Russia – 4**
- **China – 3**
- **Brazil – 1**
- **In Saudi Arabia, Iran, Mexico and Kuwait **one** state producer accounts for nearly 100% of total output**

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

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

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



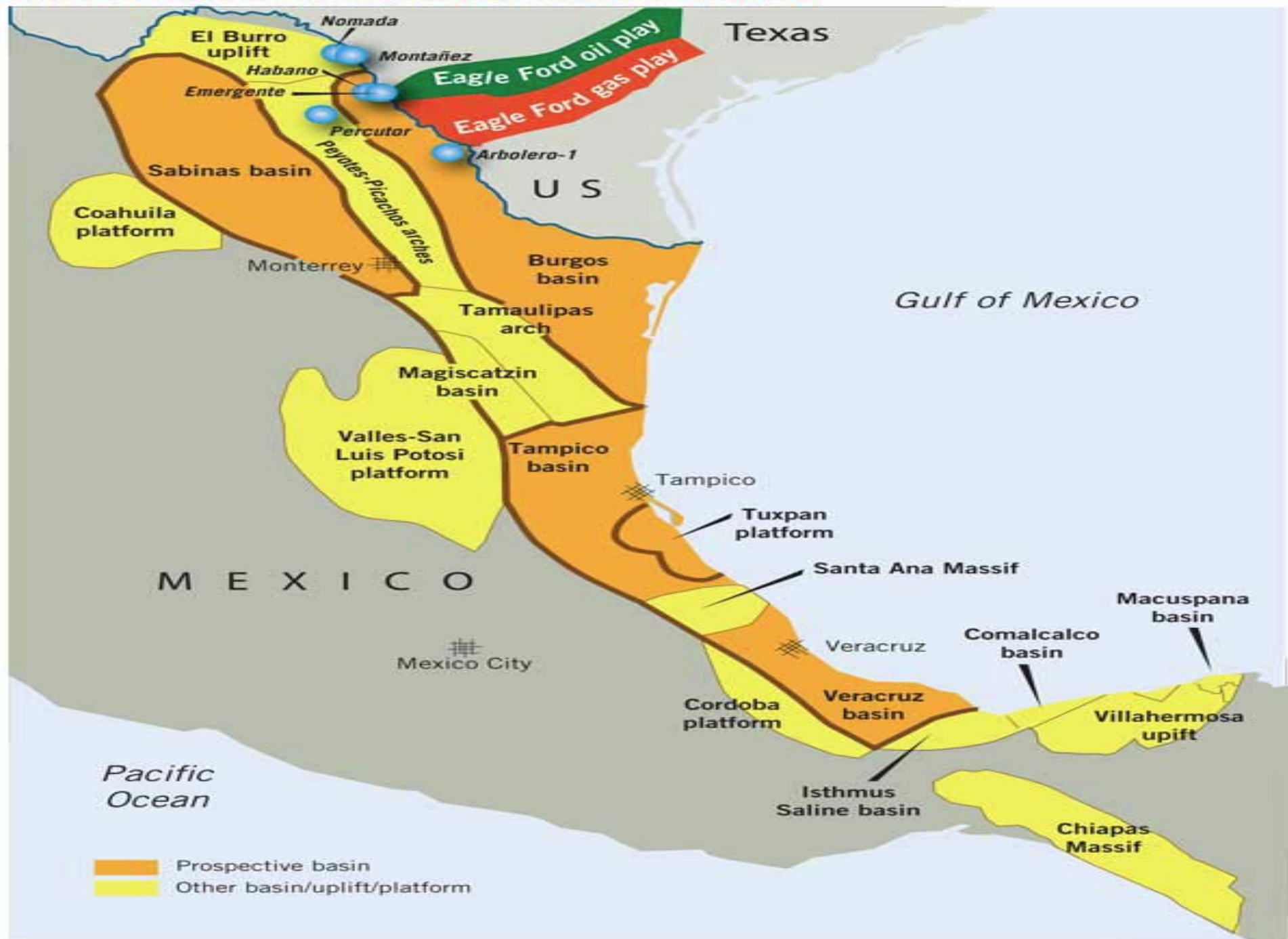
UTSA

 **UANL**
UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN

 **AEM**

 **Wilson
Center**
MEXICO INSTITUTE

PROSPECTIVE SHALE BASINS OF EASTERN MEXICO







CACHEAUX CAVAZOS & NEWTON
ATTORNEYS ABOGADOS



MEXICO'S ECONOMY AND HYDROCARBONS

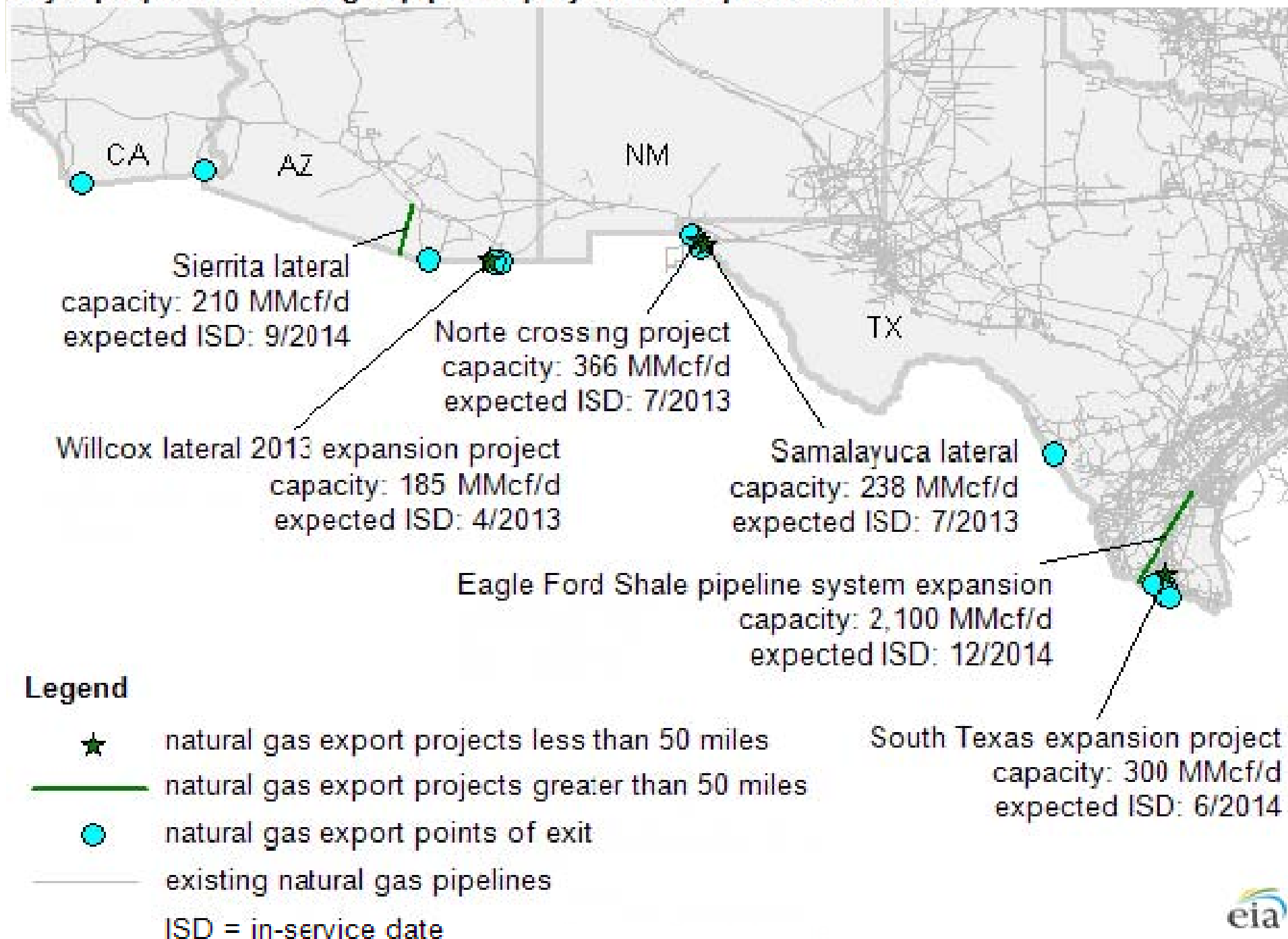
Hydrocarbons represented 34% of the Federal budget.

More investment
Declining production
Growing demand



Source: Secretaria de Energia

Major proposed natural gas pipeline projects for exports to Mexico

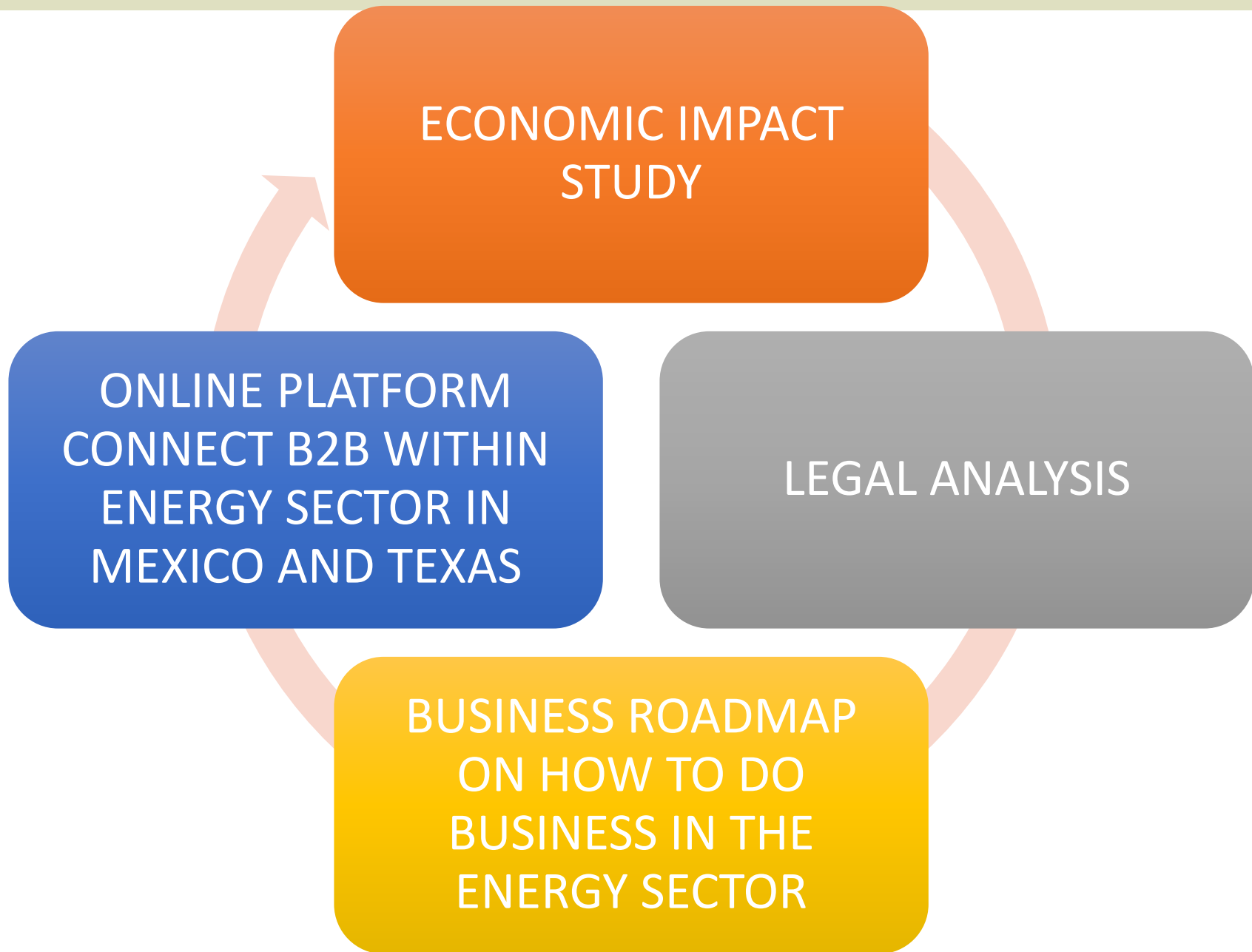


Implications of Mexican Energy Reform

- 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?

- 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



Total Economic Output Impact in 2013 21-County Study Region

- 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)

- 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

Wireframe glimpse of the Shah Deniz 2 platforms in Azerbaijan

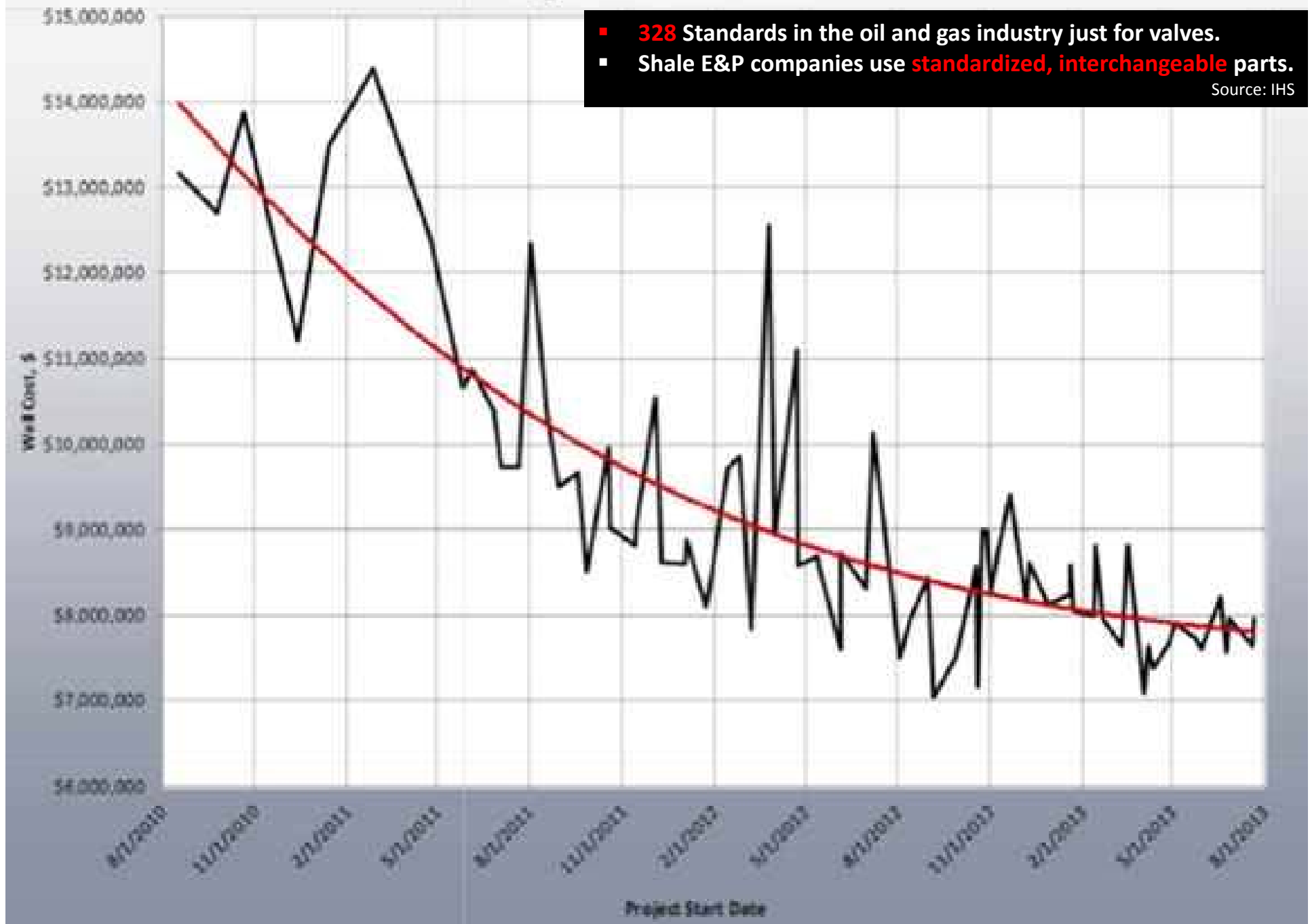




Eagle Ford Well Costs

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

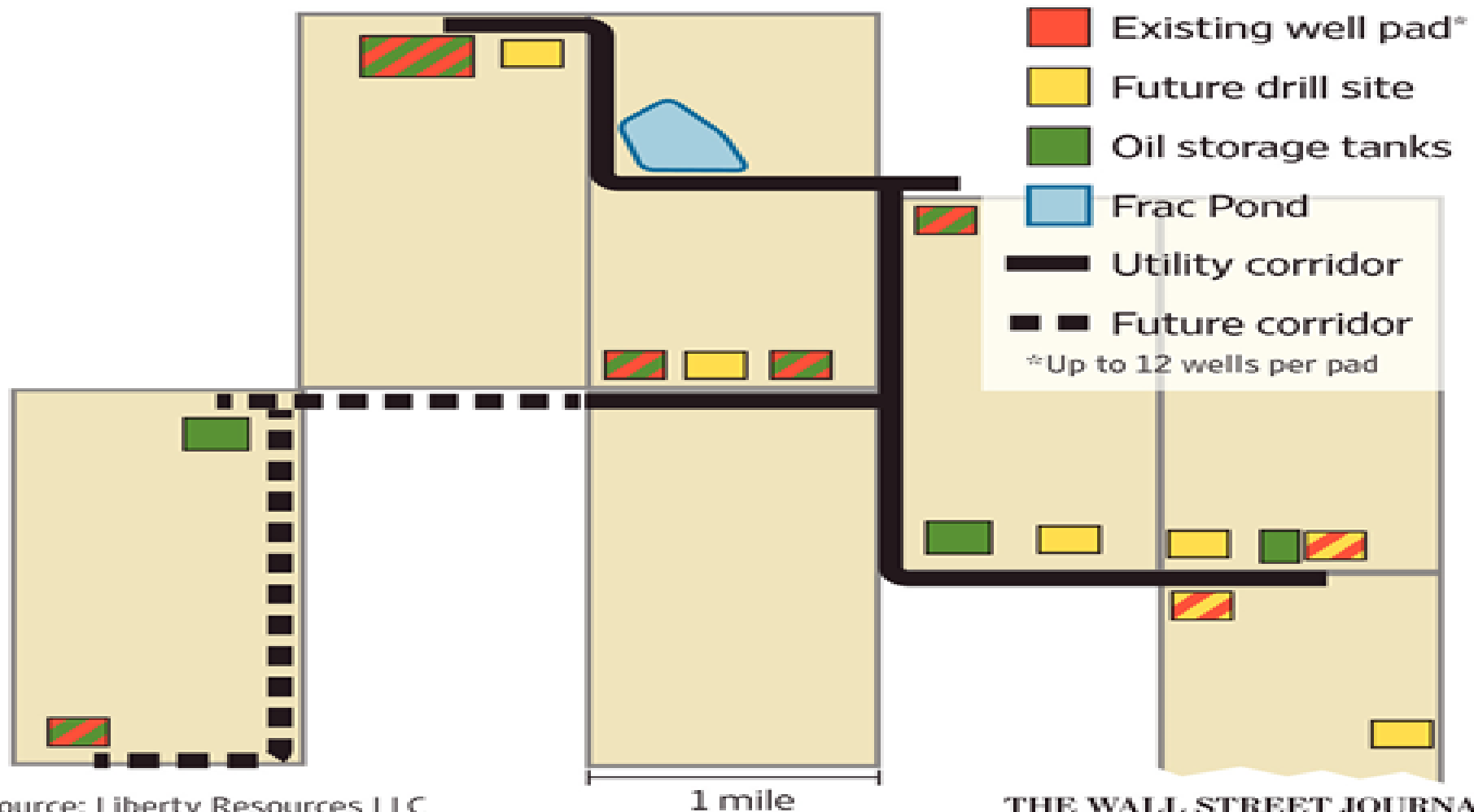
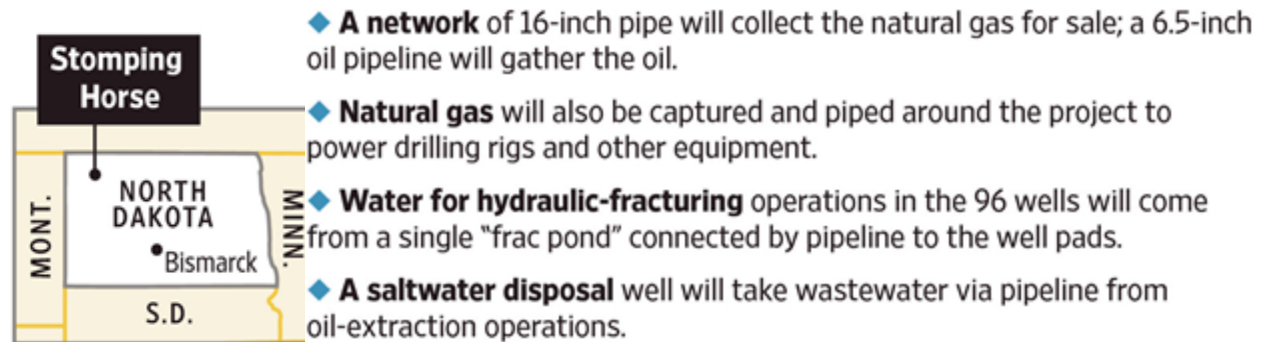
Source: IHS





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.

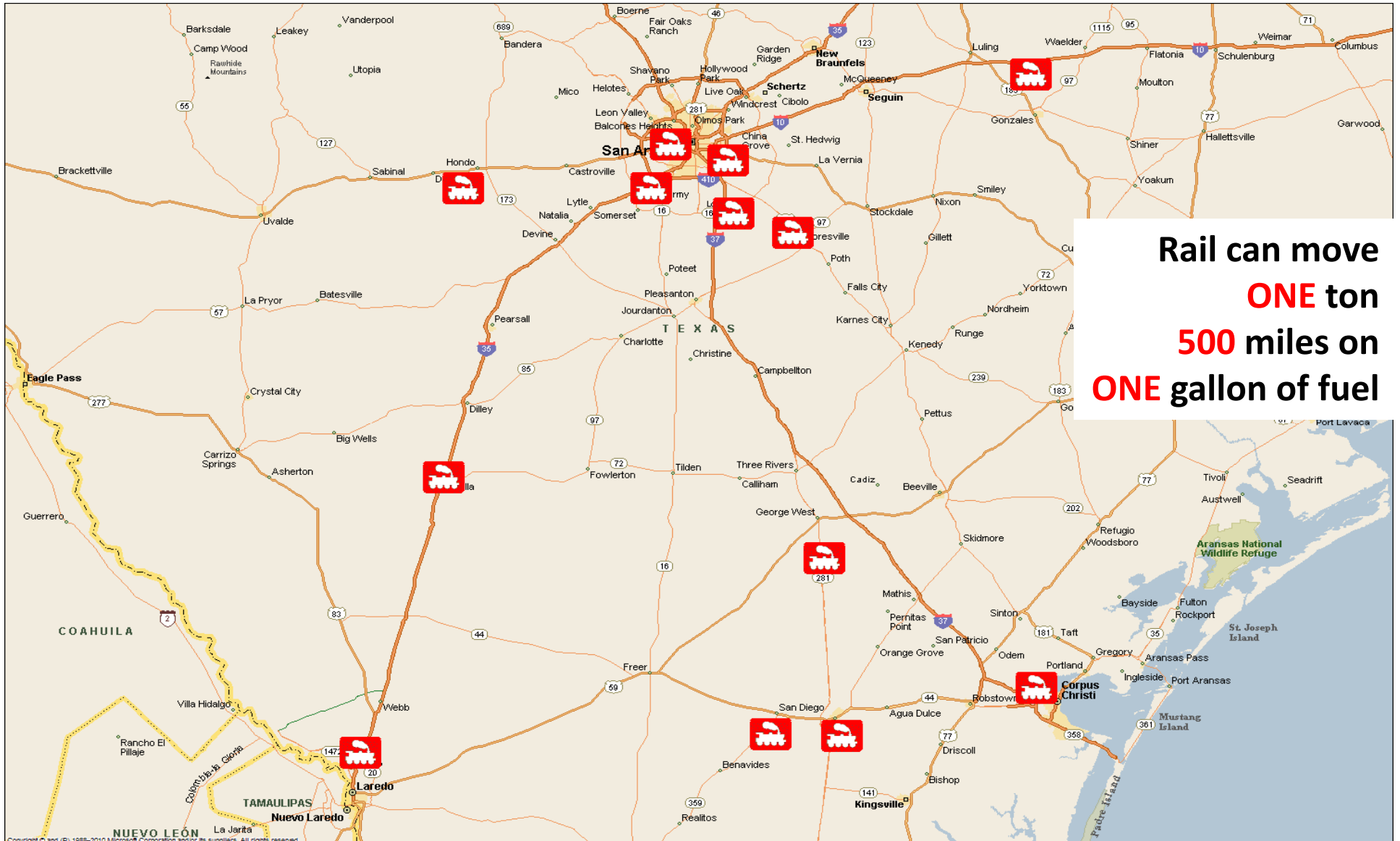


Source: Liberty Resources LLC

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New and Expanded Rail Projects in the Eagle Ford

TAMEST Shale Task Force



**Gardendale Railroad 2009- La Salle County Status :
Abandoned**

TAMEST Shale Task Force



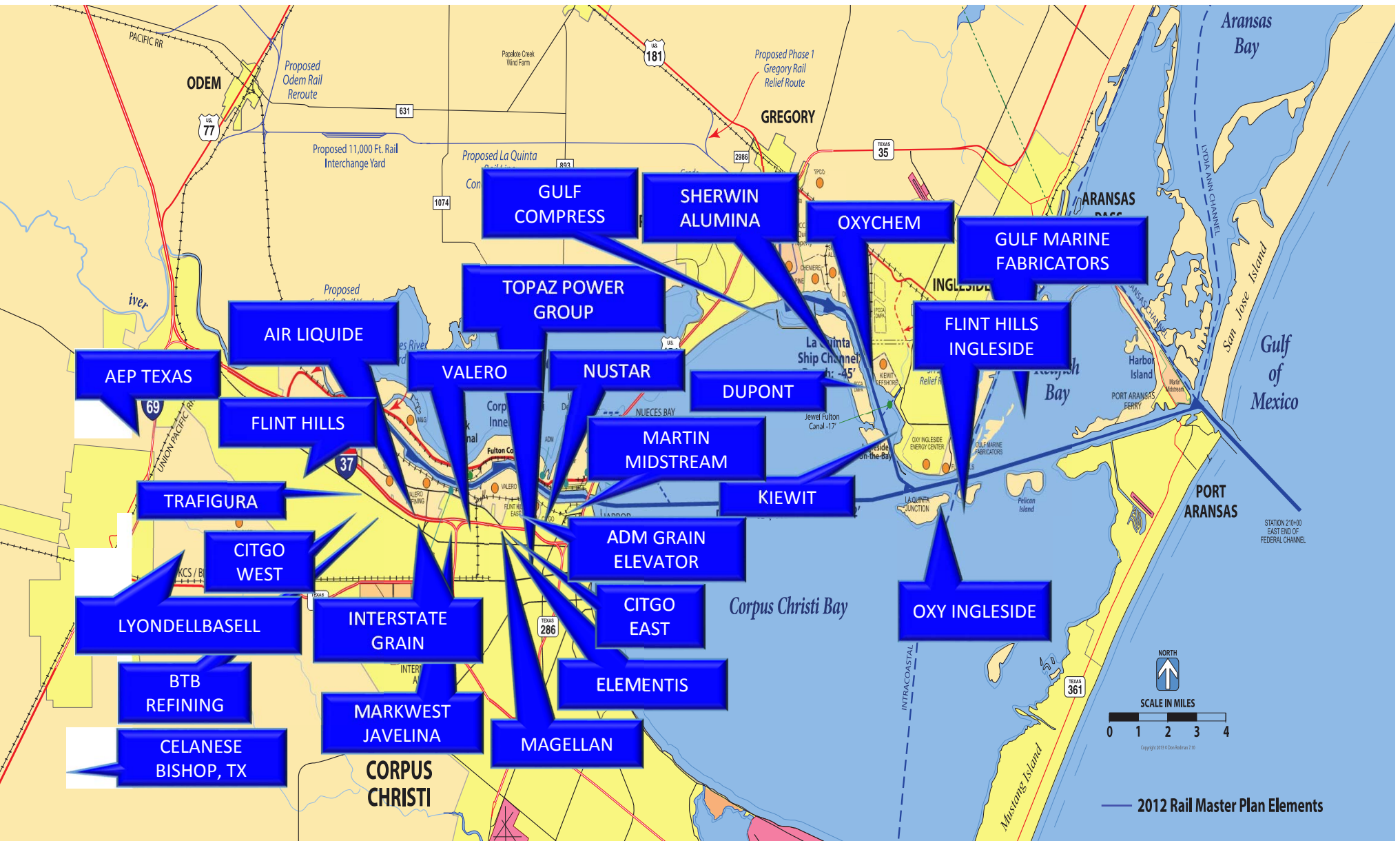


Gardendale Rail Spur near Cotulla



Port of Corpus Christi TODAY

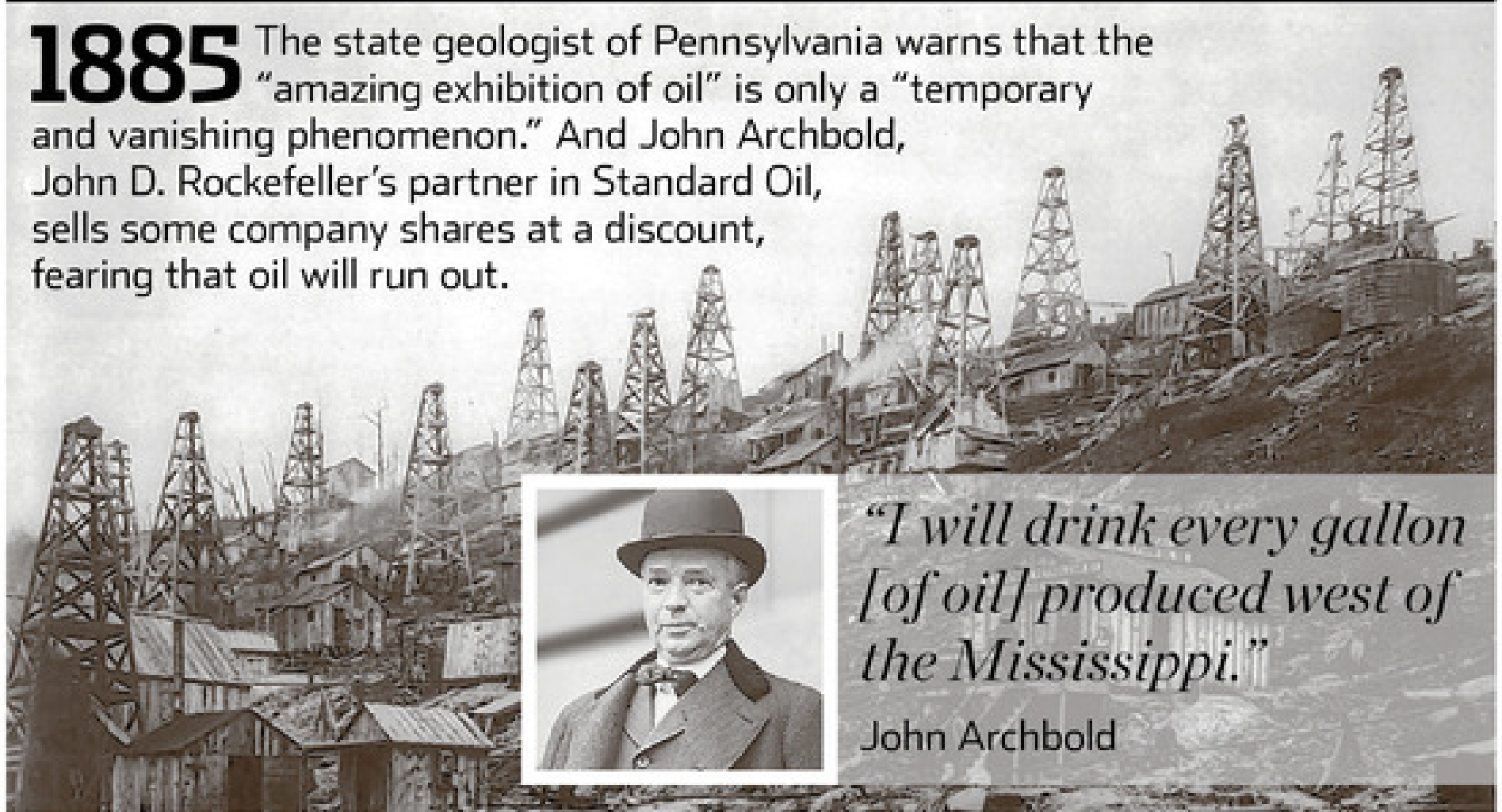
TAMEST Shale Task Force



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.



*“I will drink every gallon
[of oil] produced west of
the Mississippi.”*

John Archbold

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.

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

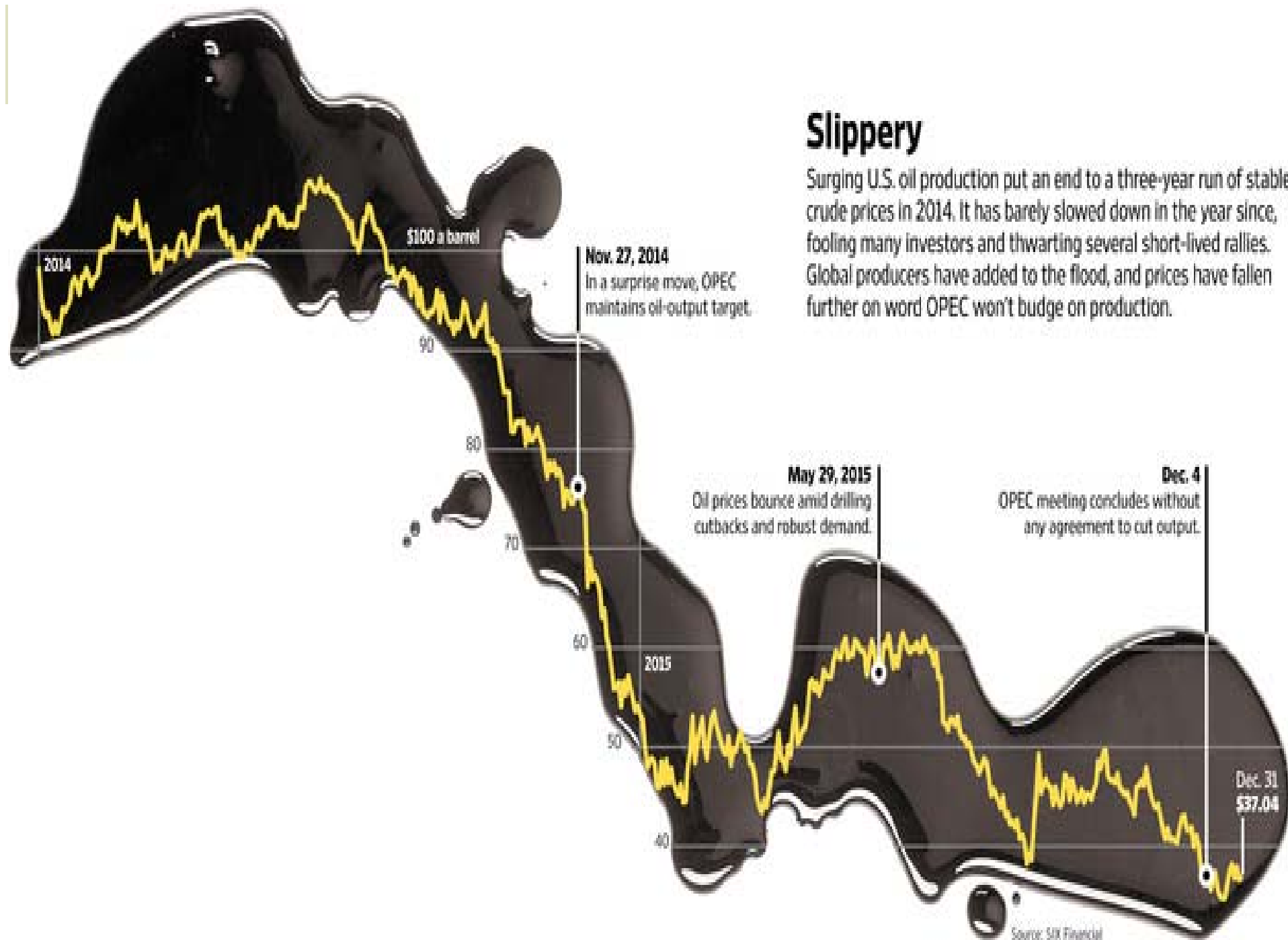
Rafael Correa, President of Ecuador – September 27, 2008

Oil prices won't drop below \$100

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

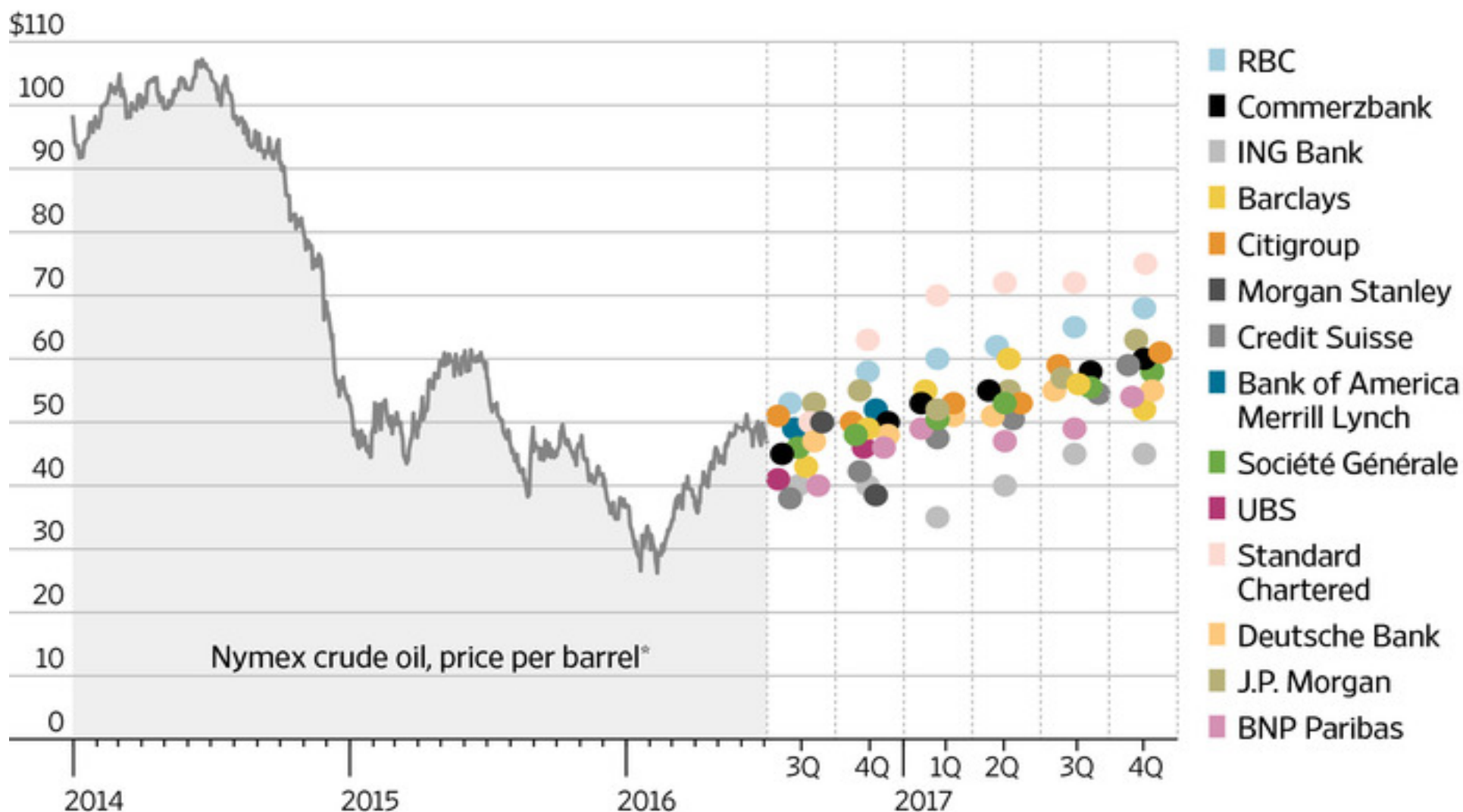
Pickens says oil won't go below \$100

August 14, 2008



Looking Ahead at Oil Prices

Where investment banks surveyed in June see the price per barrel of U.S. crude-oil futures in the next few quarters

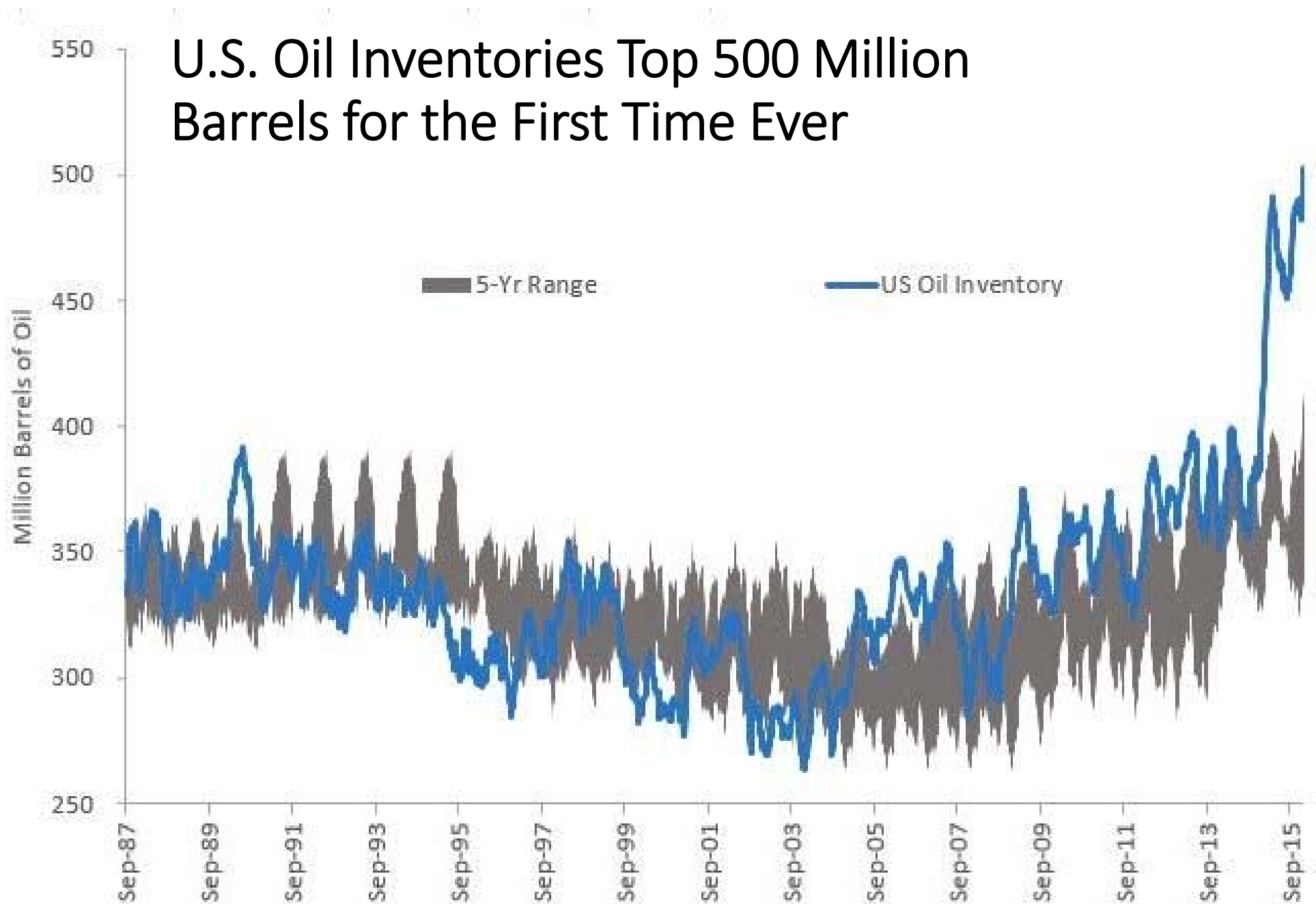


*Through July 5

Source: WSJ Market Data Group (Nymex crude prices); the companies

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



Source: Oilpro, DOE

The Second Act in Oil Market Rebalancing

Clearing inventories accumulated since 2014 could take until next decade



Source: International Energy Agency

Bloomberg 

“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

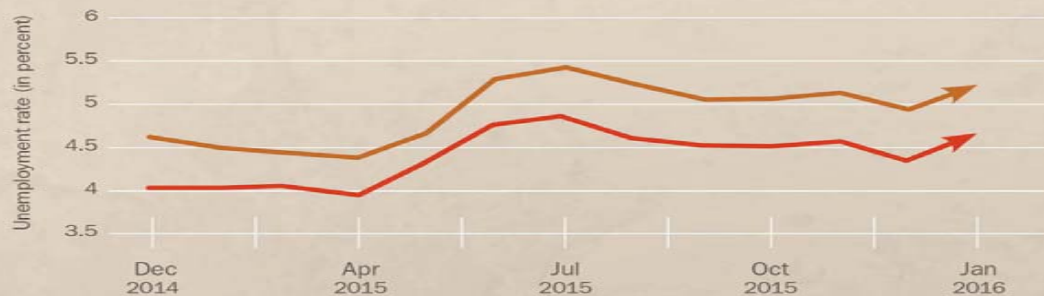
Lima Peru

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.

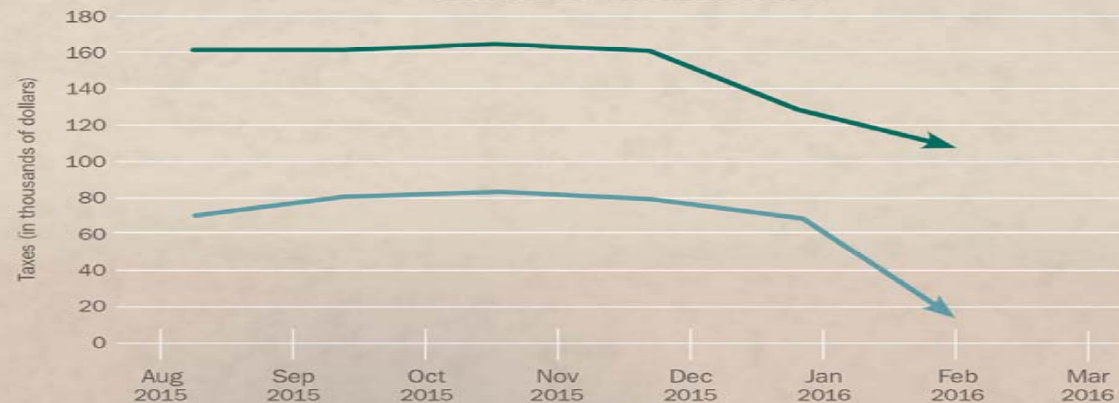


TAKING STOCK

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



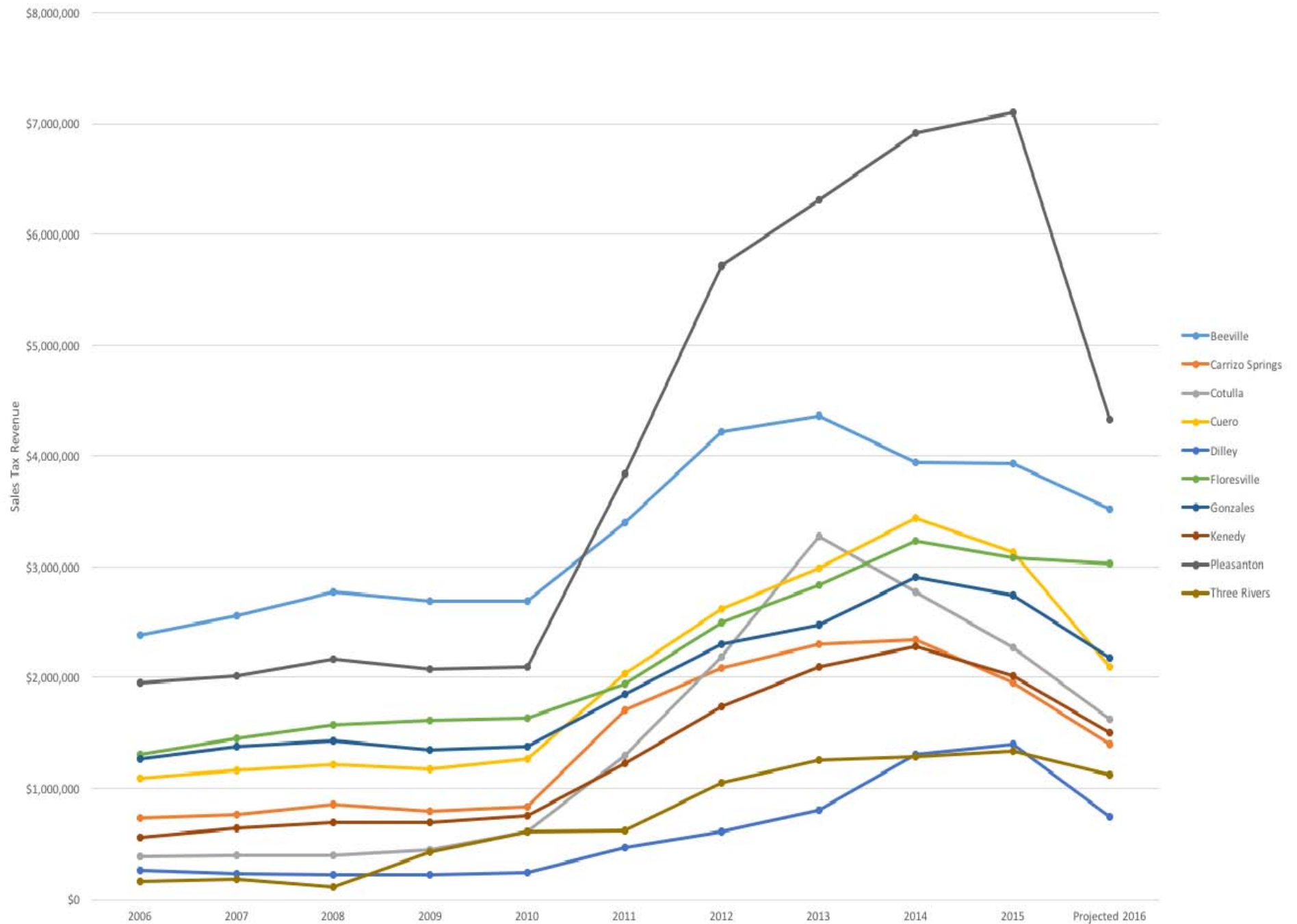
Change in hotel revenues in top oil-producing counties

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.](#)

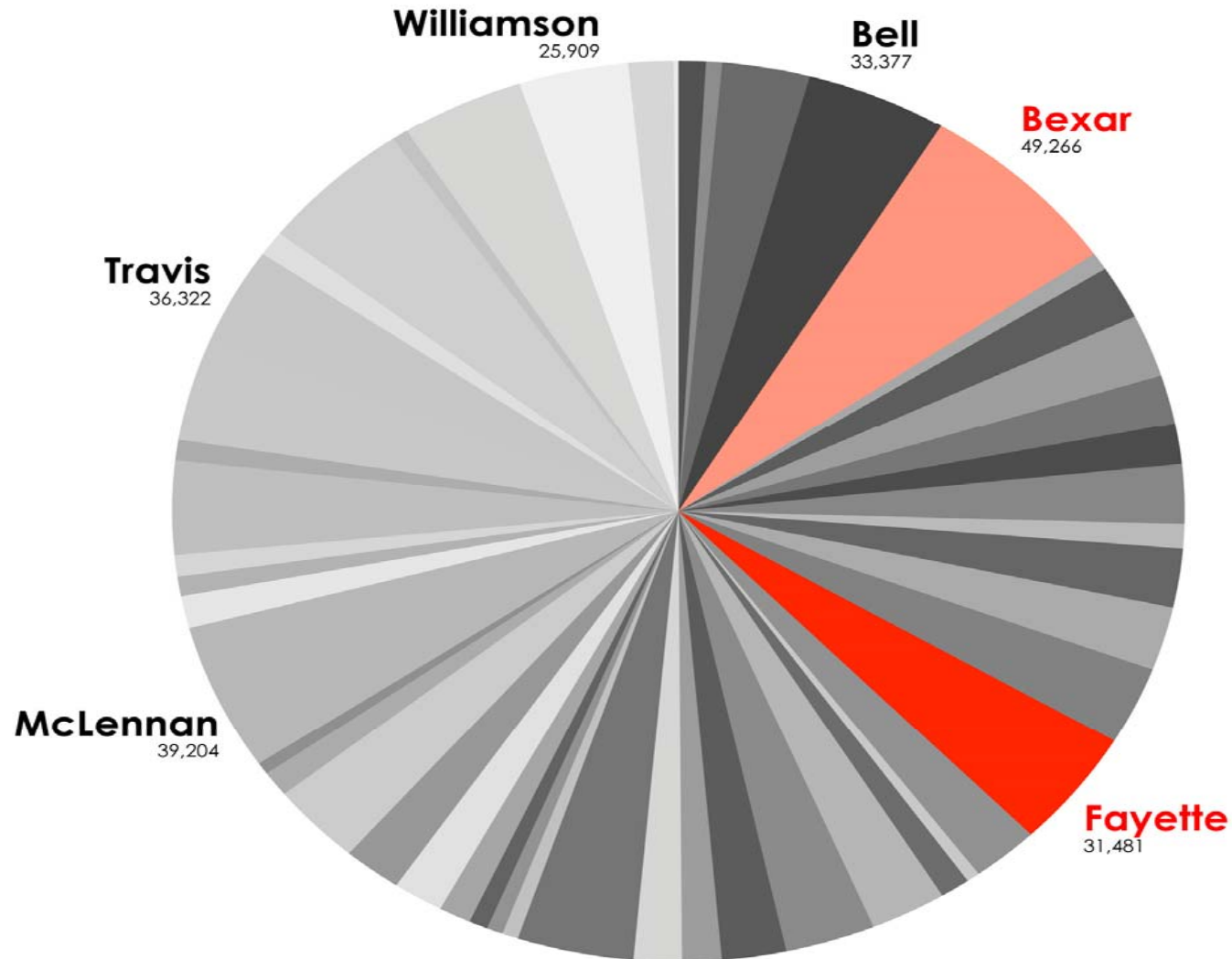
Sales Tax Figures Through The Years



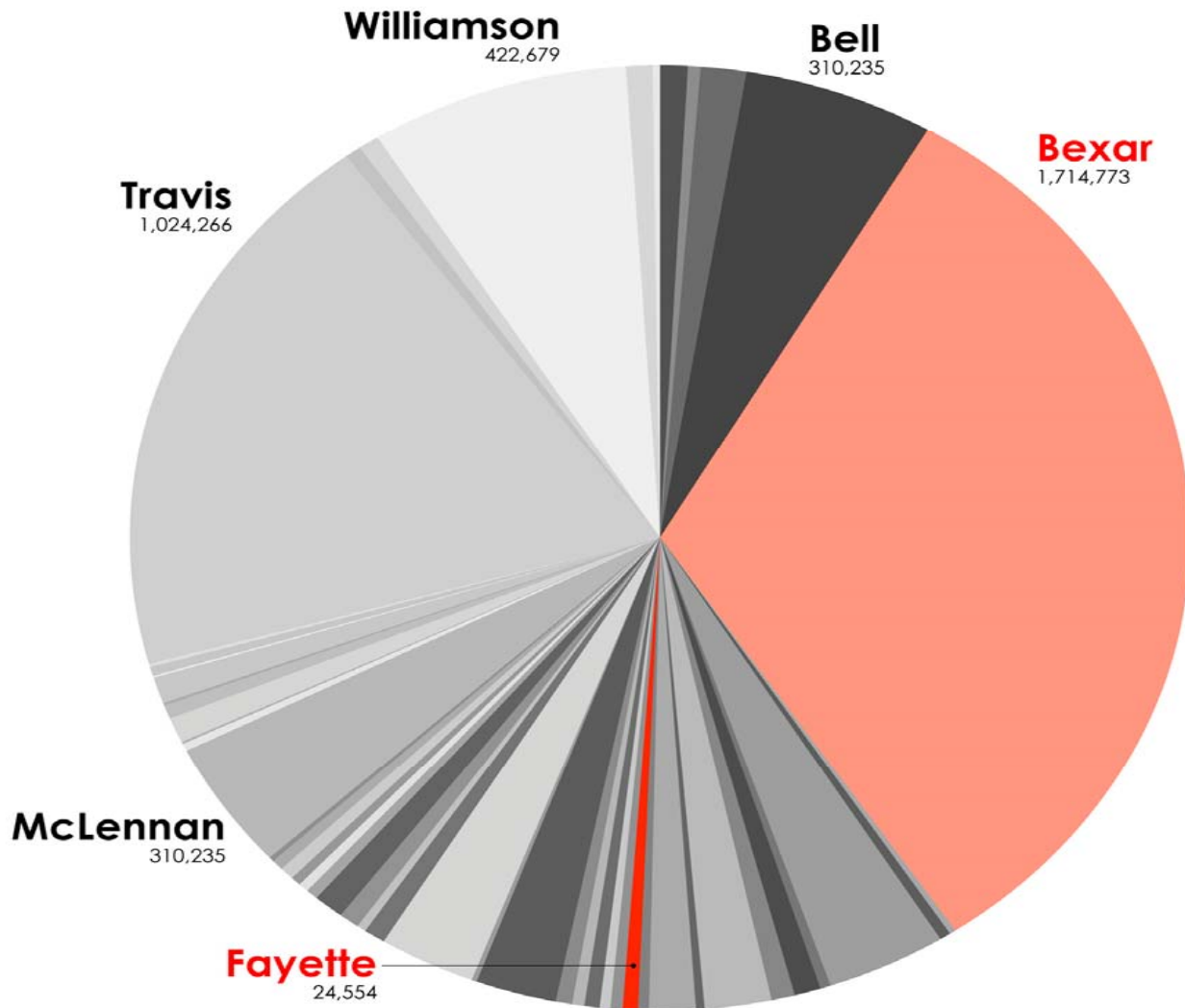
Medium-Long Term Strategies for Success

- 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

Selected Central Texas Counties (1890)



Selected Central Texas Counties (2010)



Looking Beyond Eagle Ford: Basics of Sustainable Infrastructure

TAMEST Shale Task Force

(Key to Attracting New Residents, Visitors and Industry)

- **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, Walk-able Neighborhoods)

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

CITY OF GONZALES

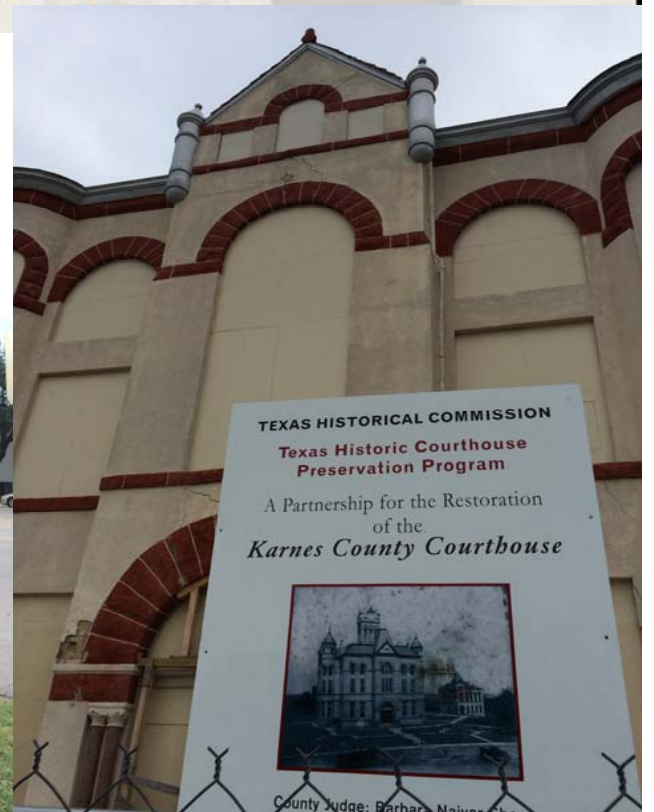


COME AND TAKE IT



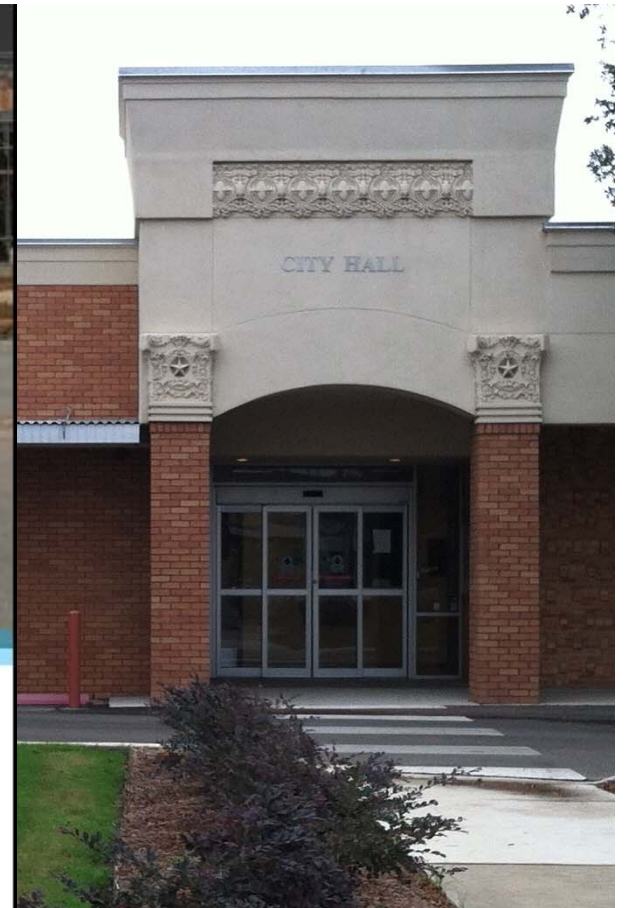
GONZALEZ ^S/_Z







PLEASANTON





COTULLA



Chuck's Bar and Dancehall - Cotulla, TX



Quality of Life Components

- Social relationships and culture
- Public safety and crime rates
- Independence and personal autonomy
- Healthcare services
- Water and air quality
- Solid waste and wastewater treatment
- Electricity
- Telecommunication infrastructure
- Employment opportunities
- Housing options
- Schools and education
- Banking services
- Ease of travel
- Animal and destructive insect control
- Public transport
- Variety of restaurants
- Cultural events
- Sports and leisure activities
- Retail variety
- Religious options
- Climate
- Recreation
- Aesthetics
- Physical activity

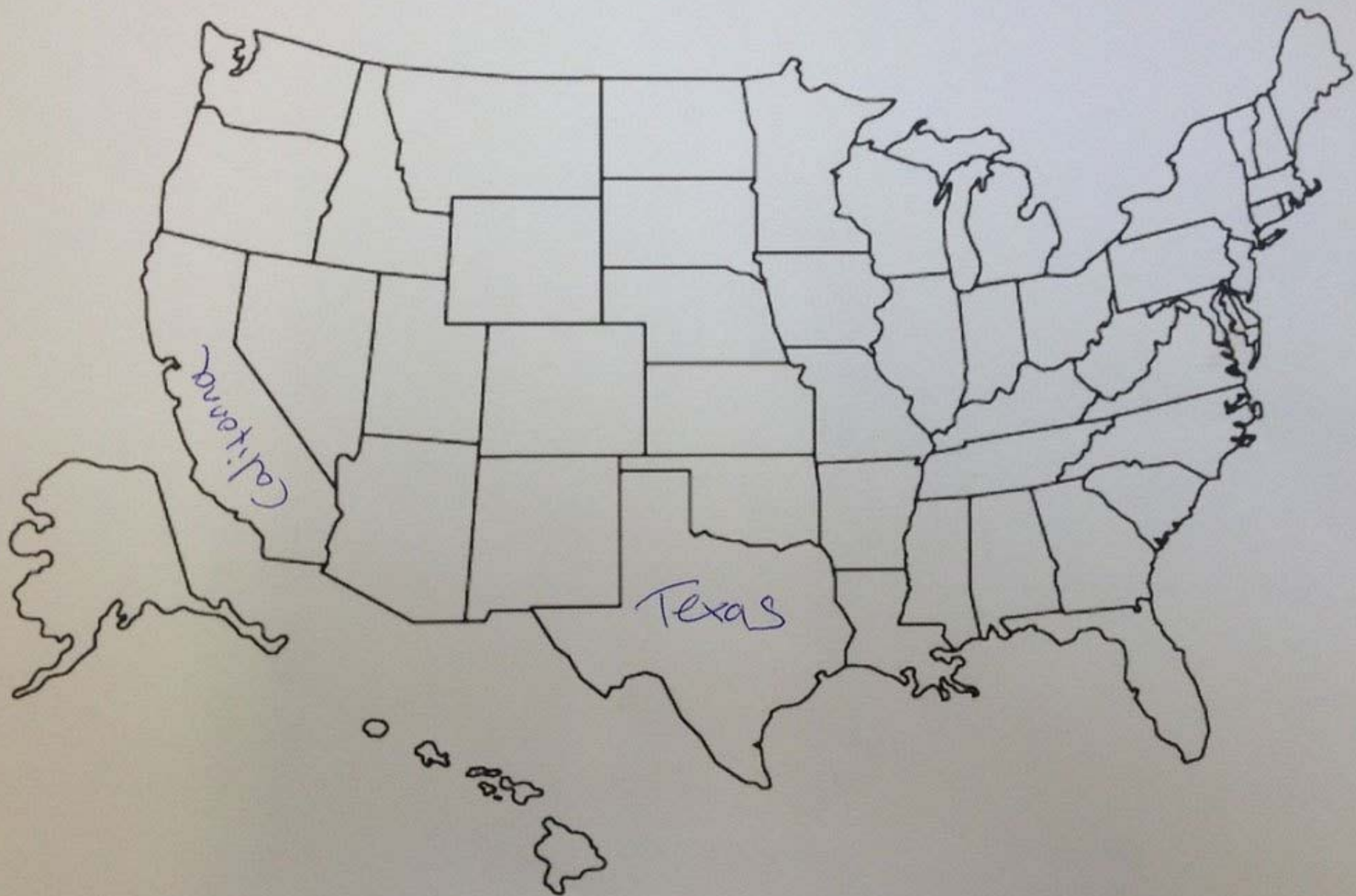
The Future Ain't What It Used To Be

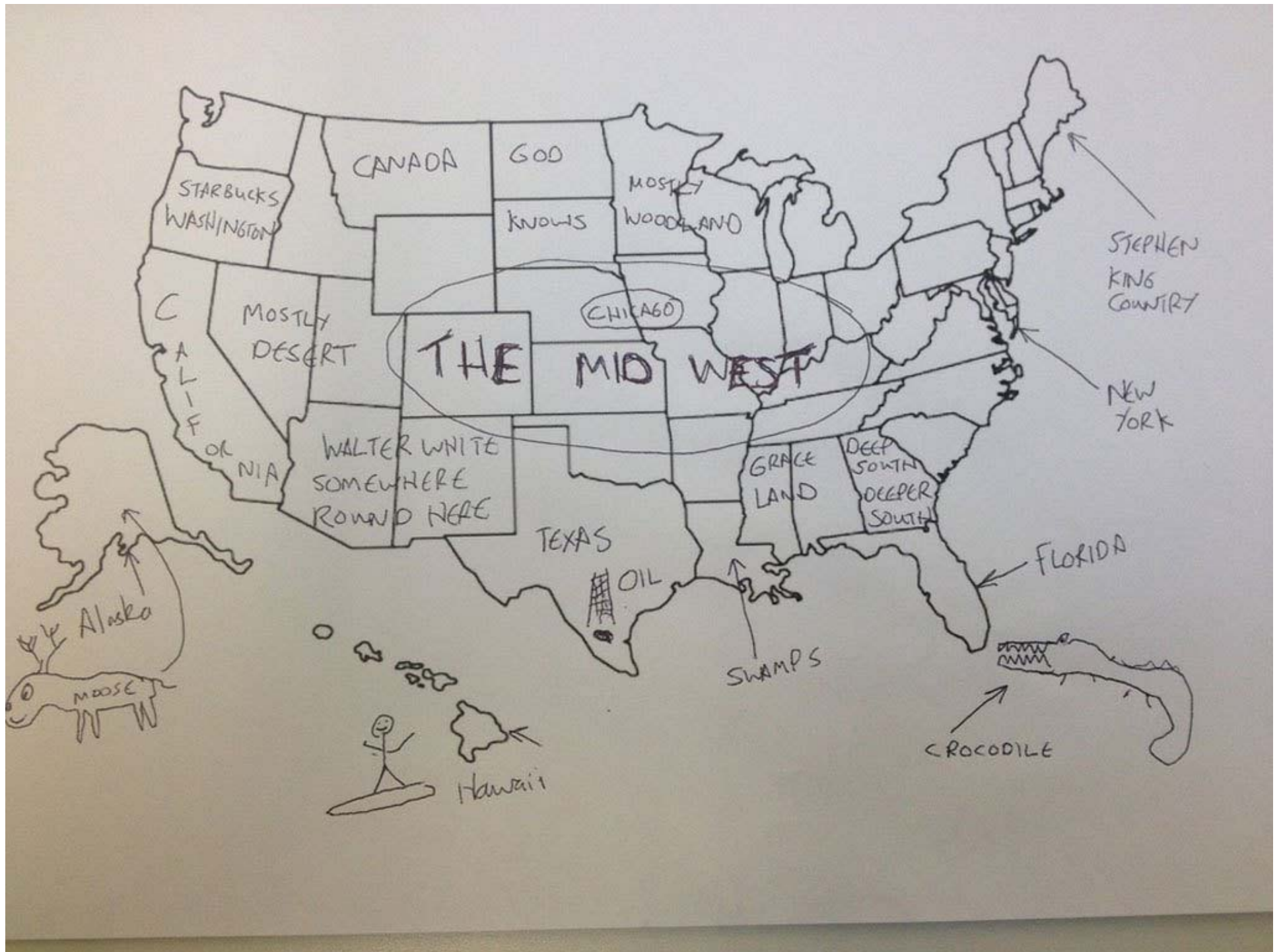
- Yogi Berra

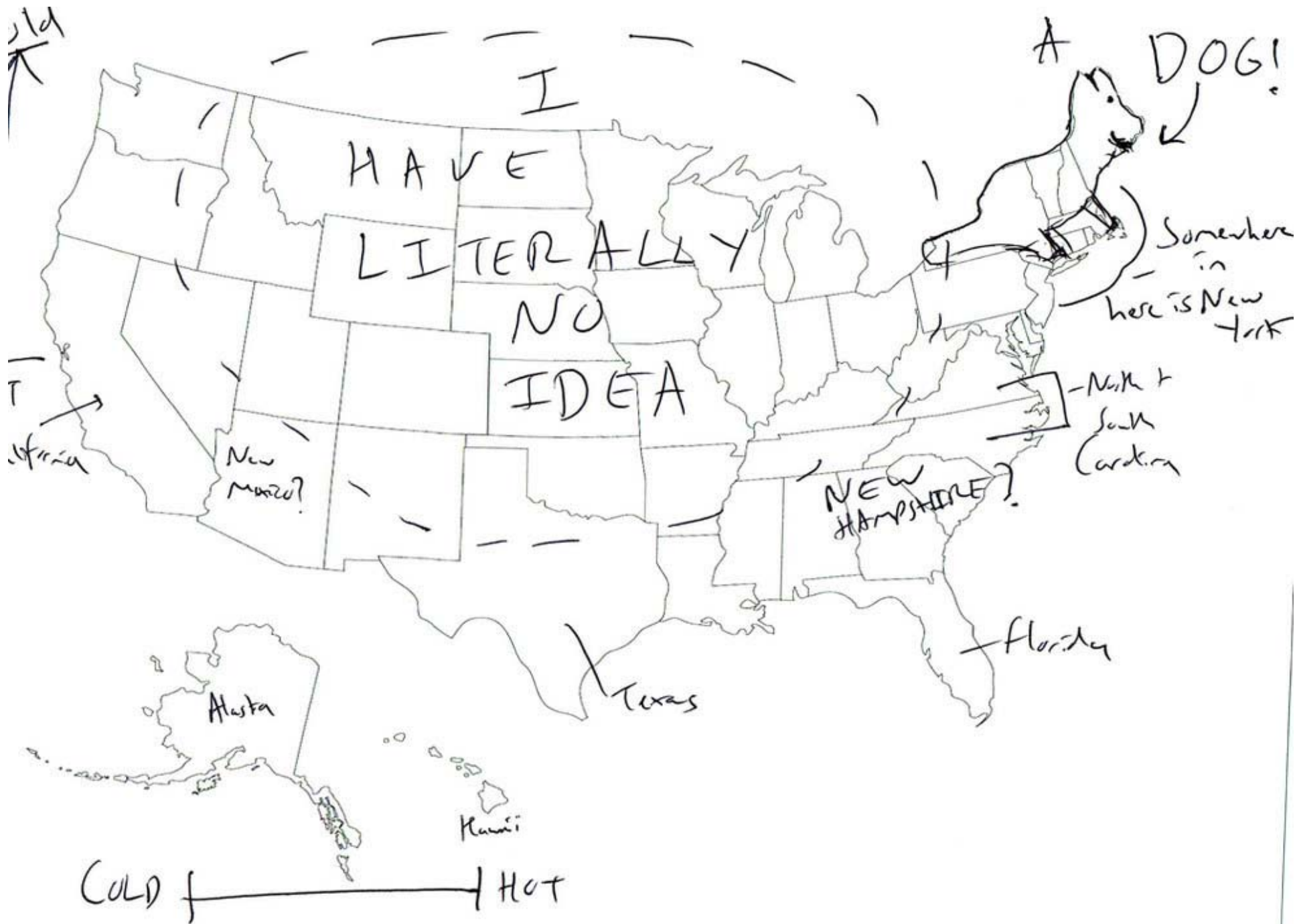


“We have the greatest history of *any* state in the union—there’s nothing to compare to it. That’s not Texas brag. **More books have been written about Texas than any state in the union. In fact, there are more books about Texas than all the rest of the states combined. And it’s not because we have so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

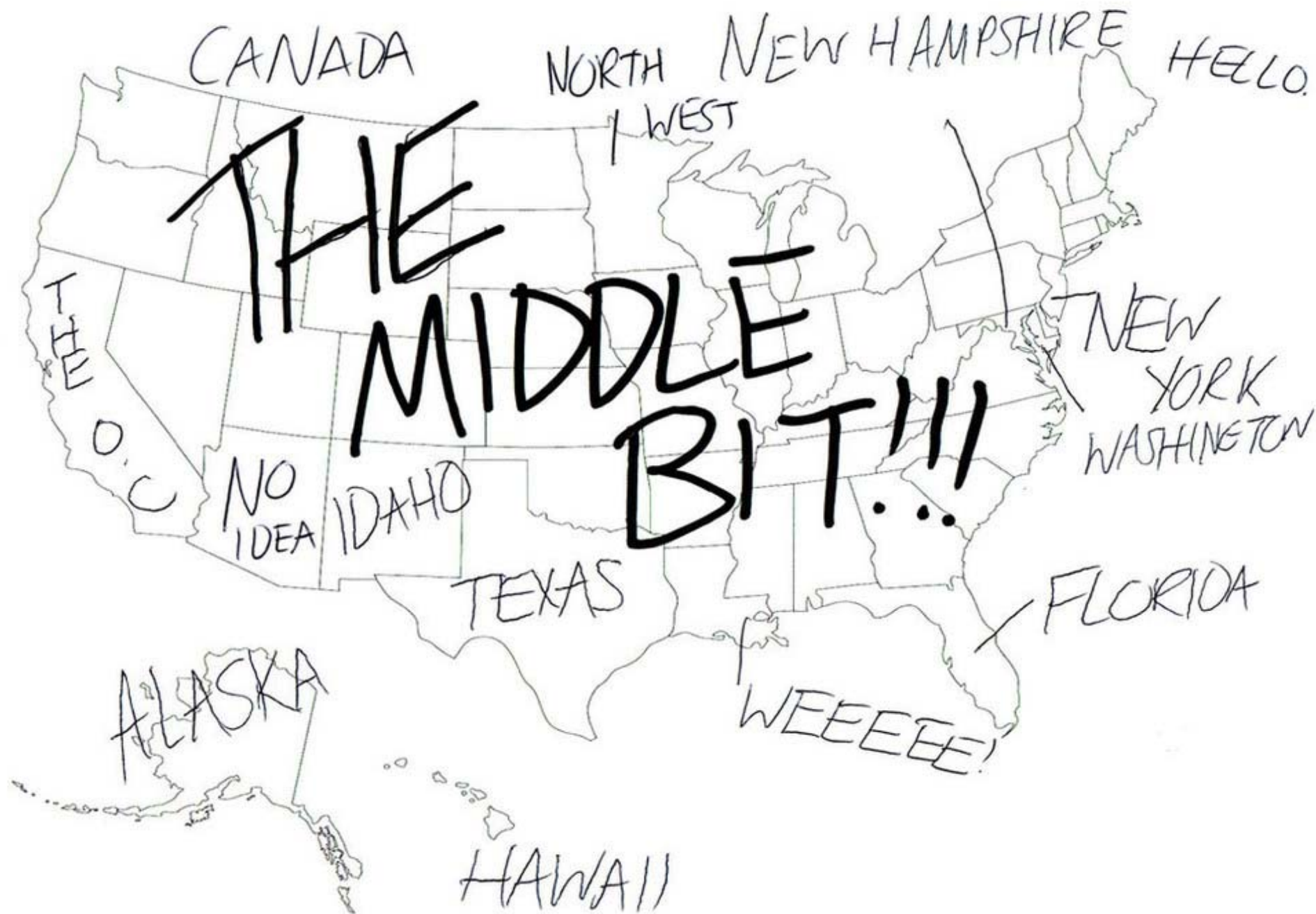






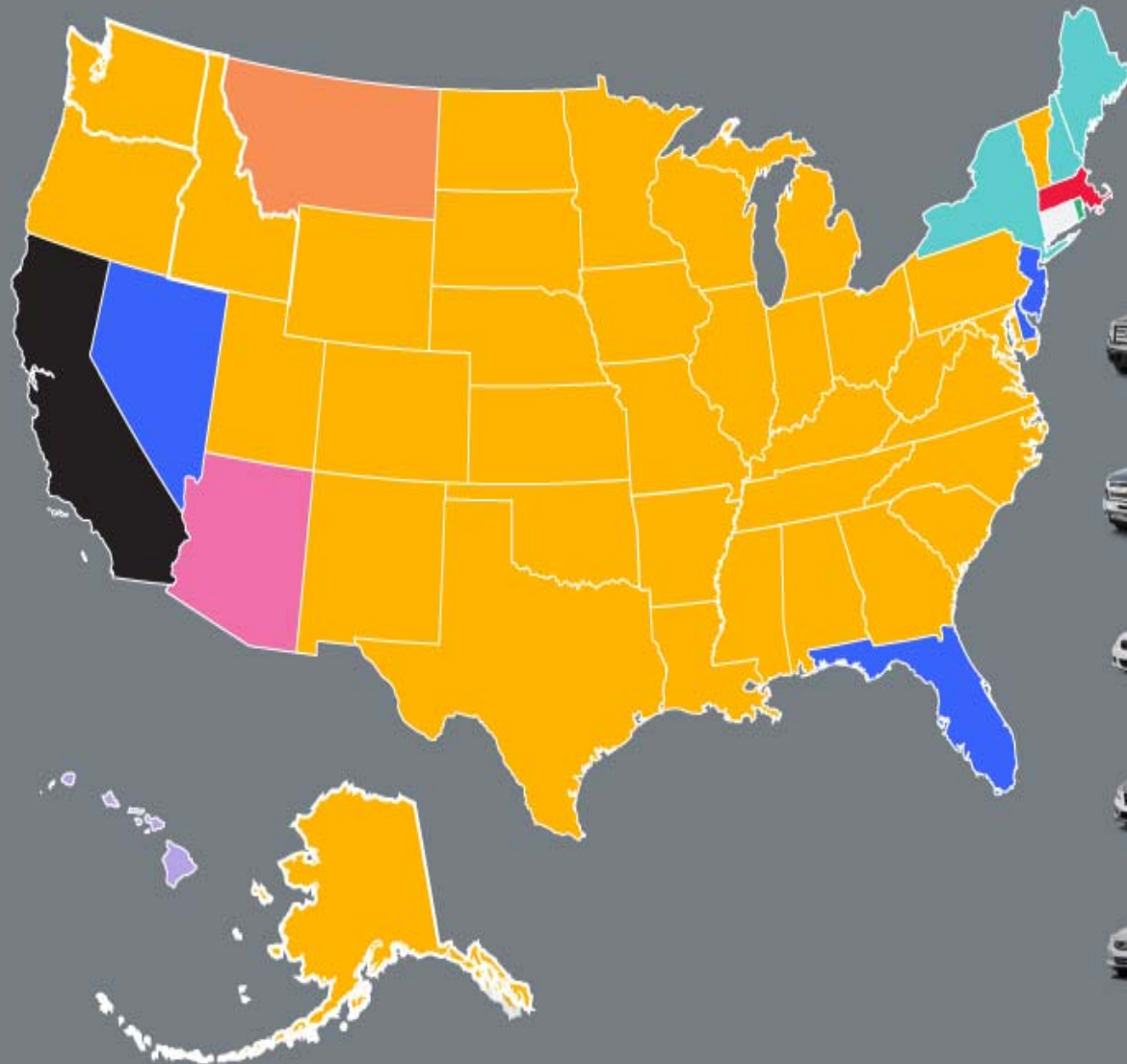








MOST POPULAR VEHICLE BY STATE



Ford F-150



Dodge Grand Caravan



Chevrolet Silverado



Dodge Ram 1500



BMW 3 Series



Jeep Grand Cherokee



Nissan Altima



Mercedes-Benz C



Honda Accord



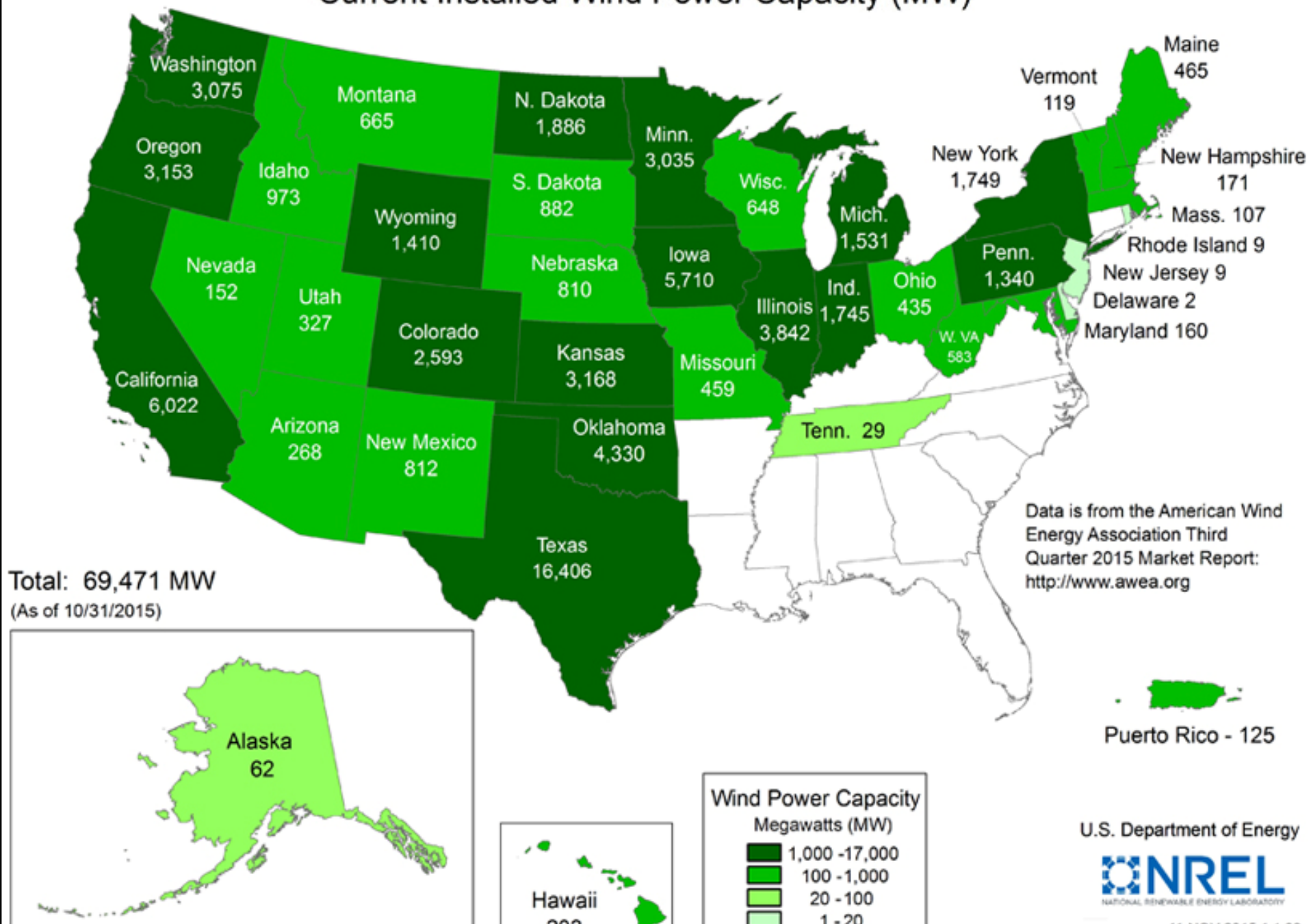
Honda CR-V

IT'S SO HOT IN TEXAS



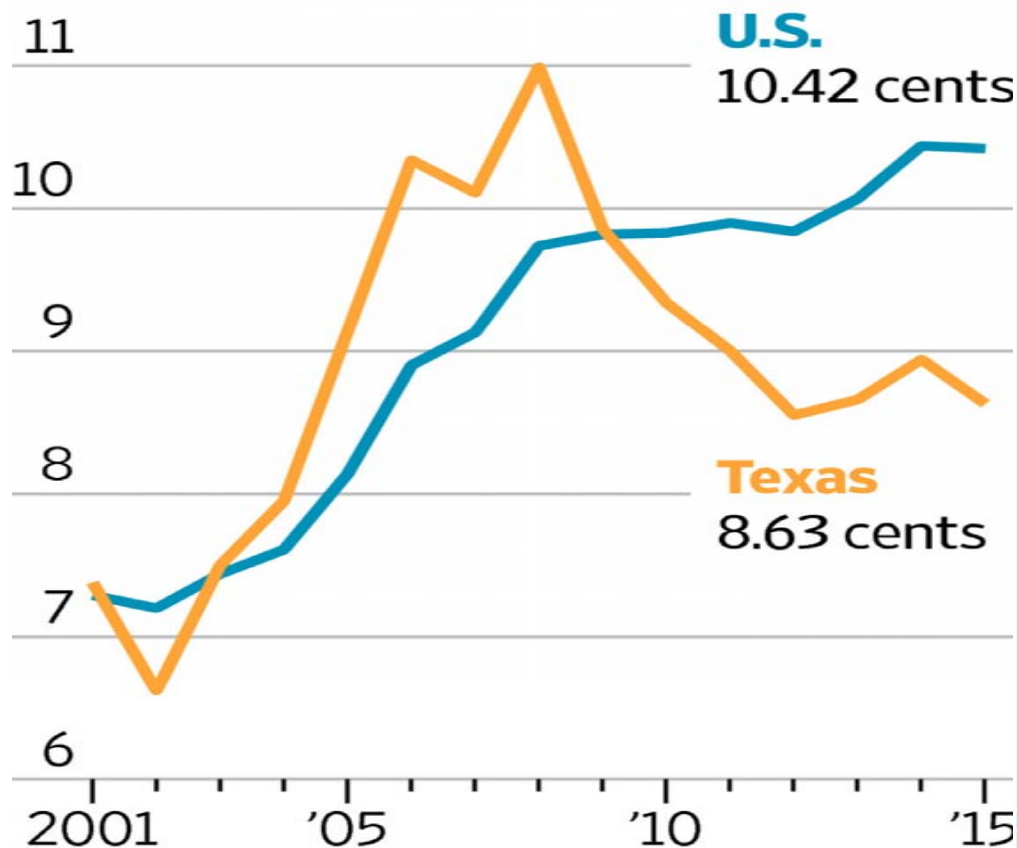
WE'VE INSTALLED FANS OUTSIDE

Current Installed Wind Power Capacity (MW)



Cheaper Power

Average retail electricity price
12 cents a kilowatt hour

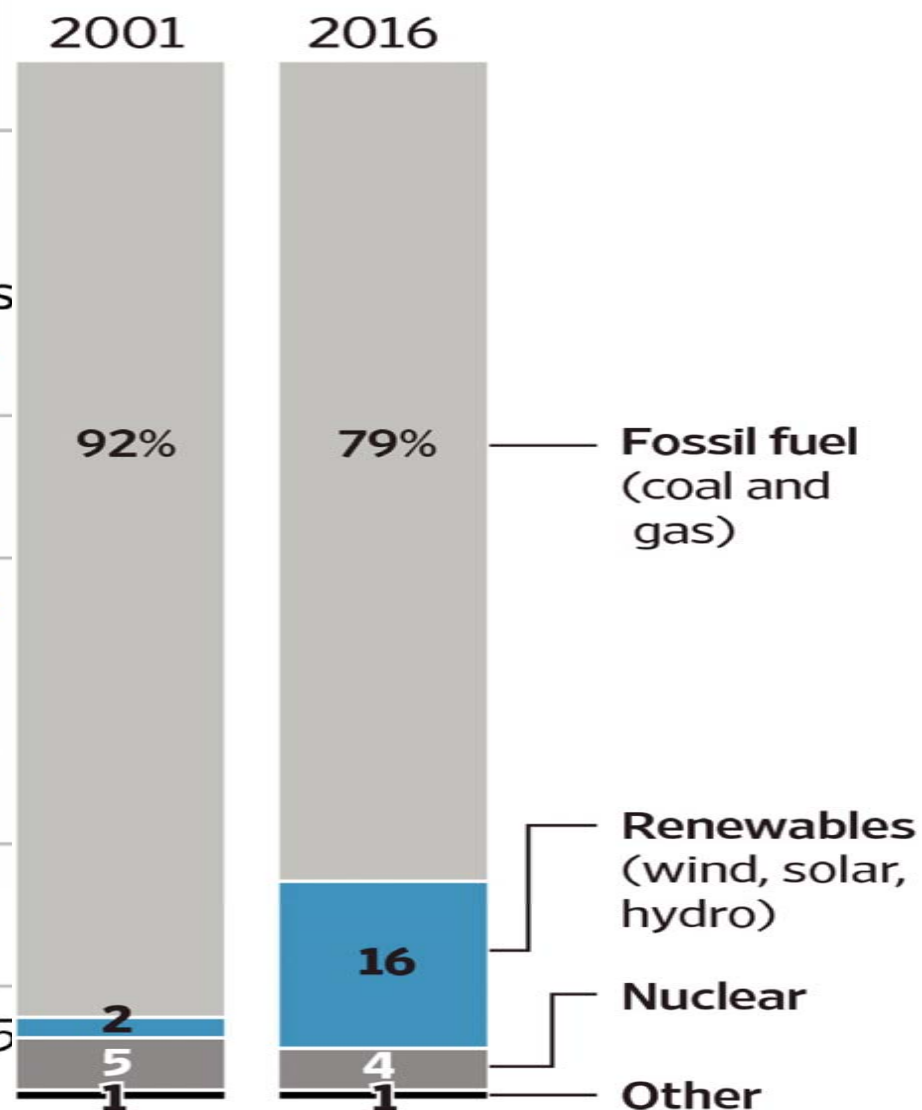


Source: U.S. Energy Information Administration

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Rising Renewables

Texas's energy sources



Source: U.S. Energy Information Administration

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**Only Texas could turn defeat into a legend ... and a song,
and a tourist attraction, and a major motion picture.**





TEXAS IS THE
FINEST PORTION
OF THE GLOBE
THAT HAS EVER
BLESSED MY VISION.

SAM HOUSTON 1833



TEXAS

**"THERE ARE ONLY TWO
STATES IN AMERICA: TEXAS
AND NOT TEXAS."**



AIN'T TEXAS

The image is a graphic design on a dark blue background. The text "AIN'T TEXAS" is written in a large, white, distressed, and slightly irregular font. The letters have a hand-painted or stenciled appearance. Behind the letters "N" and "T", there is a light blue silhouette of the state of Texas. The overall style is reminiscent of vintage Americana or a protest sign.

Thank you!

Social and Economics:
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