



# Through the Fog

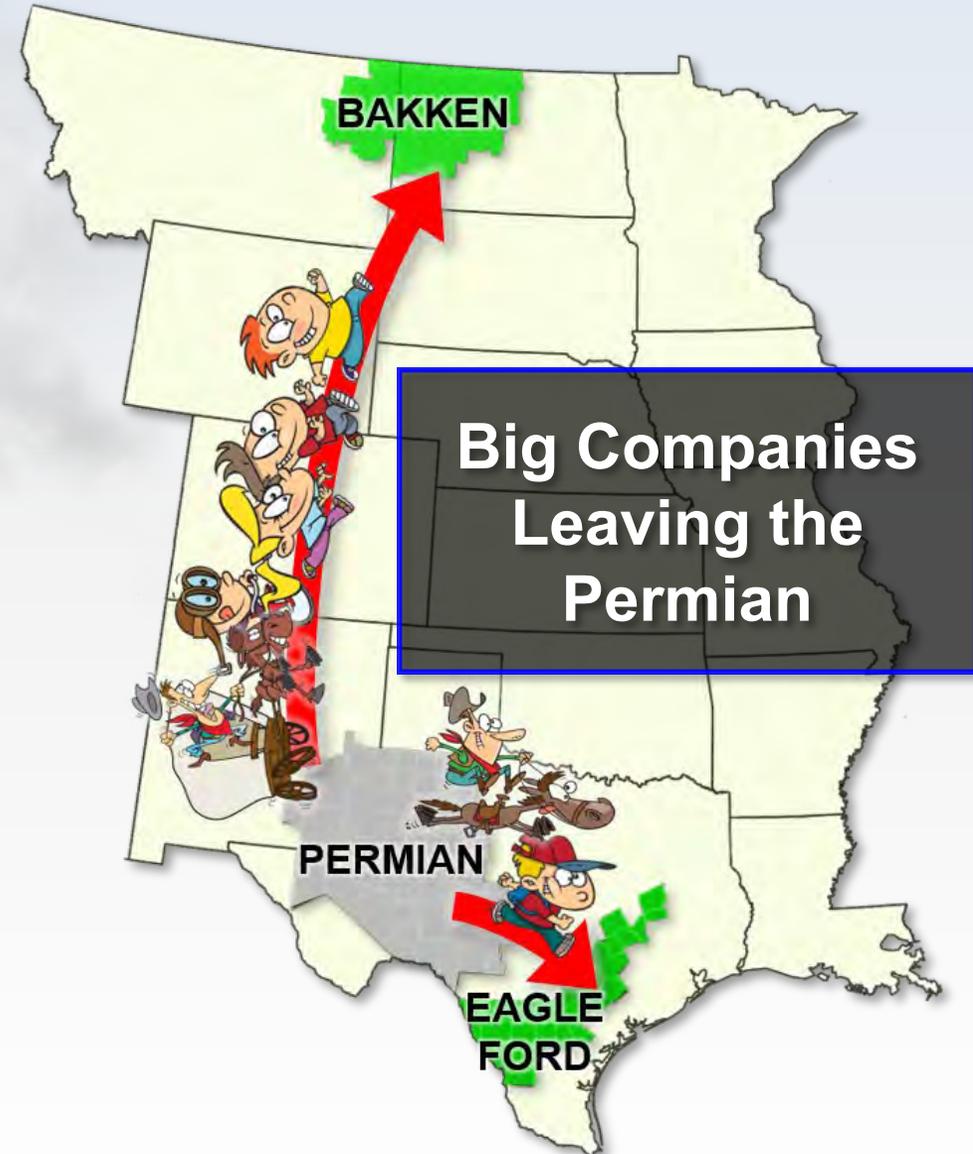
*AAPG – January 2019*

# Three Rivers Through the Fog

## **BROC1:** **2010**

**FINANCIAL  
CRISIS  
OF 2008**

**& 2009 Oil Price Collapse**



# Three Rivers Through the Fog

## BROC2: 2012



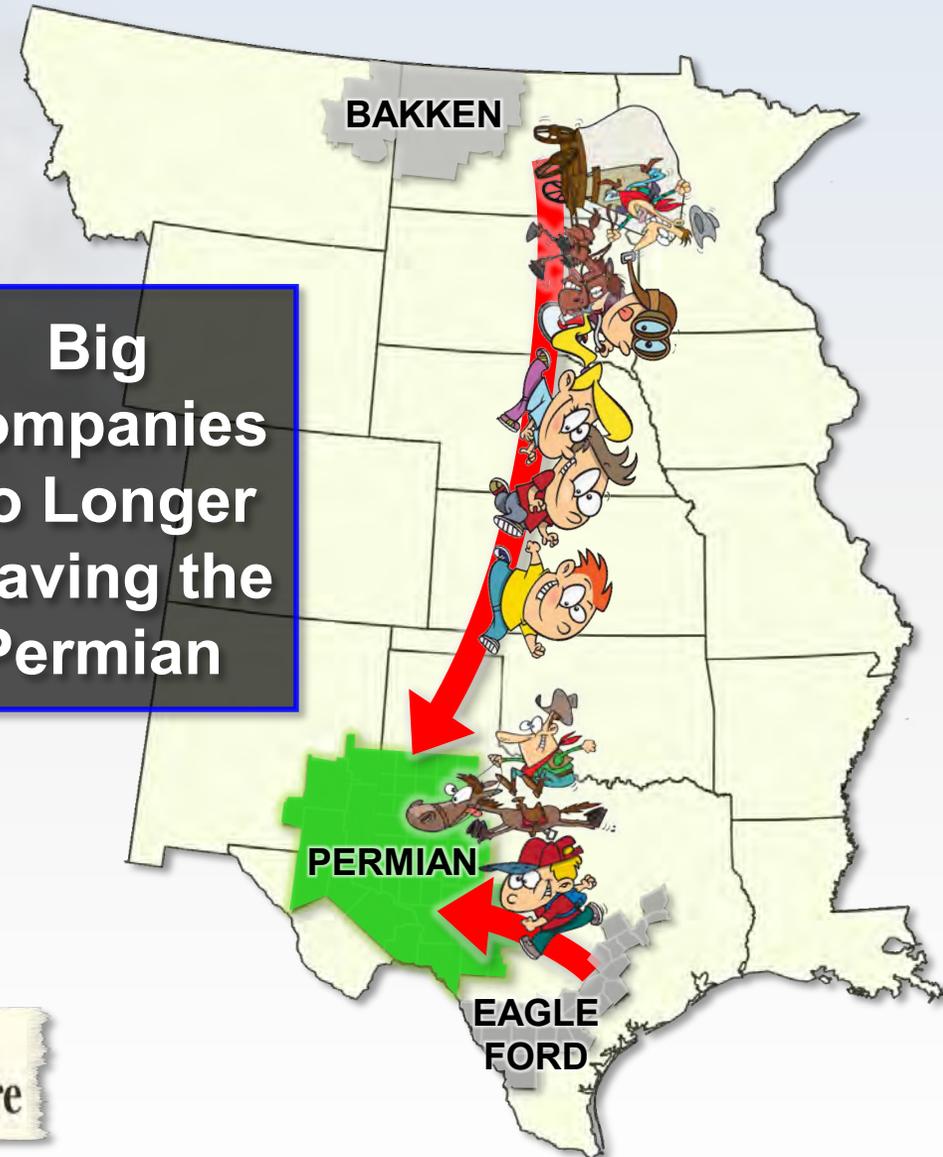
**Cline is New Play**  
(Wolfcamp Shale Only Works in Southern Midland Basin)



ASIA BUSINESS Jan. 30, 2013 2:09 p.m. ET

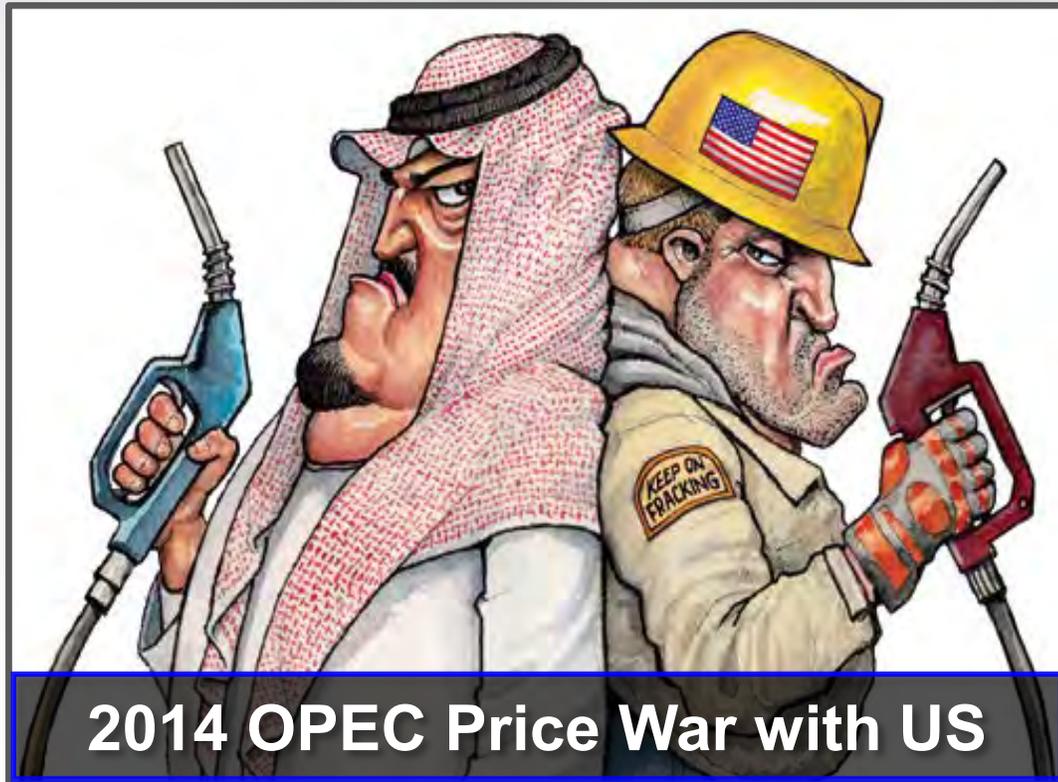
**Sinochem to Buy 40% of Pioneer Natural Venture**

**Big Companies No Longer Leaving the Permian**



# Three Rivers Through the Fog

## **BROC3:** **2014**



**2014 OPEC Price War with US**

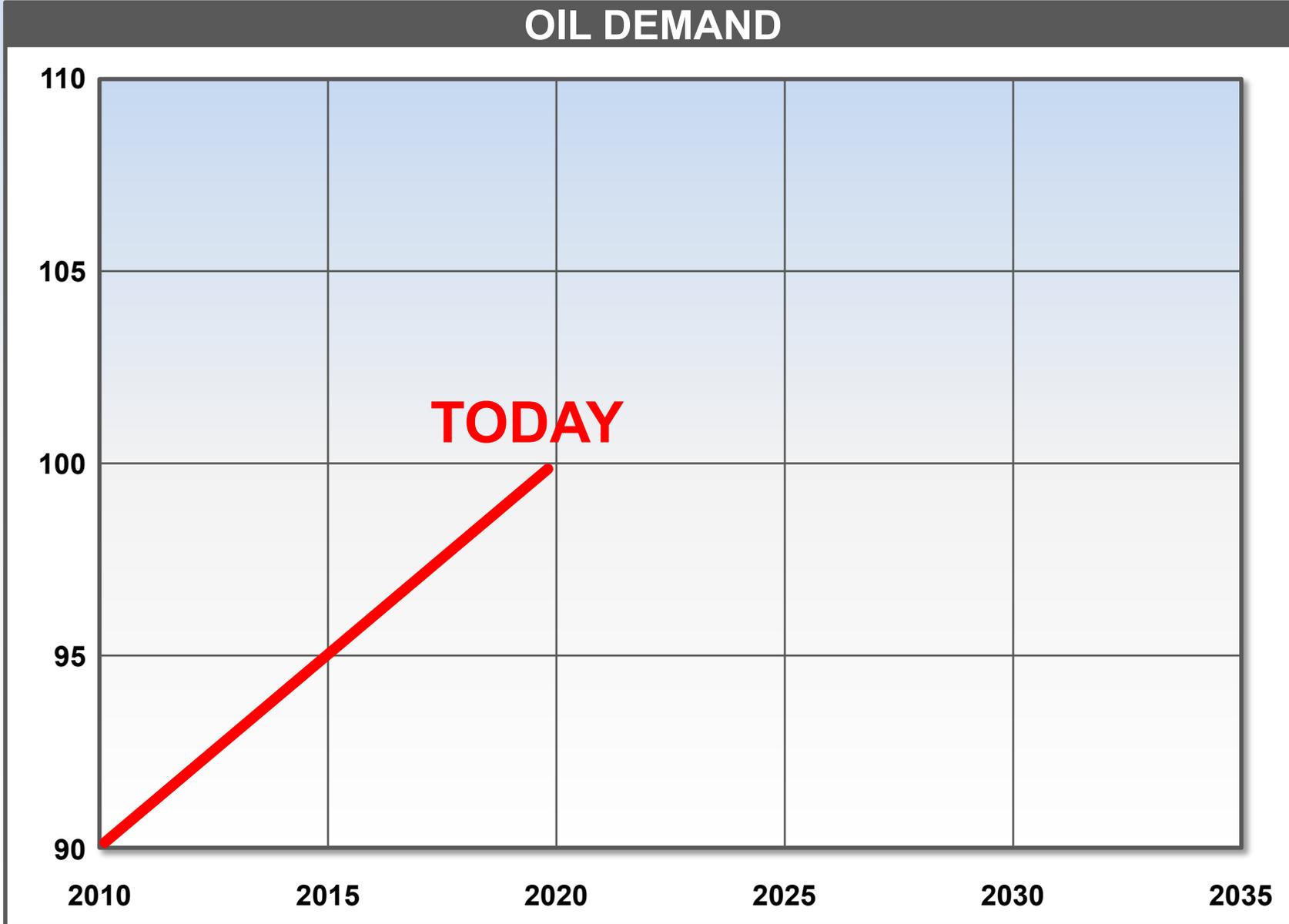


**Feb  
2016**

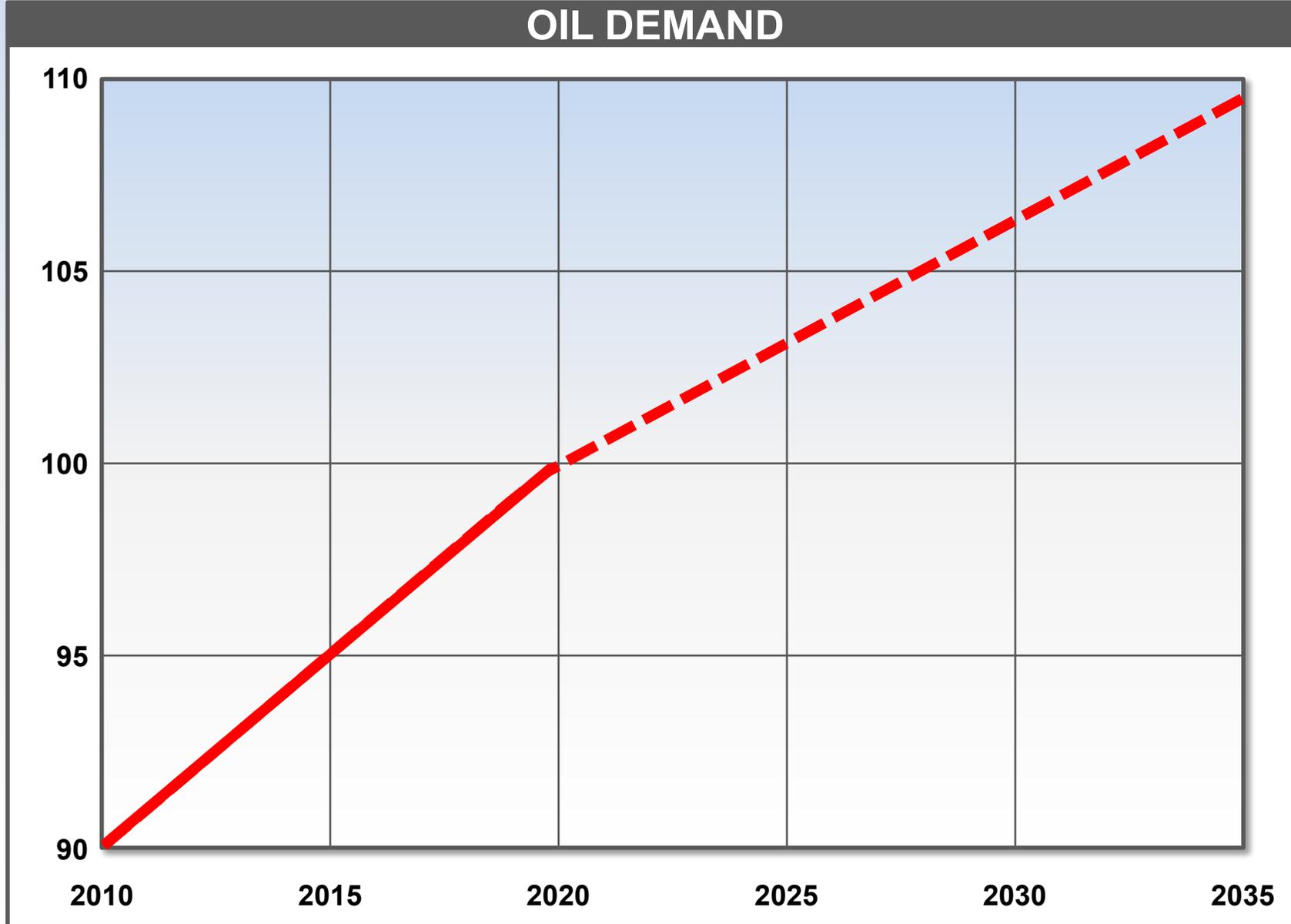


**“Peak Oil Demand”**

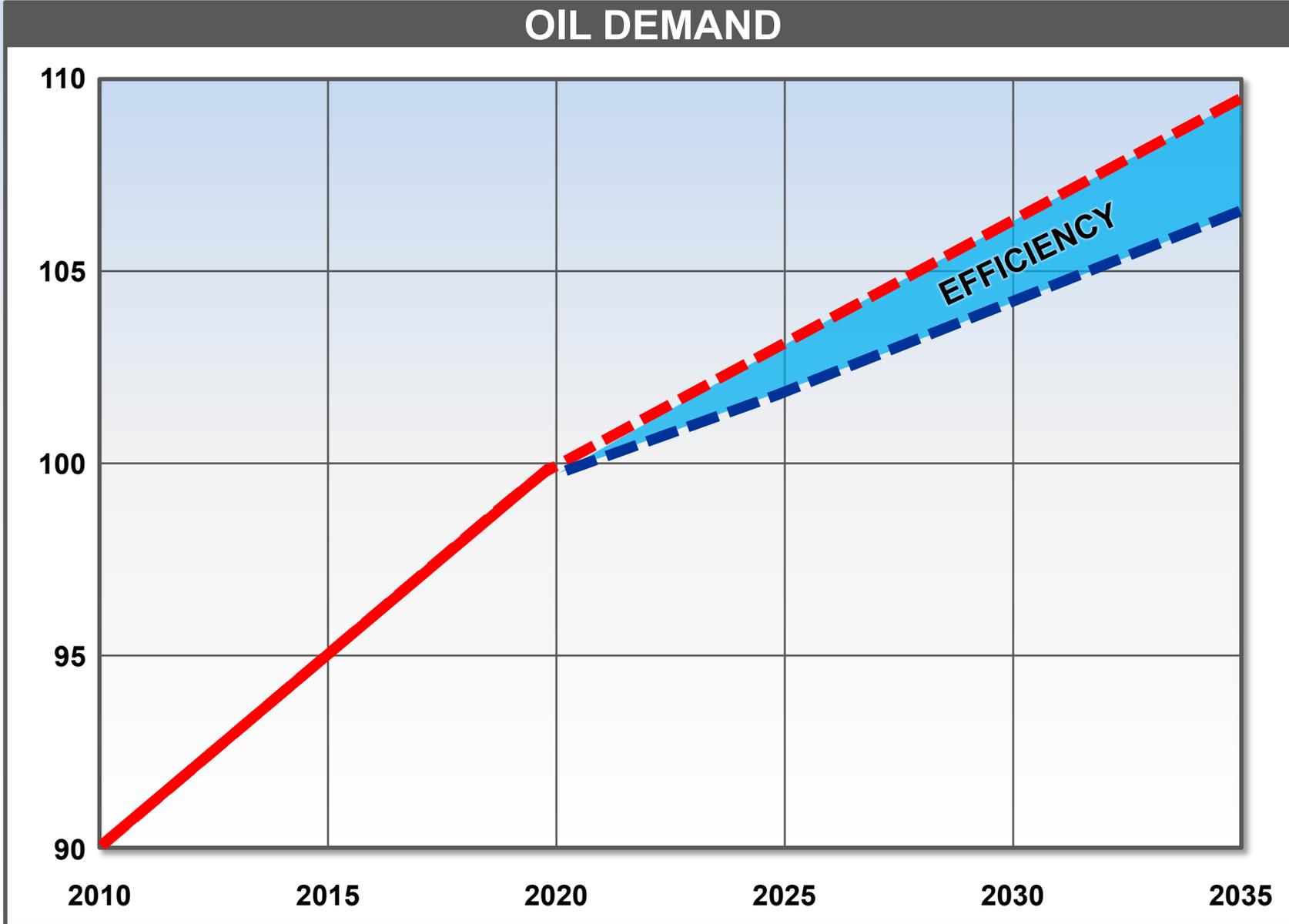
# Today's Fog



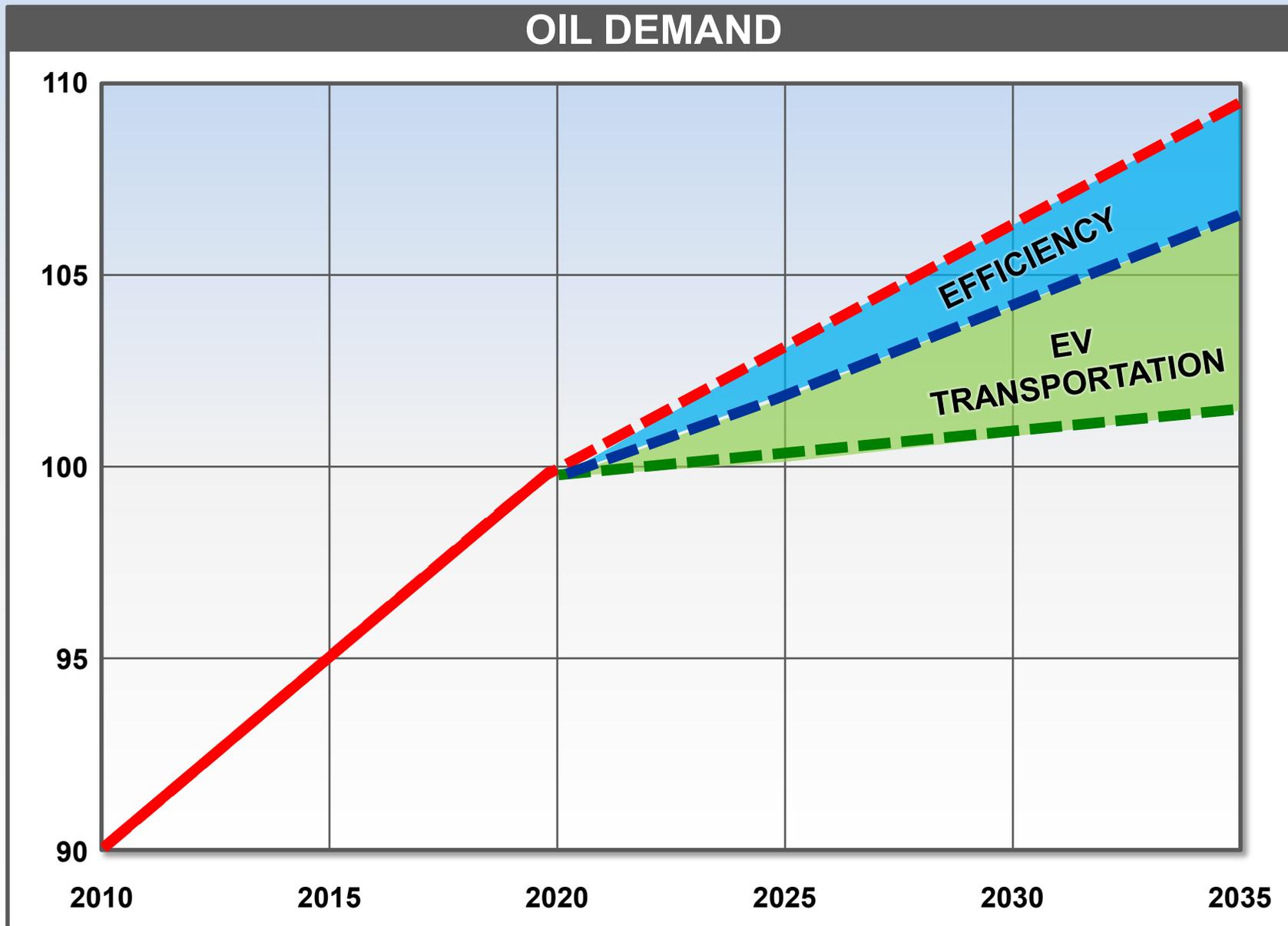
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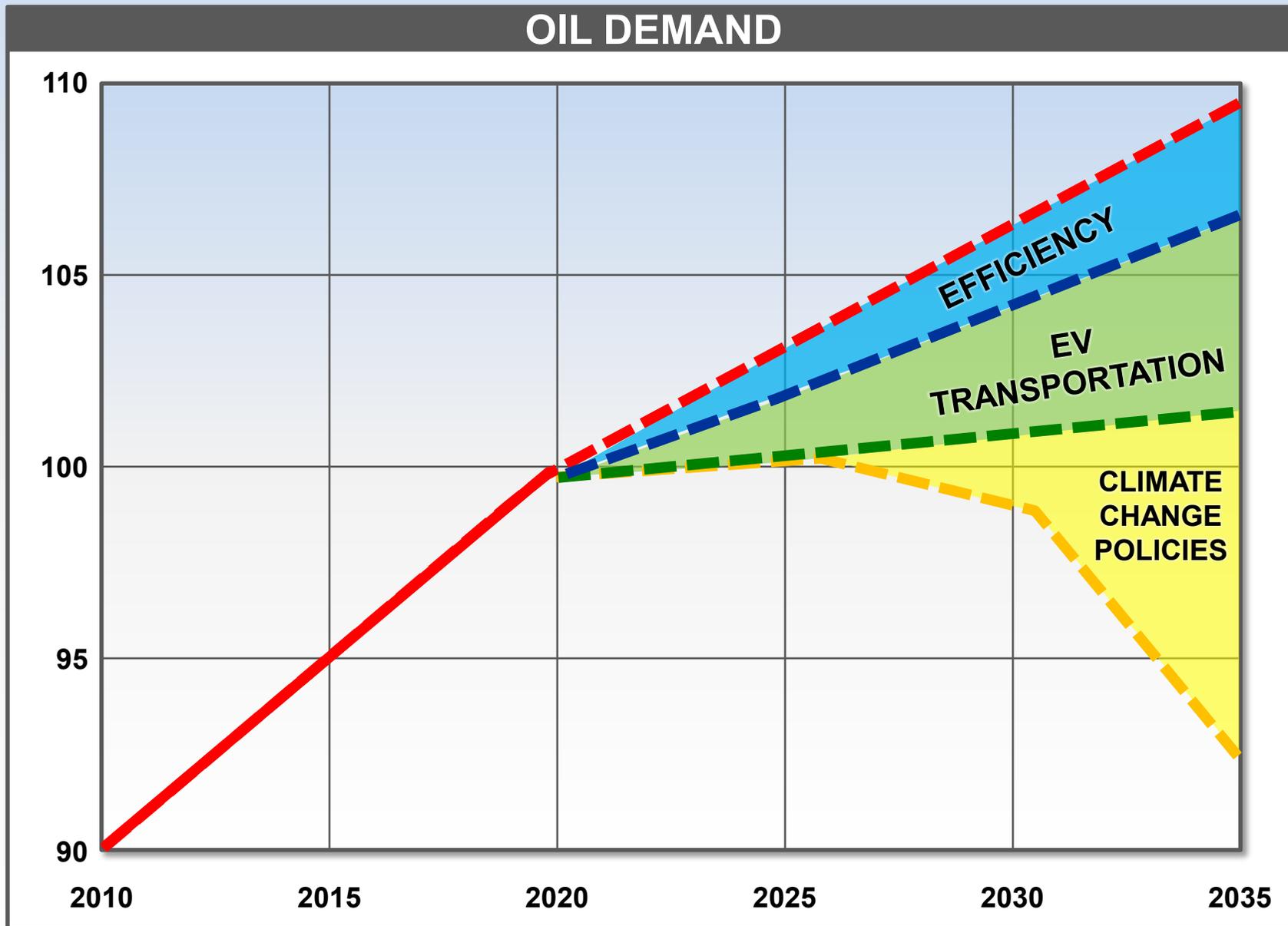
# Today's Fog



# Today's Fog



# Today's Fog



# History Lesson: “Peak Oil”

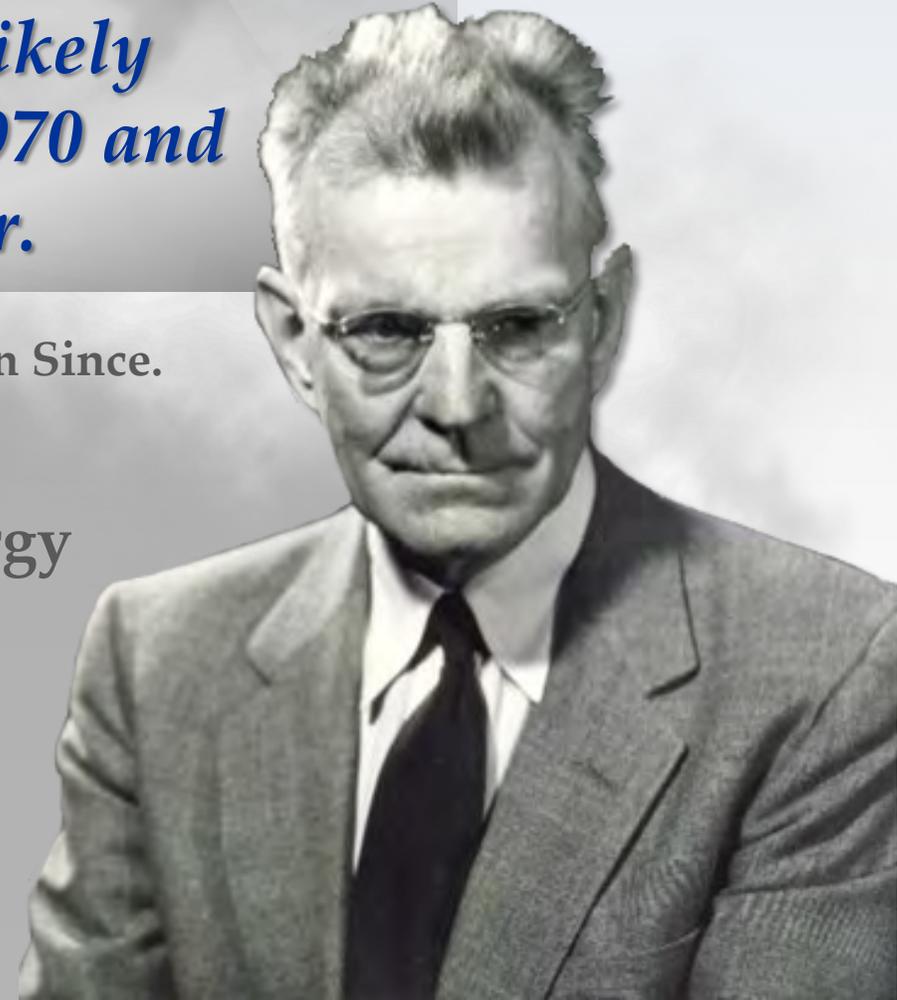
1956

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

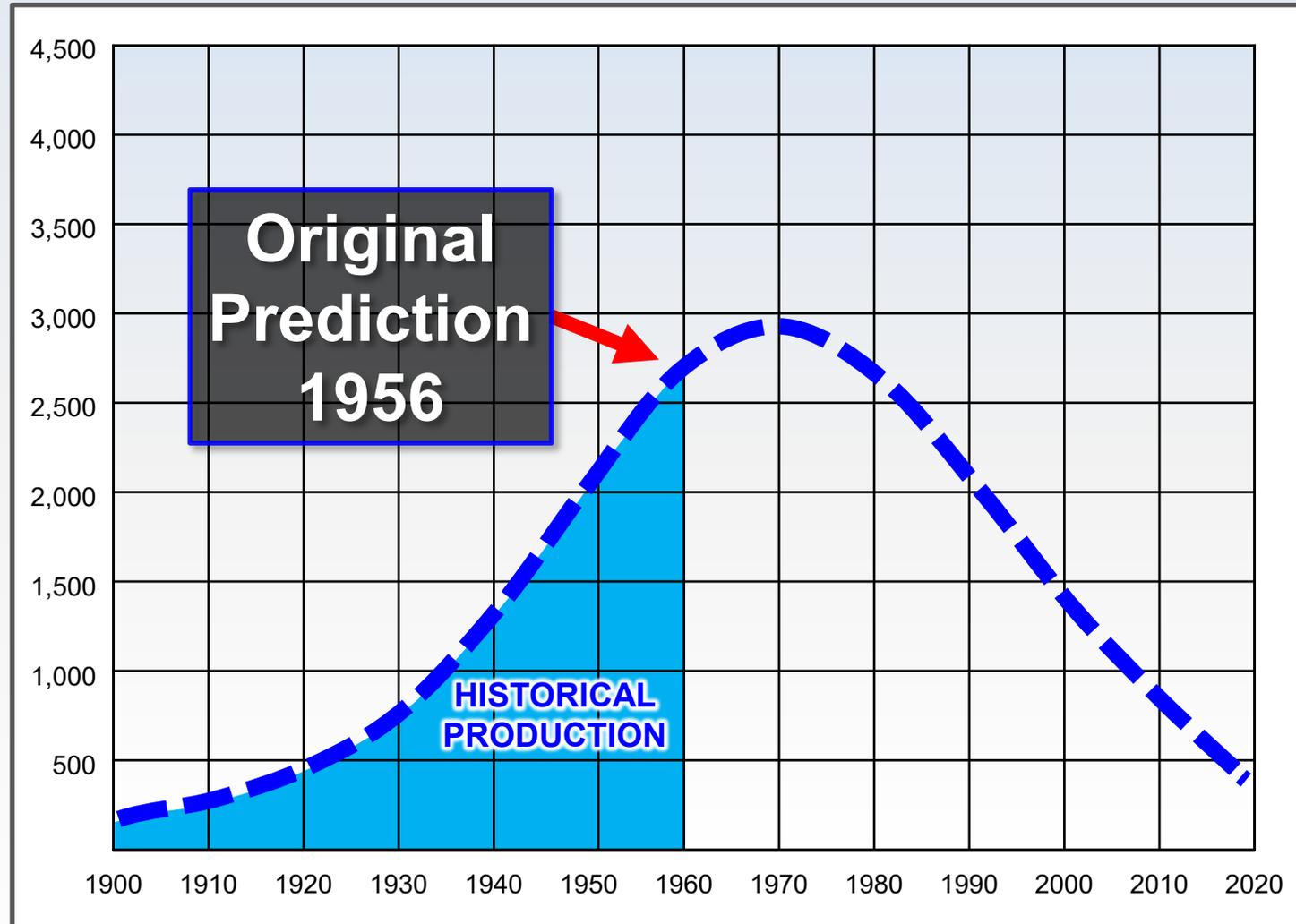
*U.S. oil production will likely peak between 1965 and 1970 and decline steadily thereafter.*

Others Have Made the Same Prediction Since.

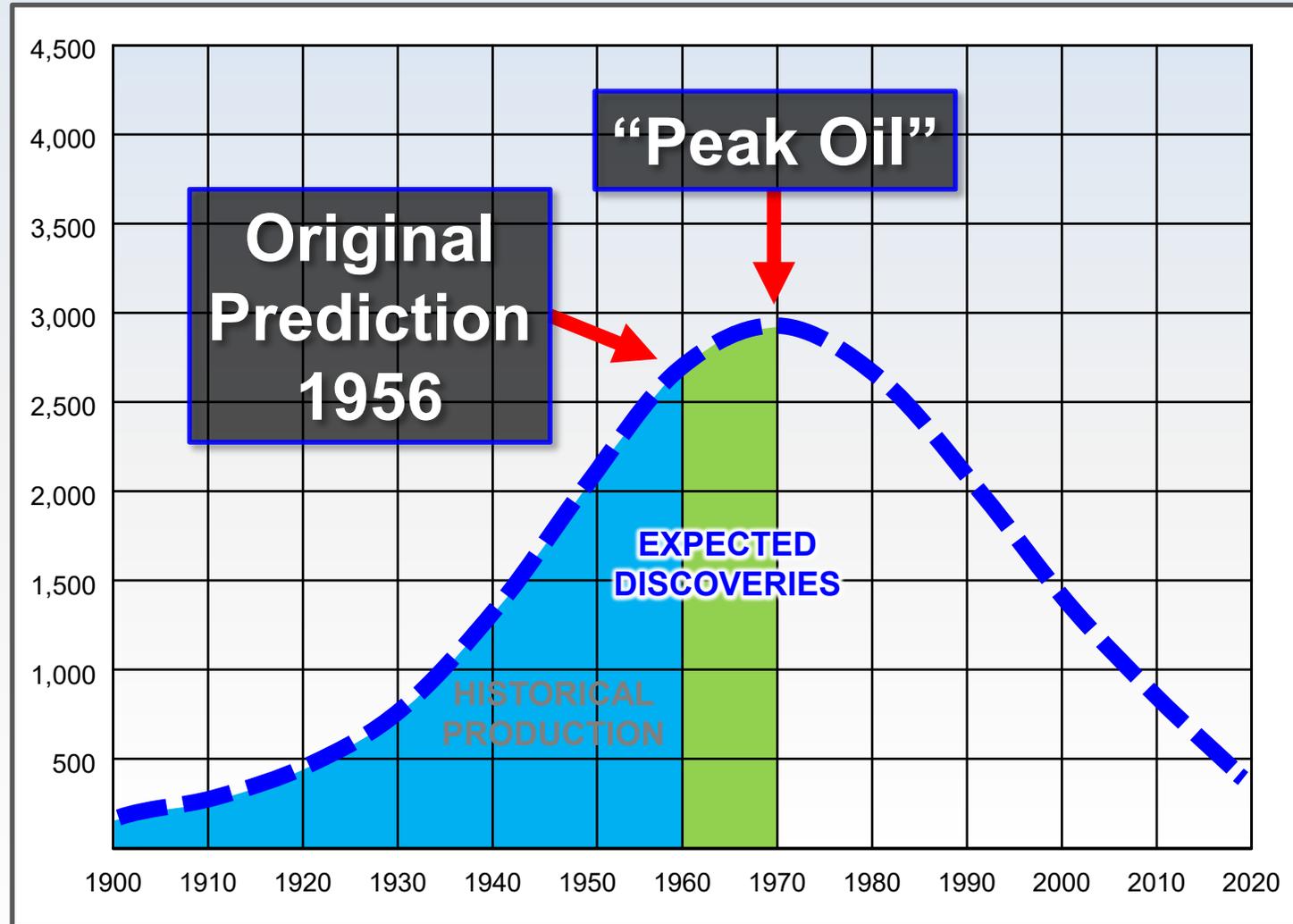
- 1972 · Esso
- 1976 · UK Dept. of Energy
- 1979 · Shell
- 1981 · World Bank
- 1997 · JD Edwards
- 2000 · EIA
- 2003 · Shell



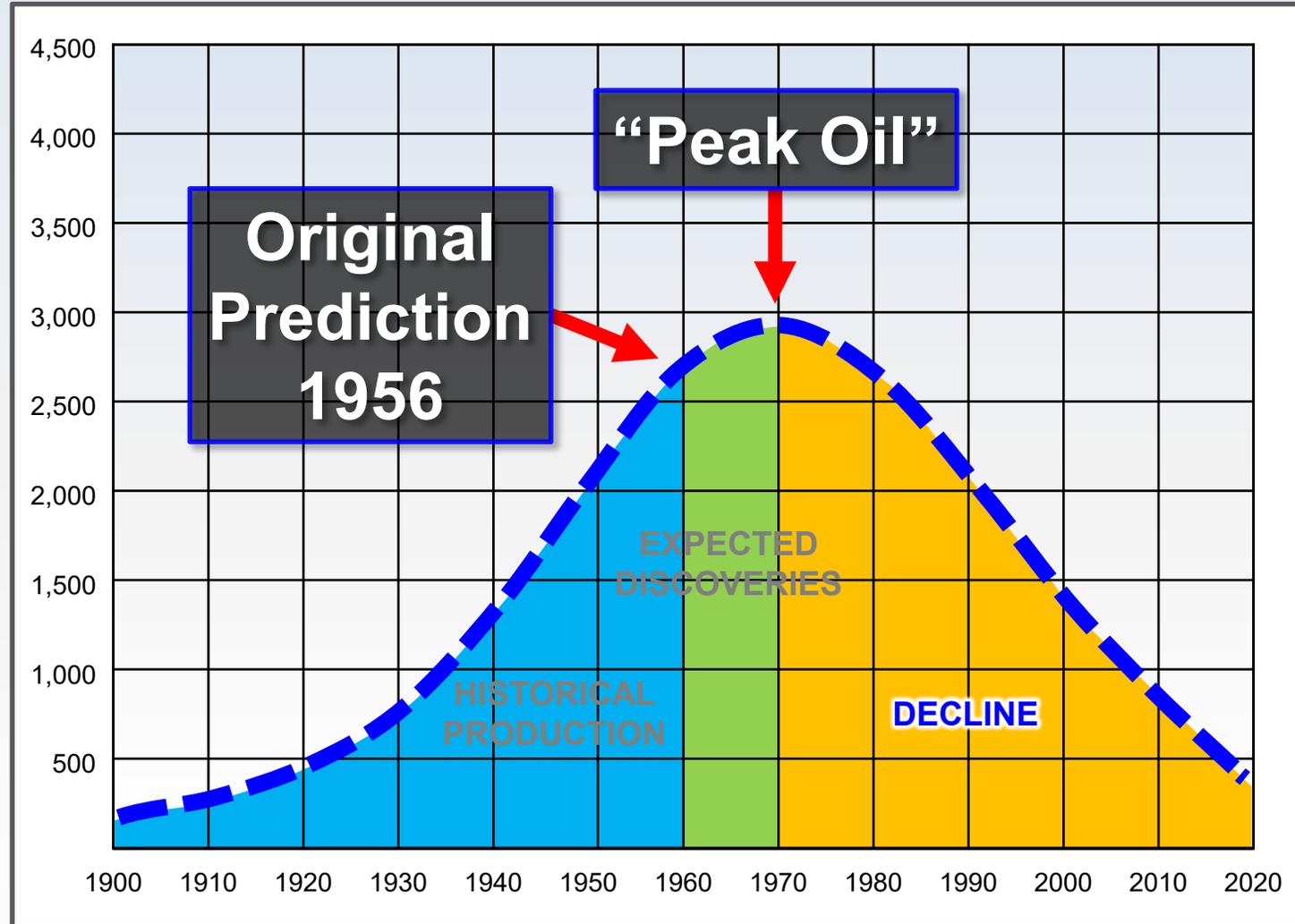
# Hubbert's Original Curve



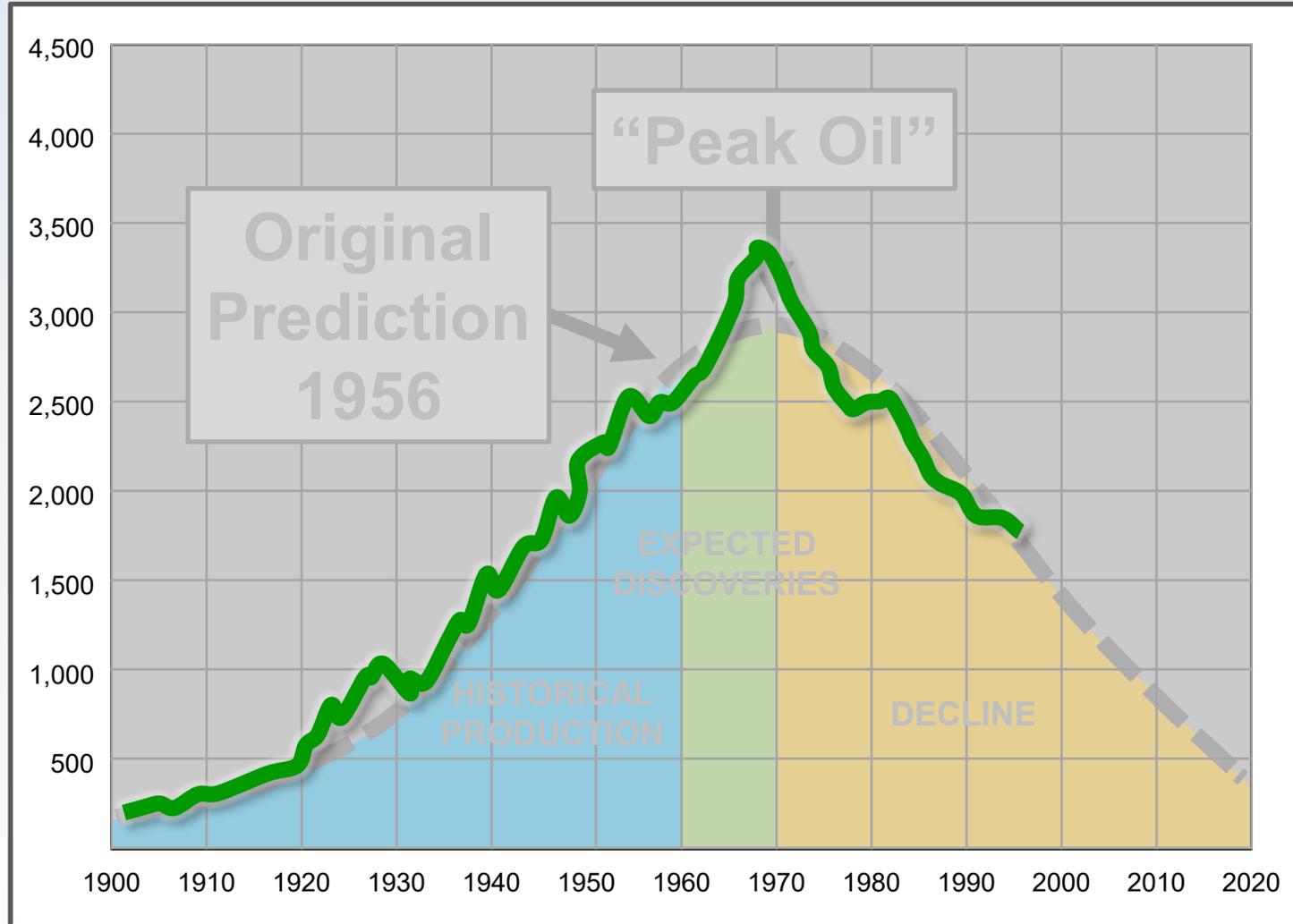
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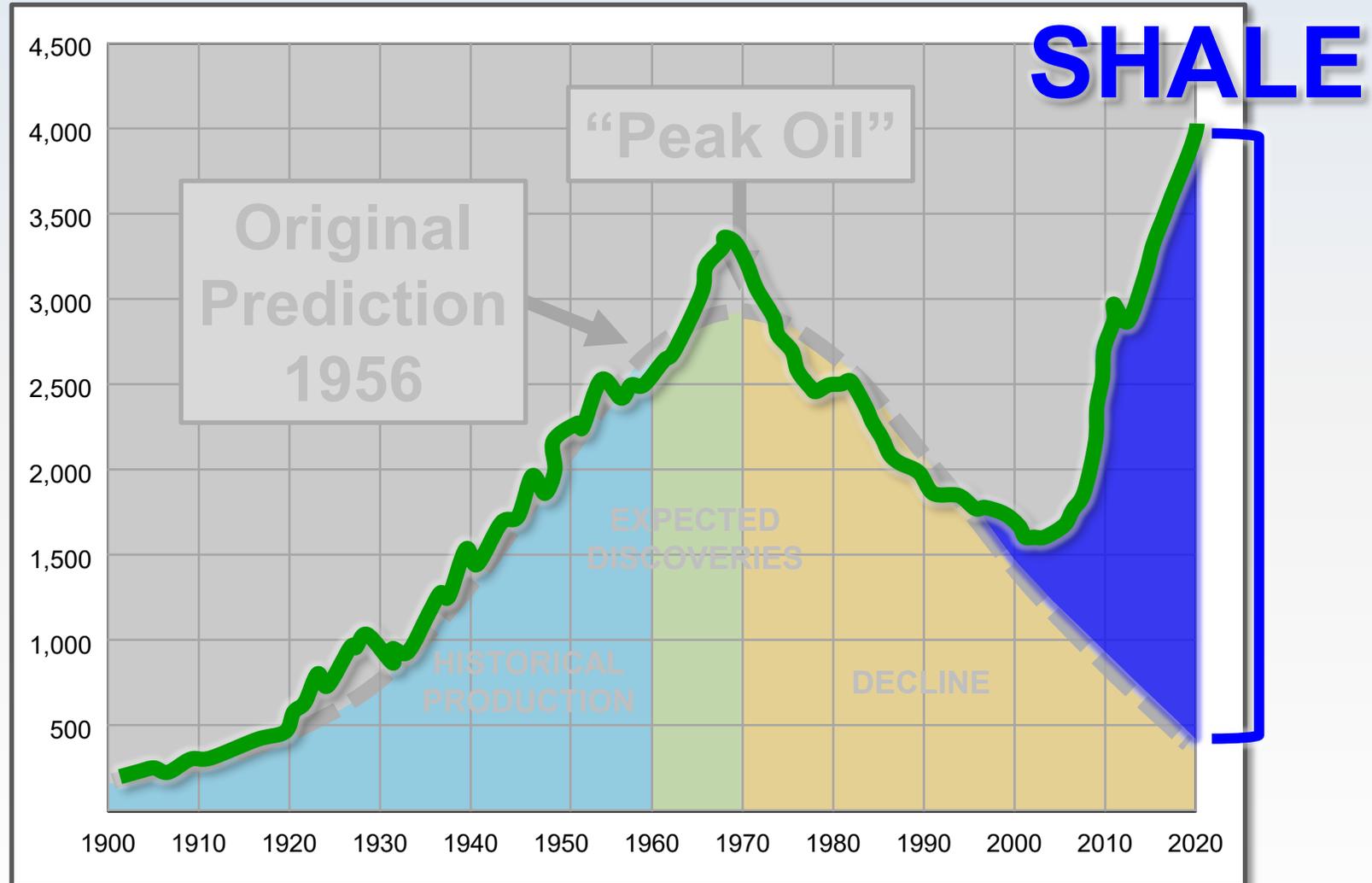
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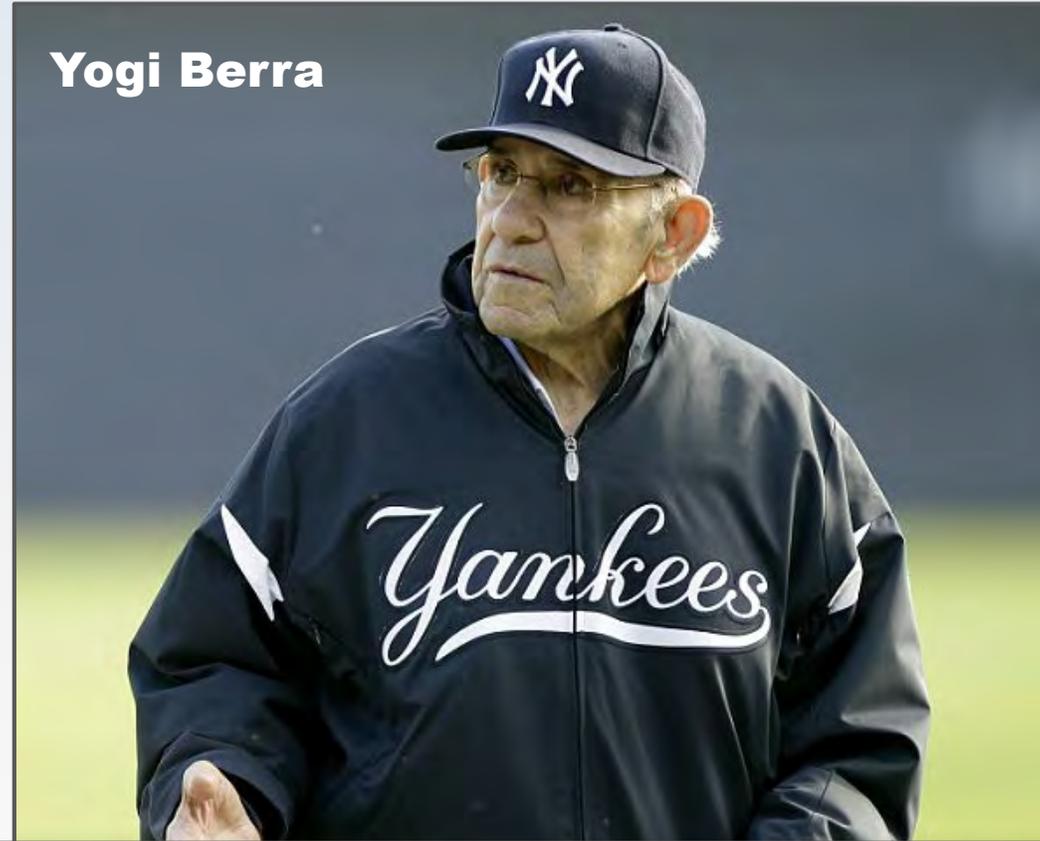
# What Really Happened



# What Really Happened



# Baseball Philosopher

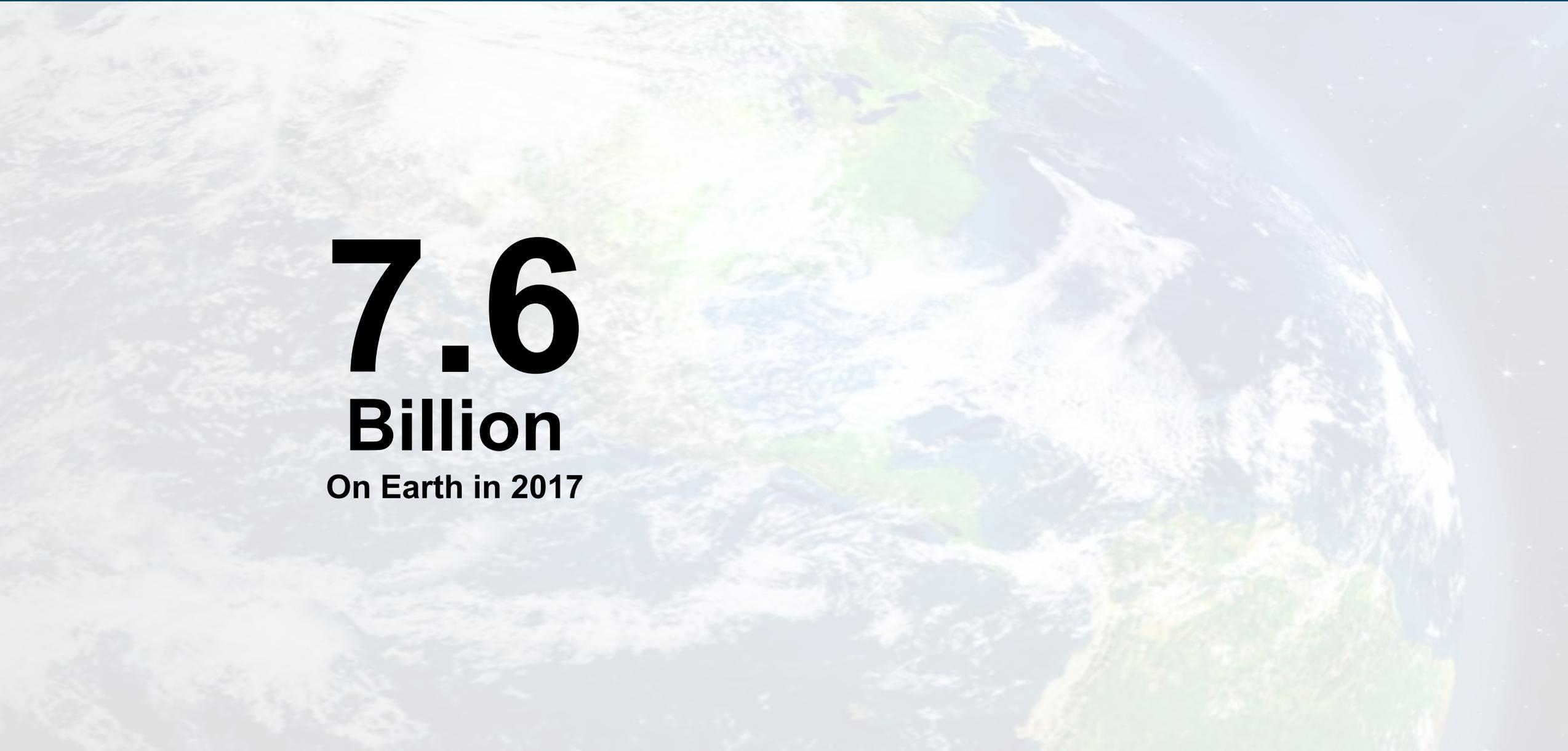


**“It’s tough to make predictions – especially about the future.”<sup>(1)</sup>**

(1) This quote was originally attributed to Karl Kristian Steincke

# But Wait

**7.6**  
**Billion**  
On Earth in 2017

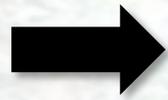


# But Wait

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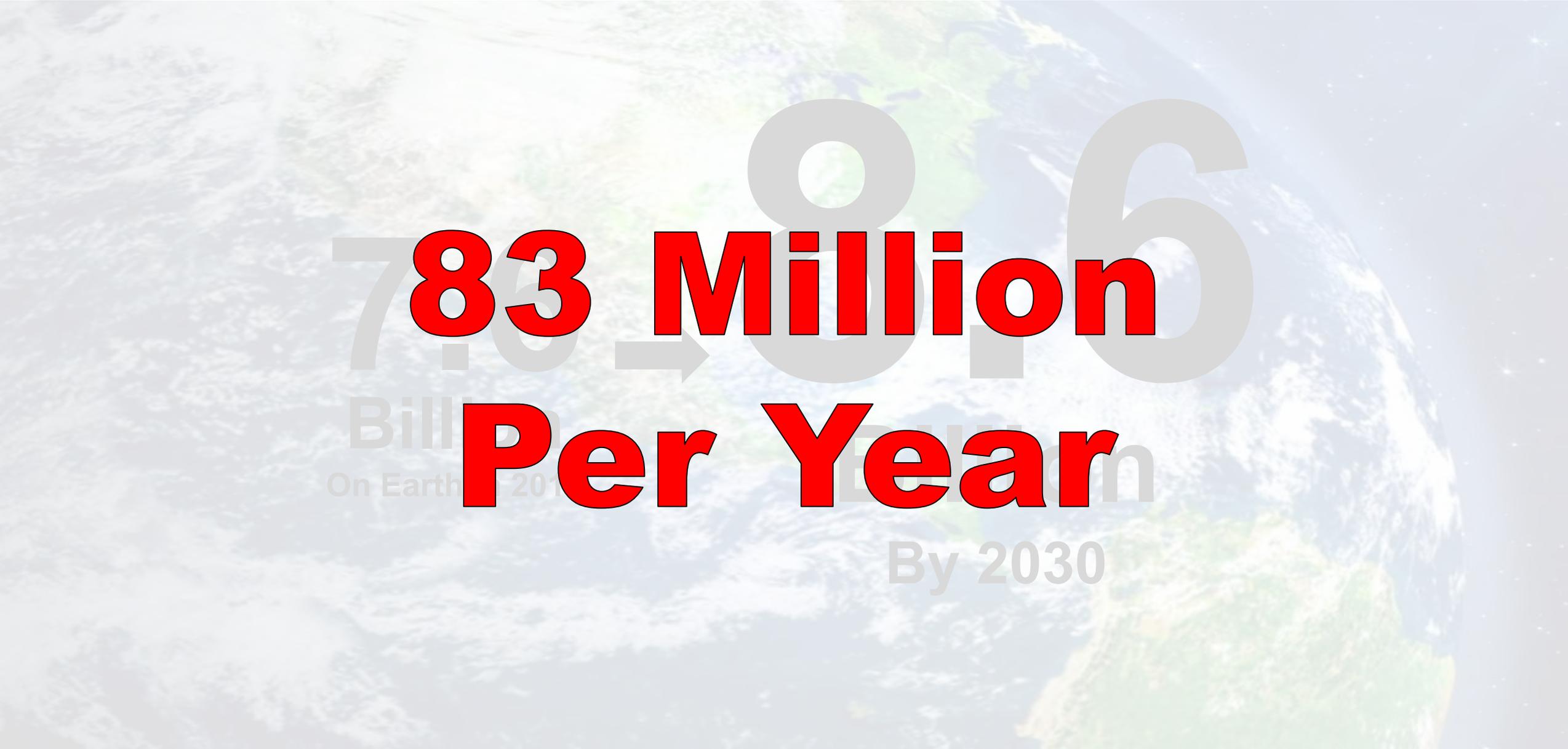


**8.6**

**Billion**

By 2030

# But Wait



**7.83 Billion** → **8.6 Billion**  
**Per Year**  
By 2030

**At a global level, we are witnessing the most rapid expansion of the middle class the world has ever seen**

At the end of 2016, there were about 3.2 billion people in the global middle class. On average 160 million will join the middle class annually for the next 5 years.



**160**  
**Million**

**Each year** for the next 5 years will be added to the global middle class.

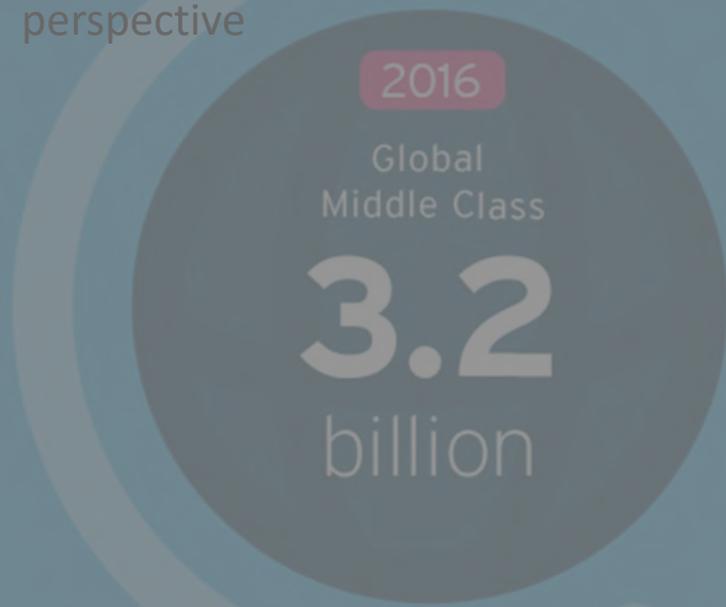
At a global level, we are witnessing the most rapid expansion of the middle class the world has ever seen

**+1 USA every 2 years**



Let's talk about a USA slide for perspective

There were about 2.2 billion people in the global middle class. An average 160 million will join the middle class annually for the next 5 years.



**160 Million**

**Each year** for the next 5 years will be added to the global middle class.

# 88 percent of the next billion entrants into the middle class will be in Asia

By 2030, Asia could represent 2/3 of the global middle class population.



**380m**  
in INDIA

**350m**  
in CHINA

**210m**  
in rest of ASIA

**130m**  
in rest of the WORLD

88 percent of the next billion entrants into  
the middle class will be in Asia

# Region's Energy Mix:

# 50% Coal

By 2030, Asia could represent 2/3  
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# Lower Middle Class



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230m  
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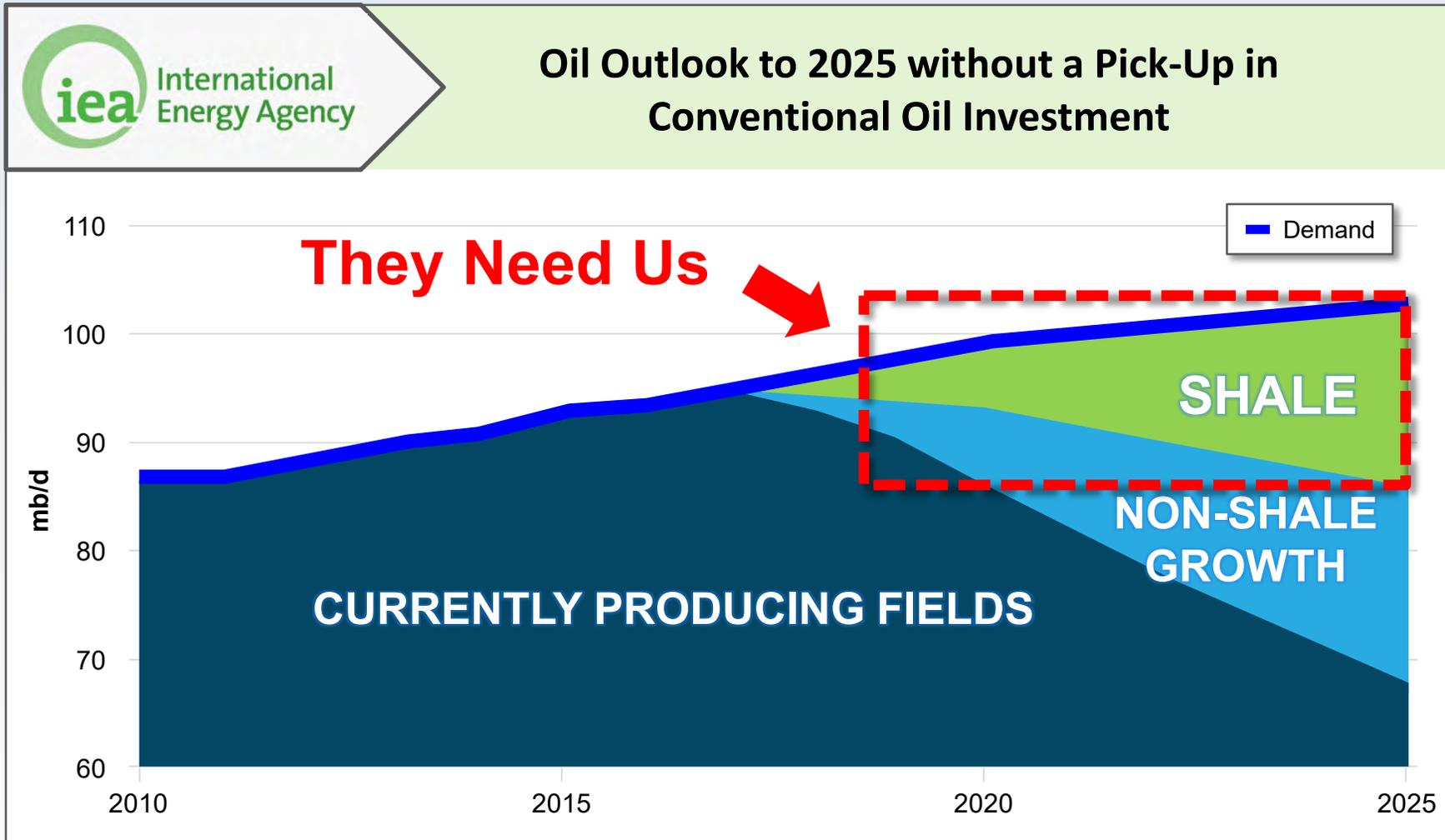
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in CHINA

# Lower Middle Class

230m  
in rest of ASIA

**They need energy any way they  
can get it – cheaply and easily**

# Only One Place to Get It



**We Are Not Going Out of Business.**

# Why Does Wall Street Hate Energy?



**Not Care About**  
**Why Does Wall Street ~~Hate~~ Energy?**



# S&P 500 Energy

**5.3%** Of S&P  
500 Index

APACHE	TECHNIPFMC	ONEOK
ANADARKO	HALLIBURTON	OCCIDENTAL
BAKER HUGHES	HESS	PHILLIPS 66
CABOT	HOLLYFRONTIER	PIONEER
CONOCOPHILLIPS	HELMERICH & PAYNE	SCHLUMBERGER
CHEVRON	KINDER MORGAN	VALERO
CONCHO	MARATHON PETROLEUM	THE WILLIAMS COMPANIES
DEVON	MARATHON OIL	CIMAREX
EOG	NOBLE	EXXON MOBIL
EQT	NEWFIELD	
	NATIONAL OILWELL VARCO	

# S&P 500 Energy

5.3% Of S&P  
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1.7% Upstream  
Growth

<b>APACHE</b>	TECHNIPFMC	ONEOK
<b>ANADARKO</b>	HALLIBURTON	<b>OCCIDENTAL</b>
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<b>EOG</b>	<b>NOBLE</b>	EXXON MOBIL
<b>EQT</b>	<b>NEWFIELD</b>	
	NATIONAL OILWELL VARCO	

# S&P 500 Energy

5.3% Of S&P  
500 Index

1.7% Upstream  
Growth

**We Are Immaterial.**

APACHE

TECHNIPFMC

ONEOK

ANADARKO

HALLIBURTON

OCCIDENTAL

HESS

CABOT

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# We Have Lost Money

	S&P	Energy	Outcome
2012	16.0%	4.6%	Worse
2013	32.4%	25.1%	Worse
2014	13.7%	<7.8%>	Worse
2015	1.4%	<21.1%>	Worse
2016	12.0%	27.4%	Better
2017	21.8%	<1.0%>	Worse
2018	<4.4%>	<18.1%>	Worse

**6 Out of 7 Years**

# If You Are Wall Street

## TECHNOLOGY

- **BIG**  
**20%** of S&P 500
- **STRONG**  
Beat Energy by **10x**  
for the Past 7 Years
- **SEXY**



# If You Are Wall Street



- **Small**
- **Weak**
- **Boring**

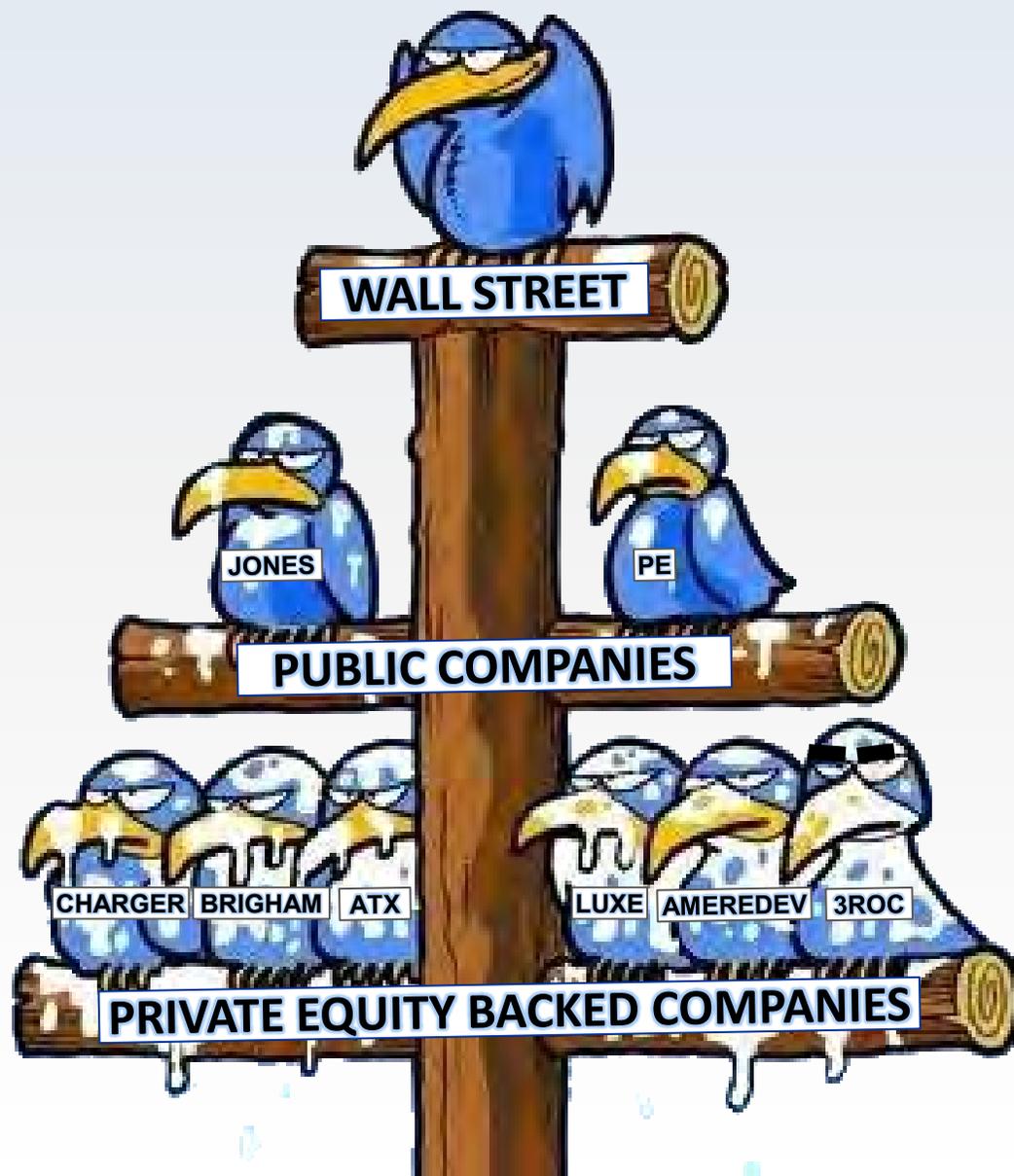
# Energy Investors Want

- **Growth Within Cash Flows**
- **Return of Capital – Dividends or Share Buybacks**
- **Consolidation to Achieve Economies of Scale**

What Does This Mean To  
**YOU** ?



# It Depends Who You Are



# Public Companies



# Public Companies



## HAVES – You're fine!

- Drill Tier 1 Acreage
- Rationalize Tier 2 Acreage
- Selective Consolidation

# Public Companies



## **BUBBLES – Must Get Bigger**

- Drill Tier 1 Acreage
- Bolt On Additional Tier 1 Acreage
- Consolidation

# Public Companies



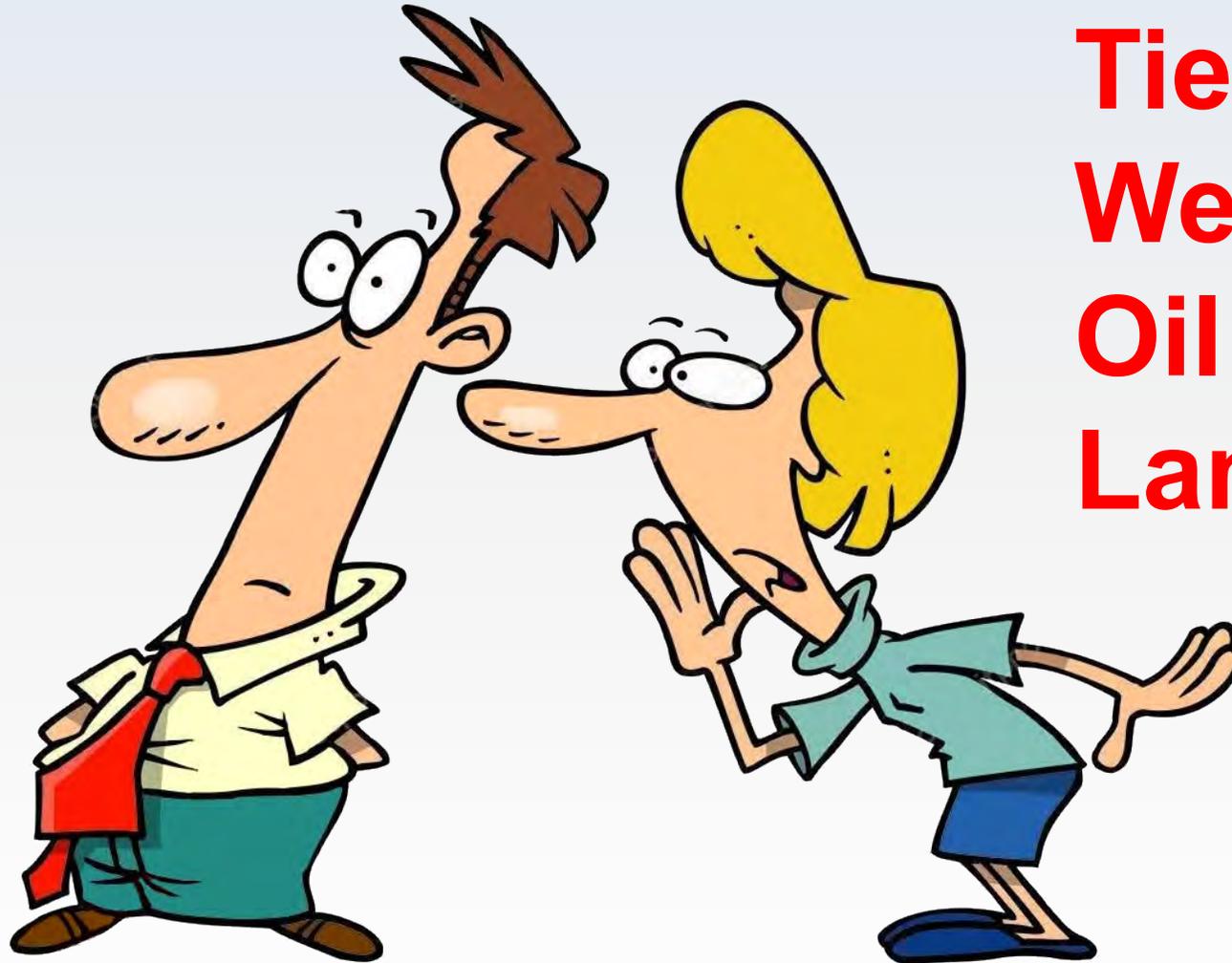
**HAVE-NOTS –  
Survive!**

- No Premium Mergers

# Public Companies



# What is Tier 1 Acreage?

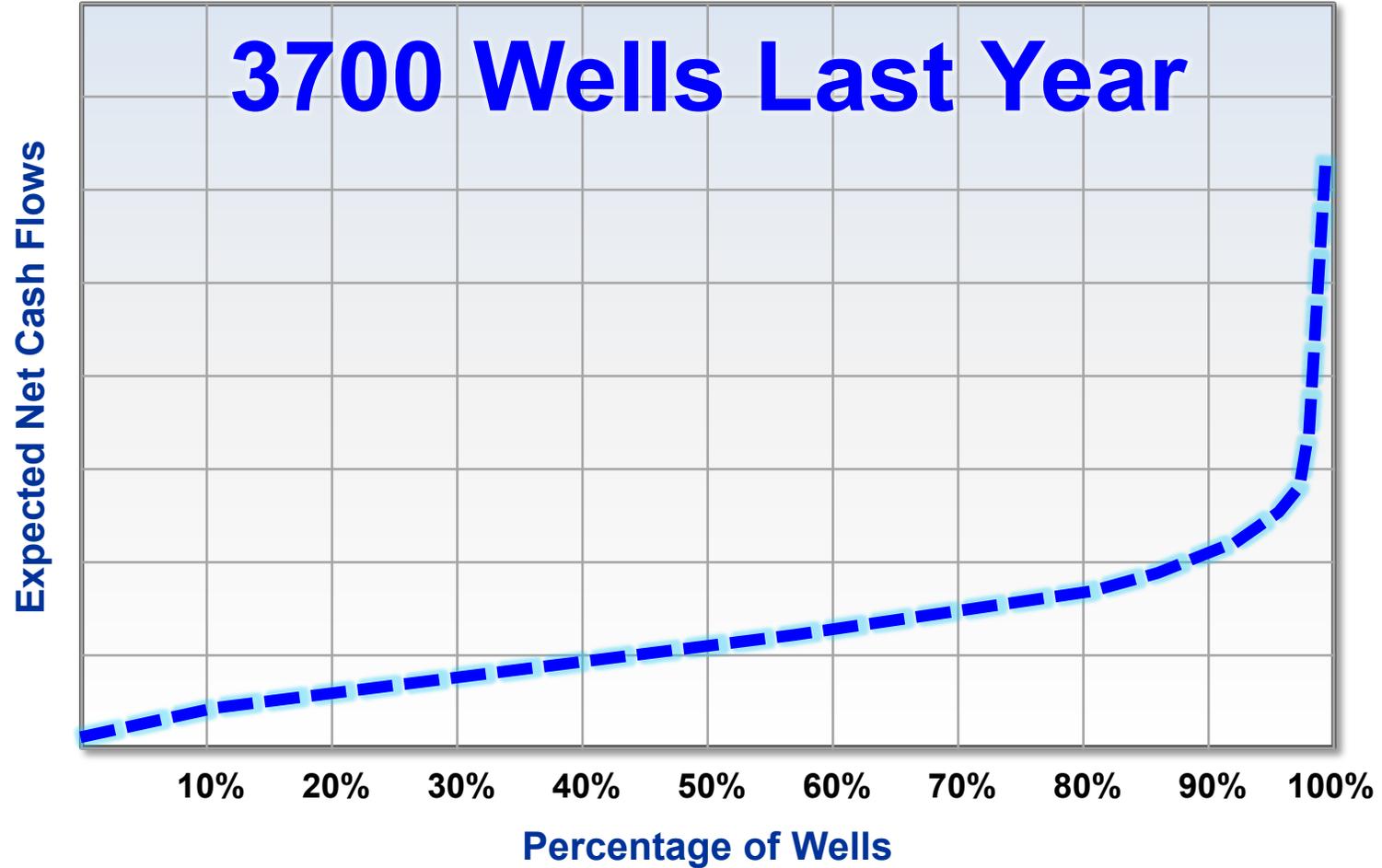


**Tier 1 = 50%**  
**Well IRRs at \$60**  
**Oil Excluding**  
**Land Cost**

# Tier 1 Acreage

Last 12 Months of Permian Wells  
(Approximately 3700 Wells)

**3700 Wells Last Year**



# Tier 1 Acreage

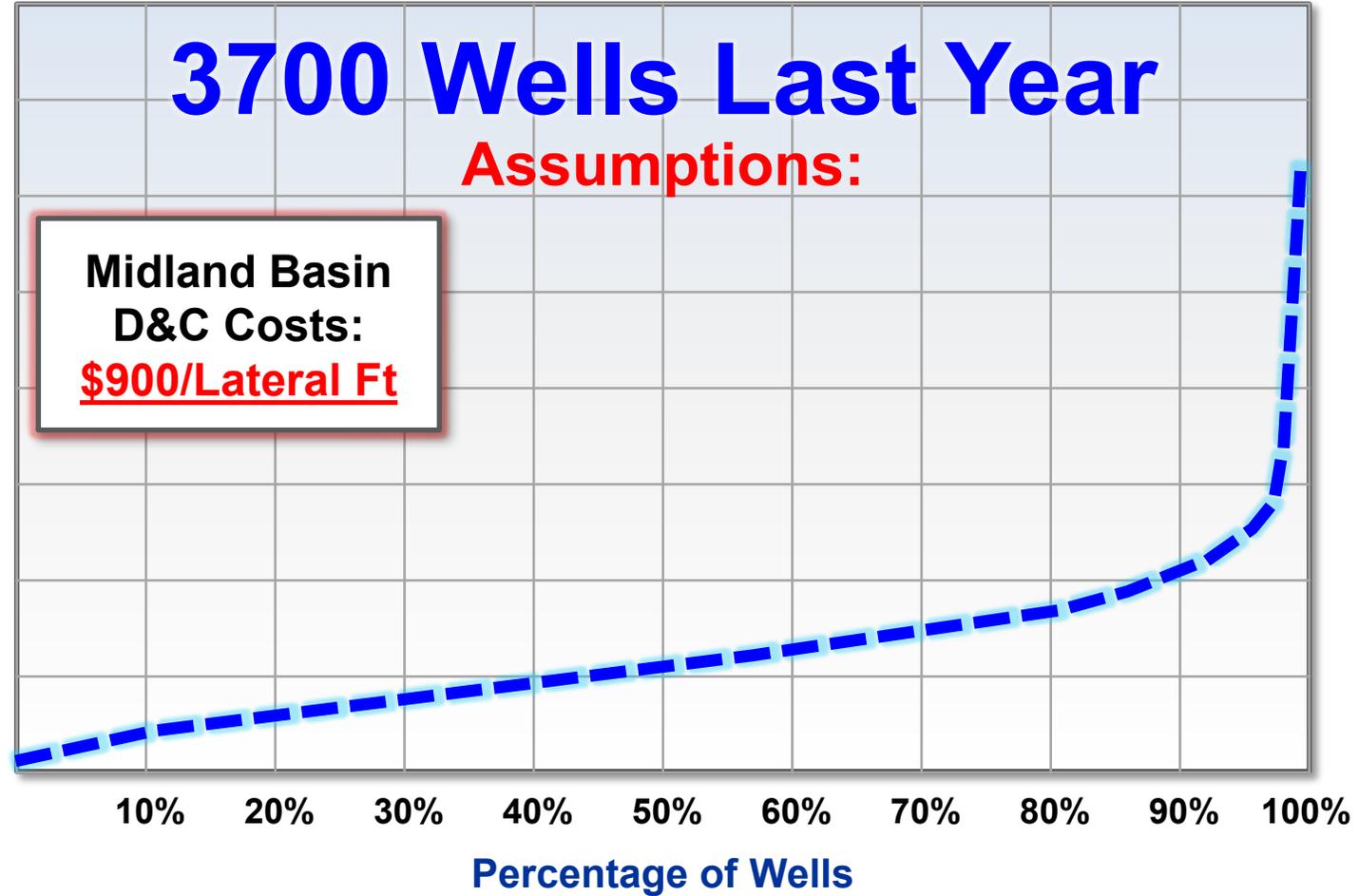
Last 12 Months of Permian Wells  
(Approximately 3700 Wells)

## 3700 Wells Last Year

**Assumptions:**

Midland Basin  
D&C Costs:  
\$900/Lateral Ft

Expected Net Cash Flows



# Tier 1 Acreage

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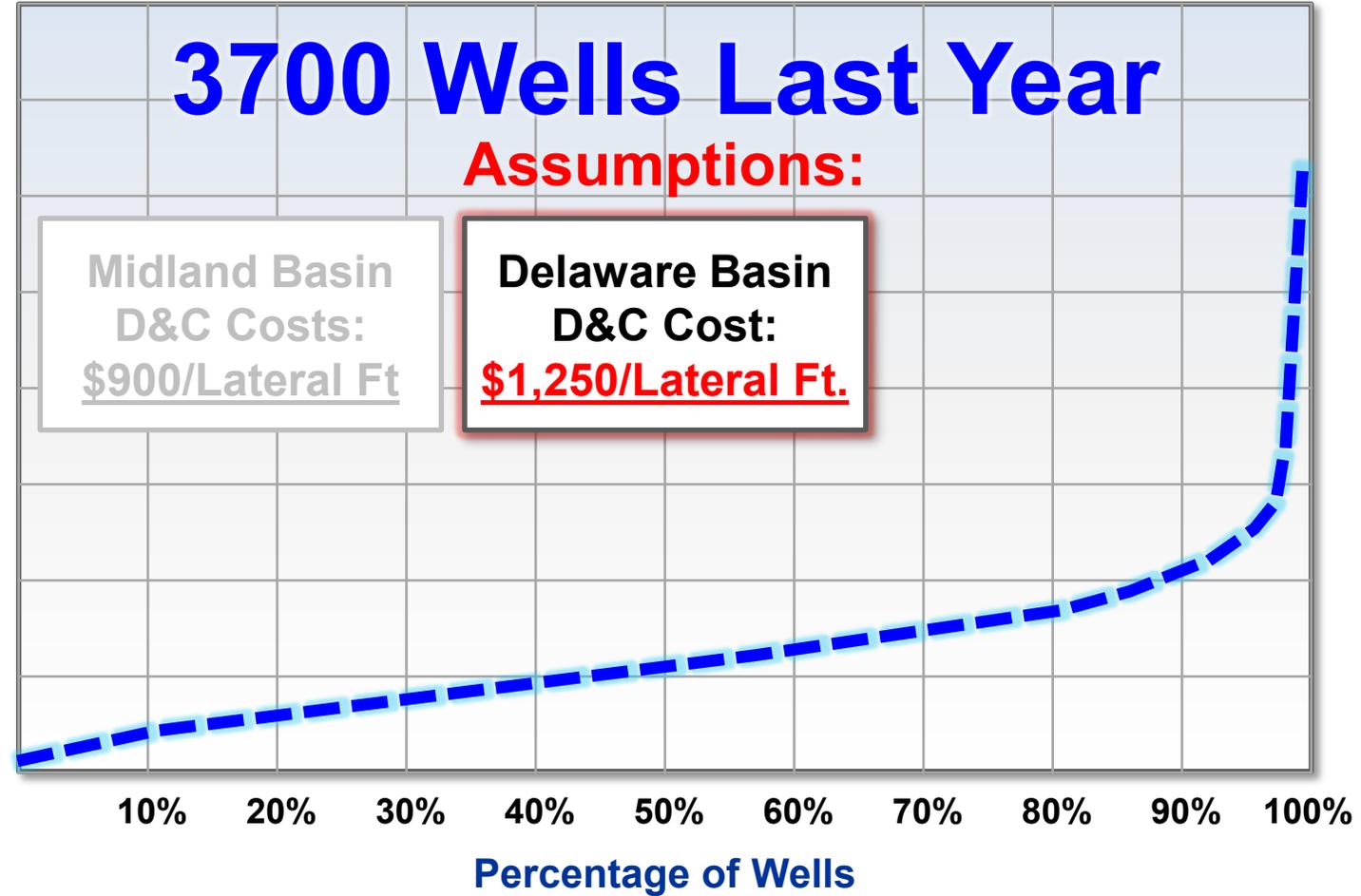
## 3700 Wells Last Year

**Assumptions:**

Midland Basin  
D&C Costs:  
\$900/Lateral Ft

Delaware Basin  
D&C Cost:  
\$1,250/Lateral Ft.

Expected Net Cash Flows



# Tier 1 Acreage

Last 12 Months of Permian Wells  
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## 3700 Wells Last Year

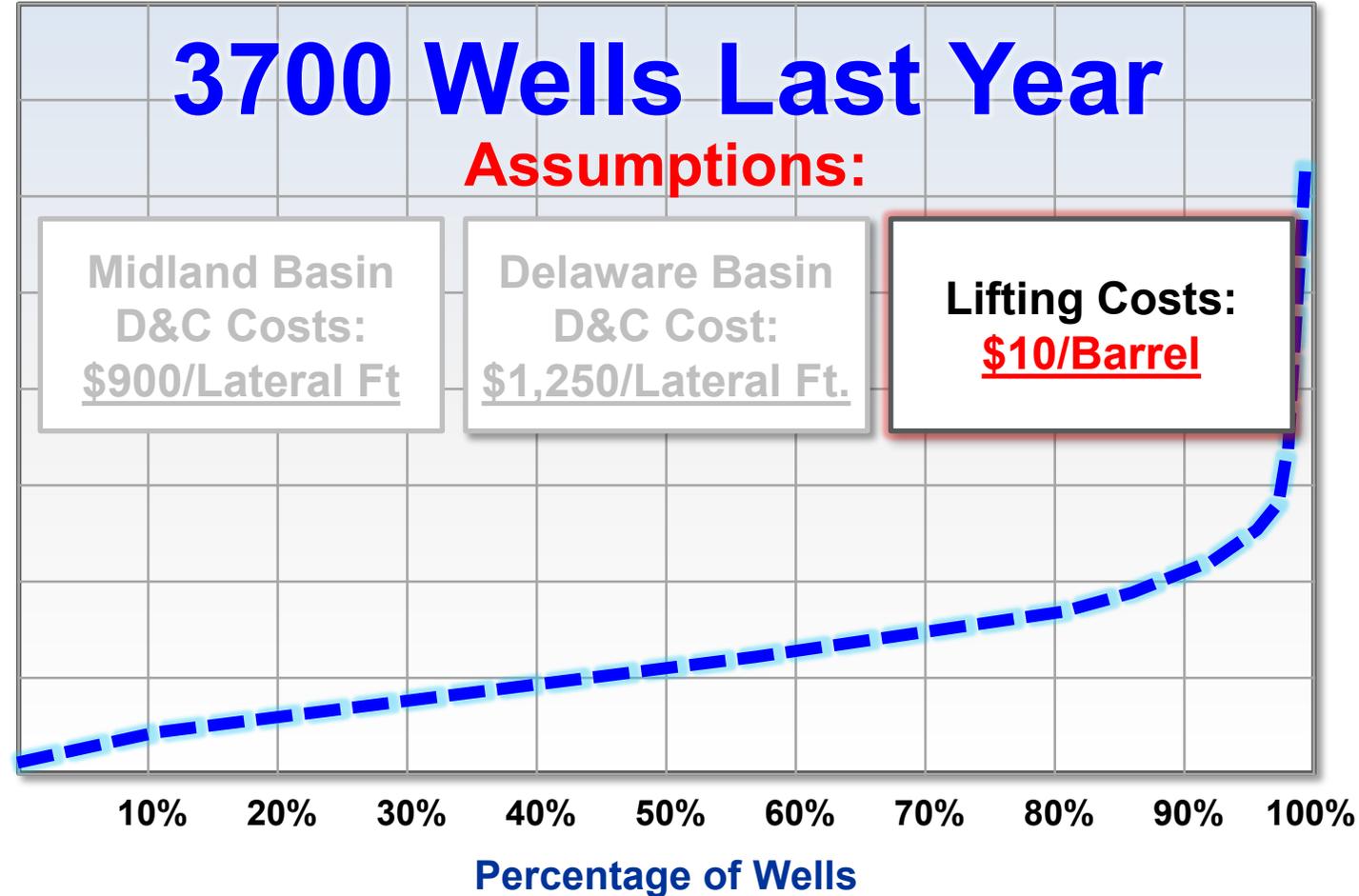
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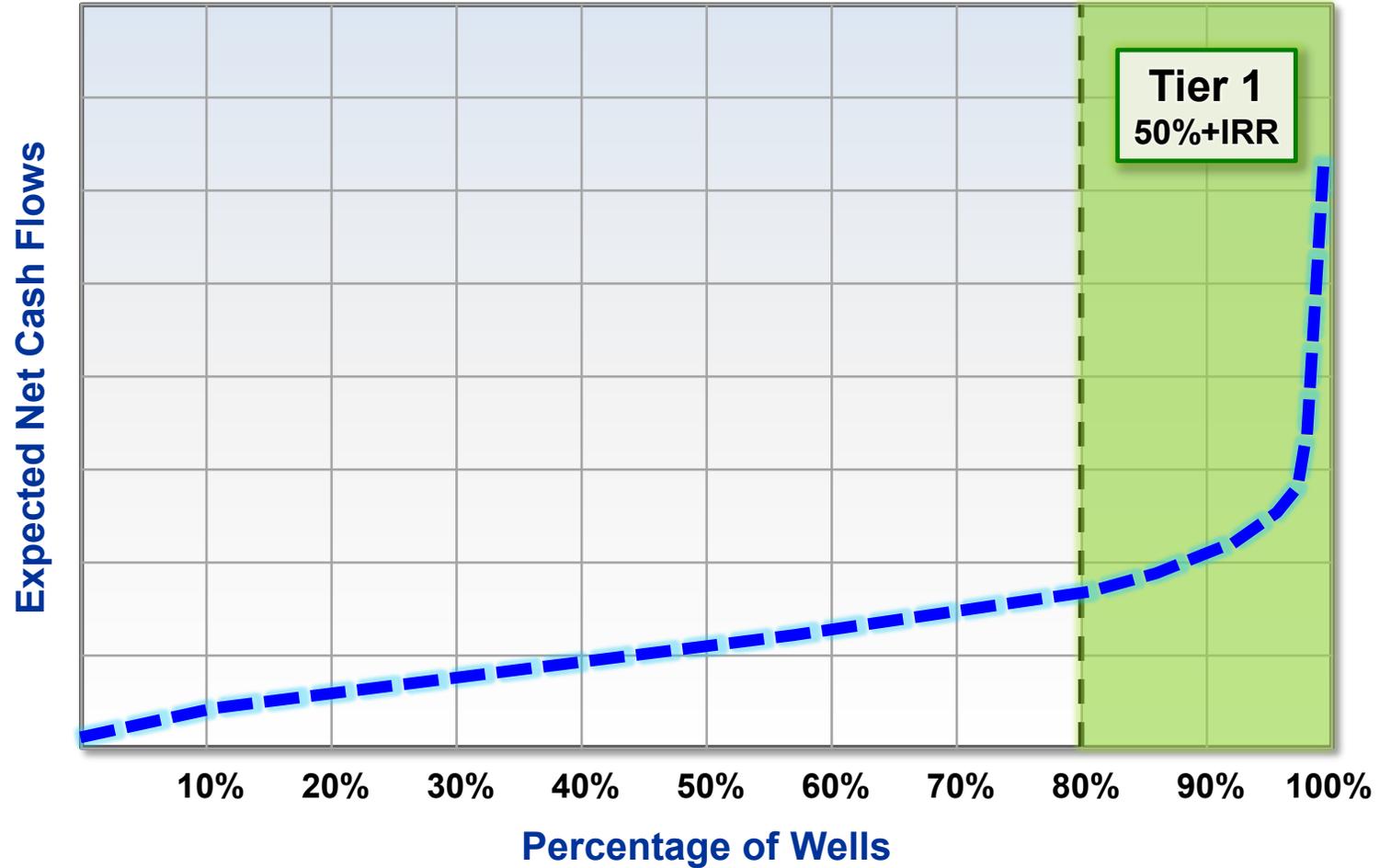
Lifting Costs:  
\$10/Barrel

Expected Net Cash Flows



# Tier 1 Acreage

Last 12 Months of Permian Wells  
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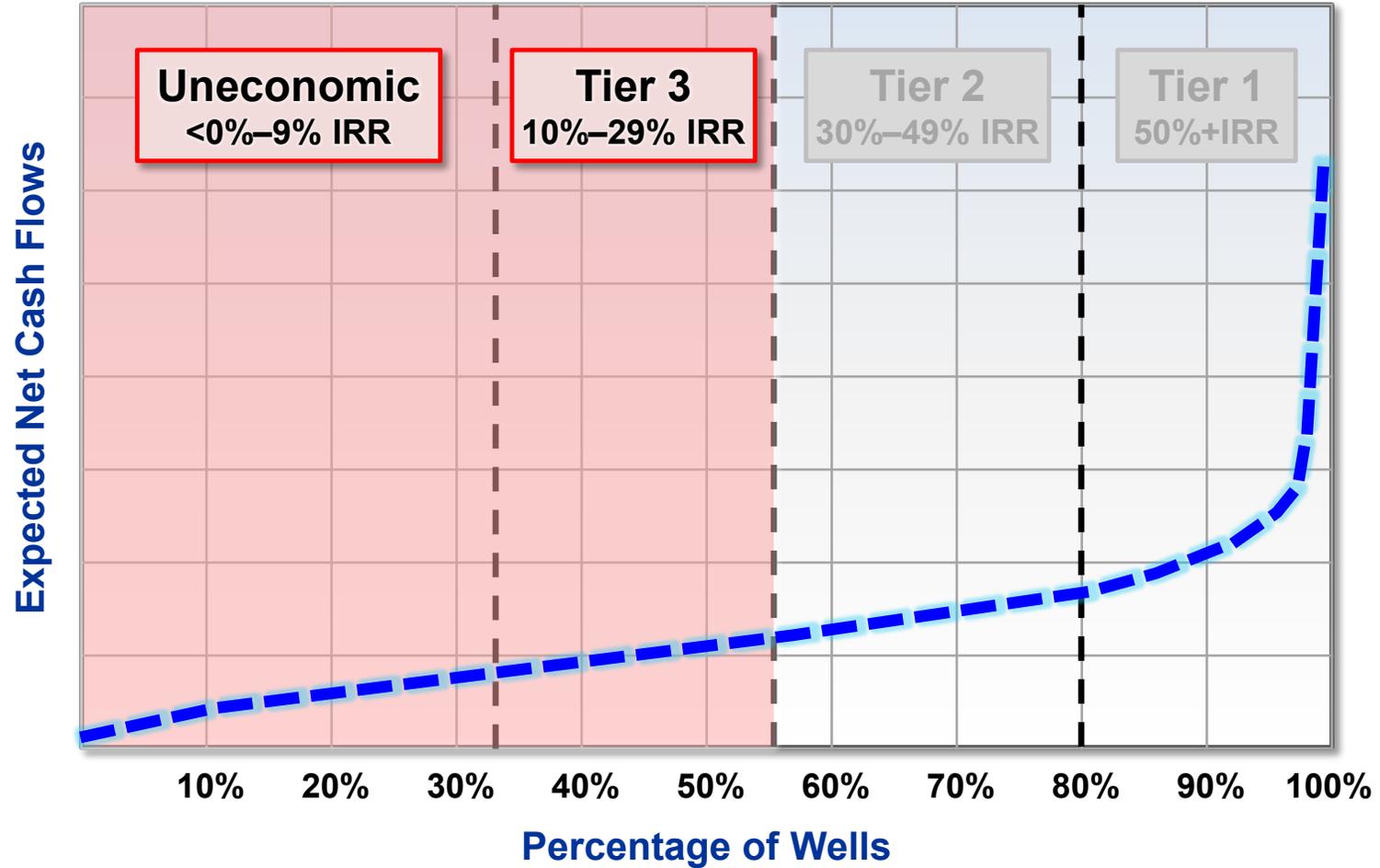
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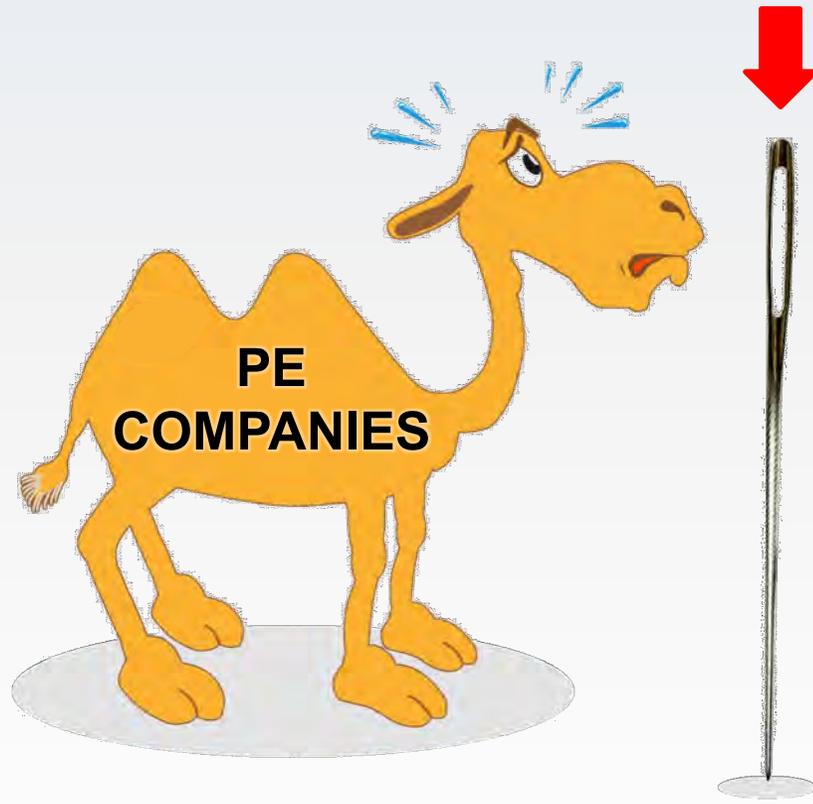
# Tier 1 Acreage

Last 12 Months of Permian Wells  
(Approximately 3700 Wells)



# If You Are Private Equity Backed

**PE Assets That Can Be  
Sold As Tier 1 Assets**

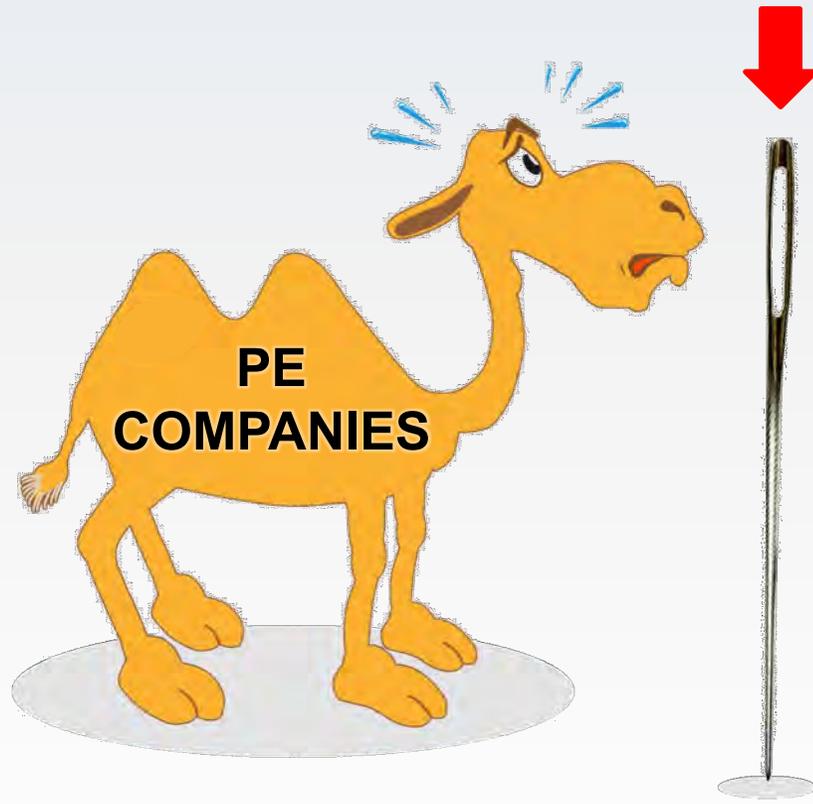


**TIER 1**

You're going to be fine – keep  
up the good work.

# If You Are Private Equity Backed

**PE Assets That Can Be Sold As Tier 1 Assets**



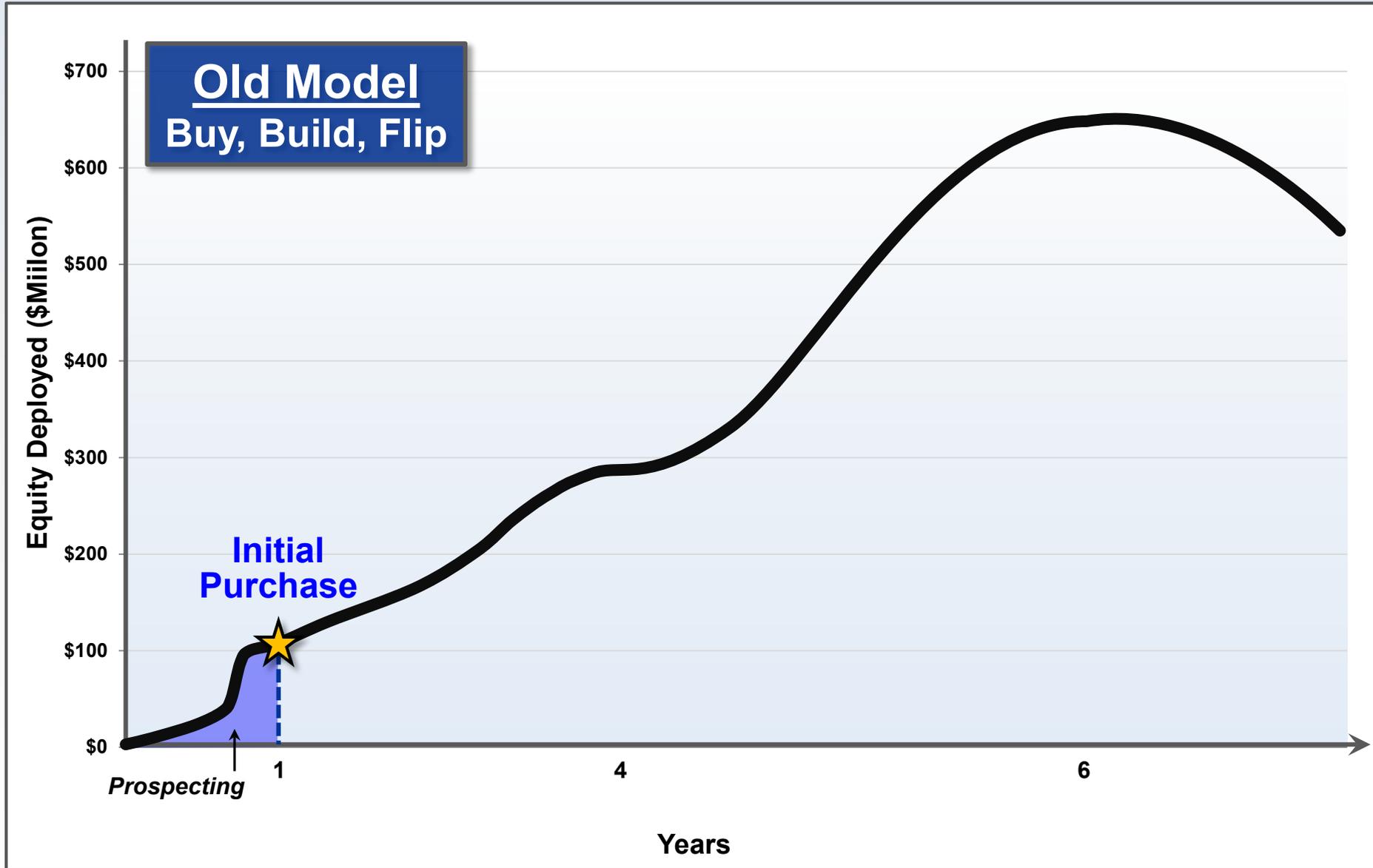
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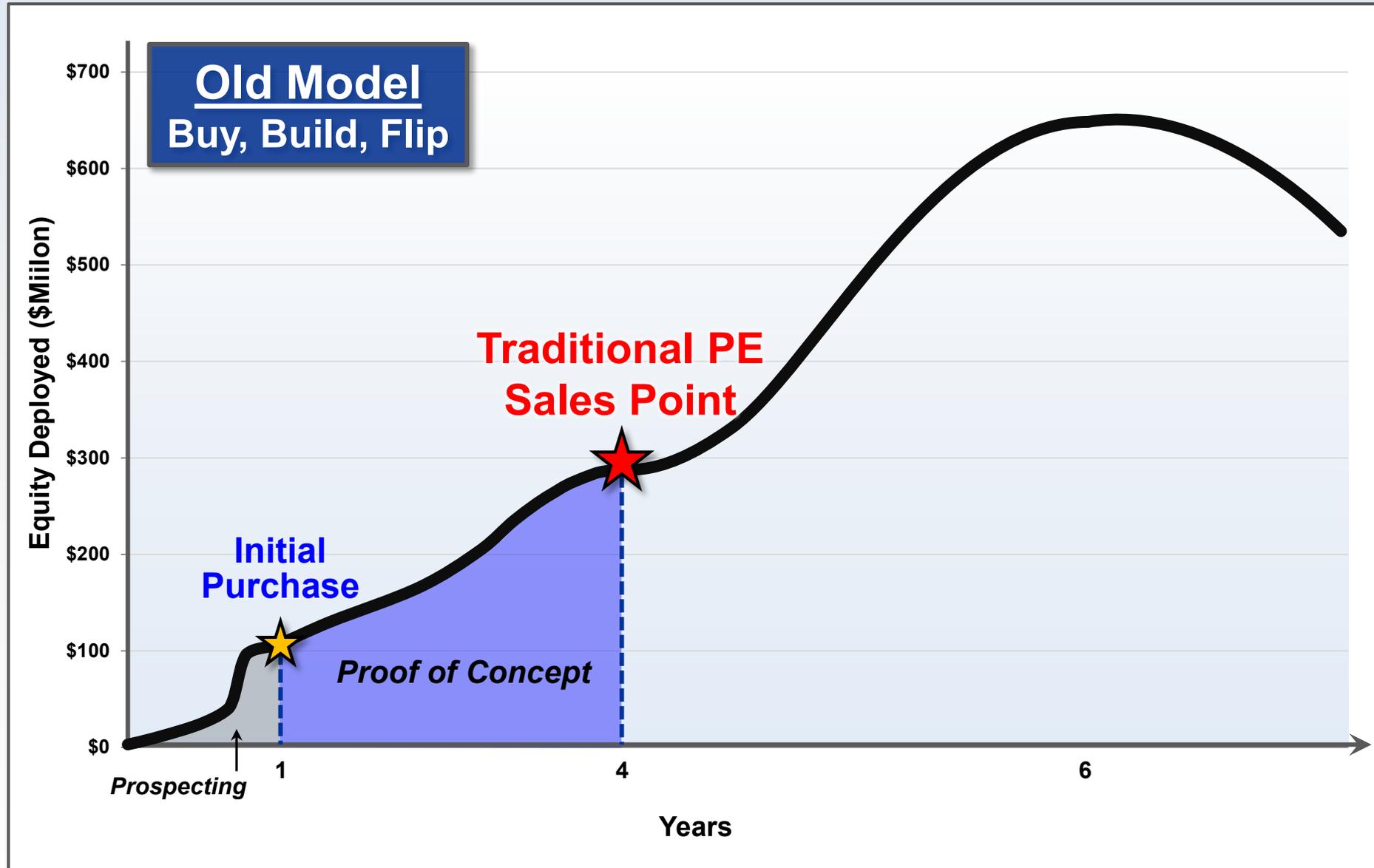
**TIER 2**

Implement a new business model

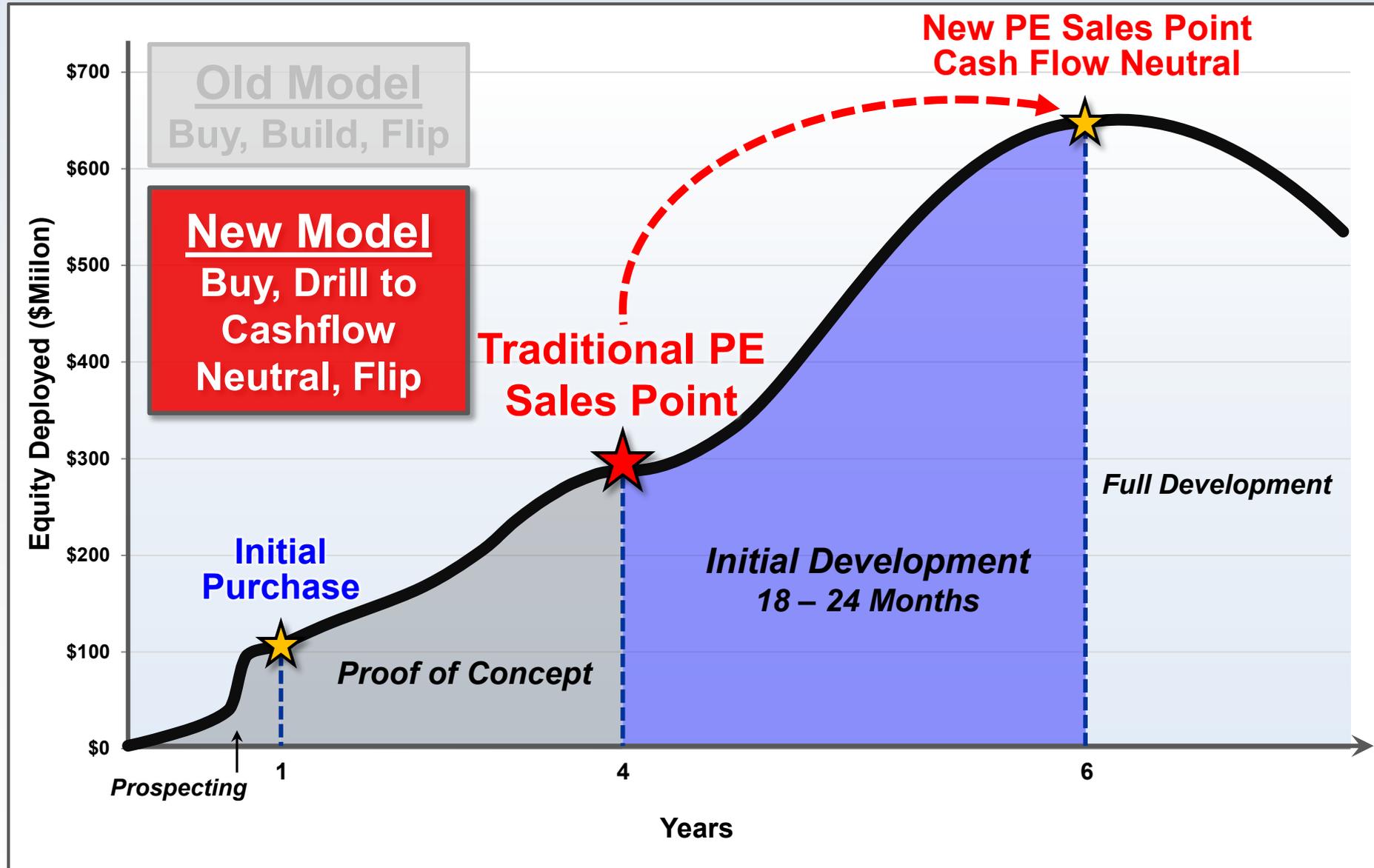
# Tier 2 Assets – New Model



# Tier 2 Assets – New Model



# Tier 2 Assets – New Model



# Tier 2 Conclusion

## ➤ Expect Longer Hold Periods

to Drill Wells Efficiently

More Common

Newco

# Tier 2 Conclusion

➤ Expect Longer Hold Periods

➤ **Expect Lower ROIs**

to Drill Wells Efficiently

Expect Lower ROIs

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Newco

# Tier 2 Conclusion

- Expect Longer Hold Periods
- Expect Lower ROIs
- **Bigger Teams – Must Be Able to Drill Wells Efficiently**

More Common

Newco

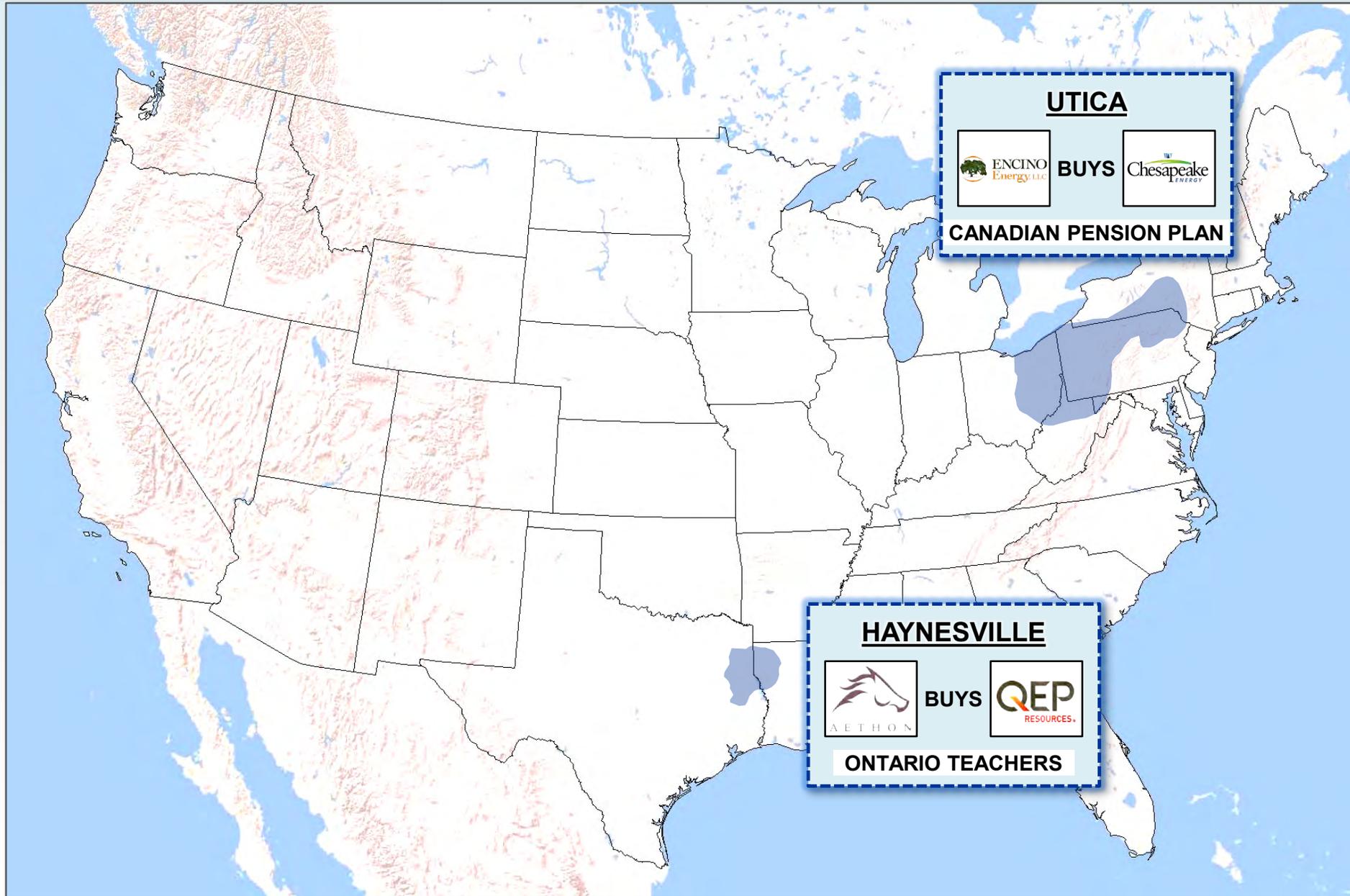
# Tier 2 Conclusion

- Expect Longer Hold Periods
- Expect Lower ROIs
- Bigger Teams – Must Be Able to Drill Wells Efficiently
- **Smash Co. May Become More Common**

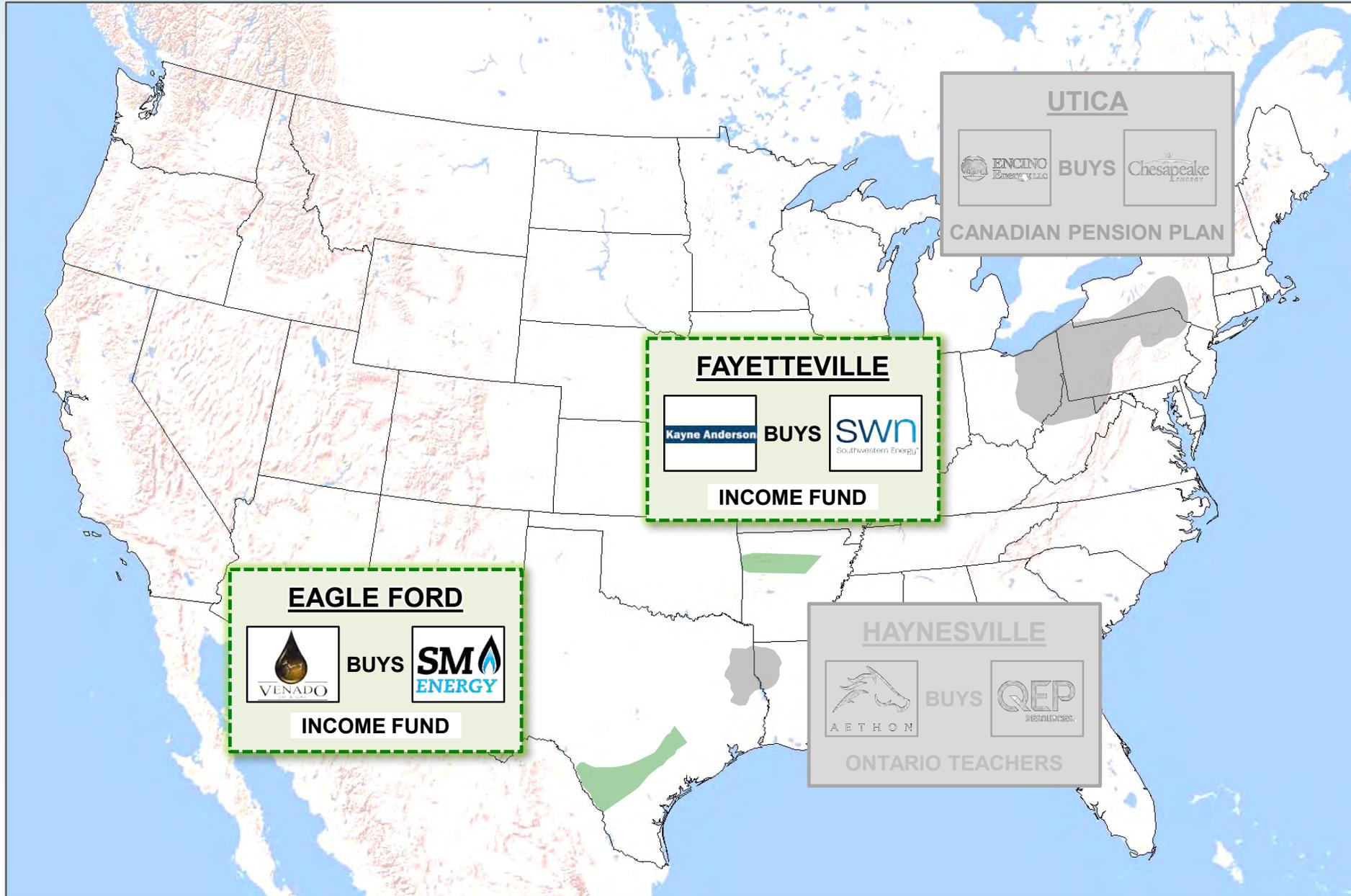




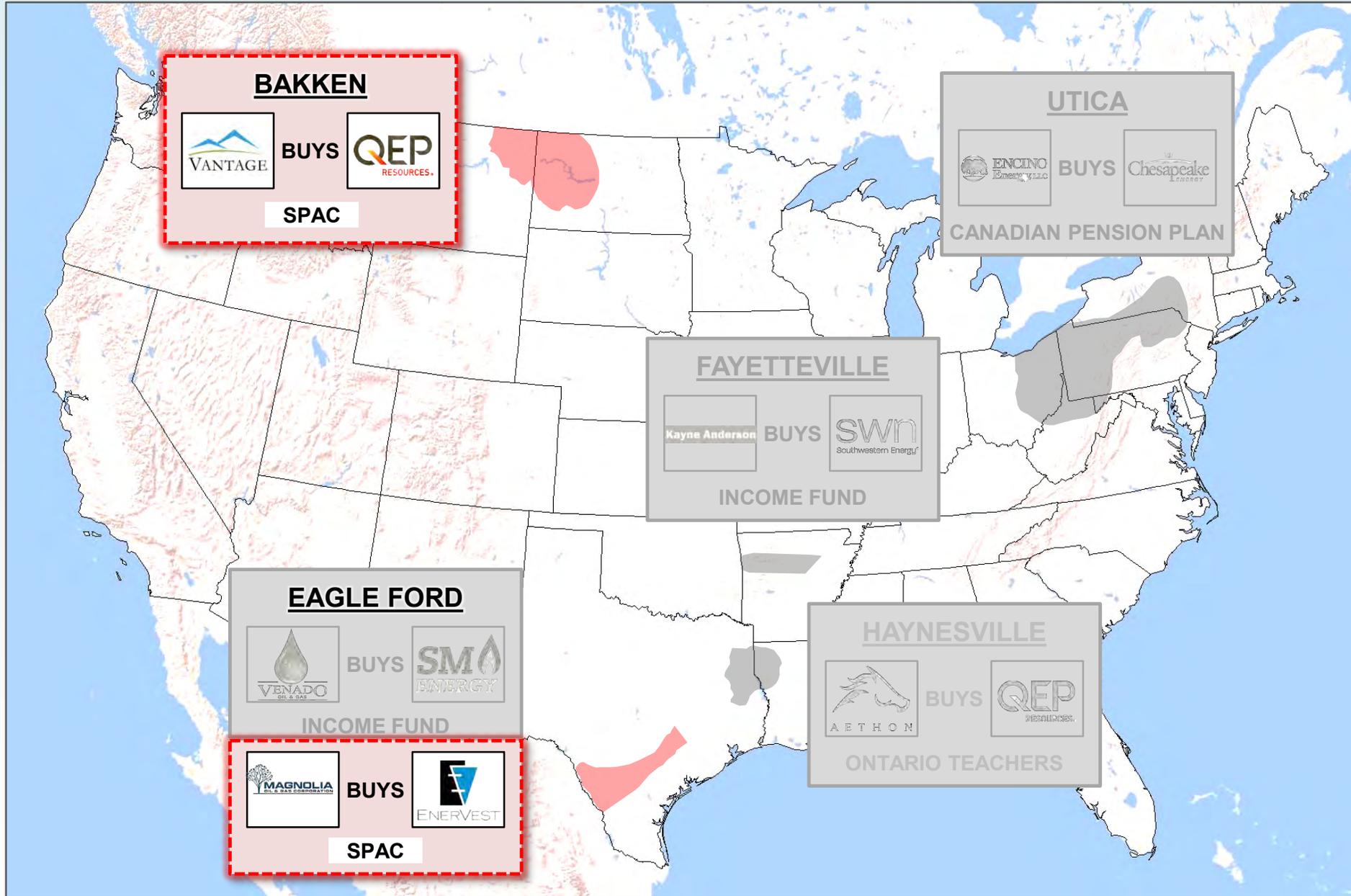
# PDP / YIELD INVESTORS



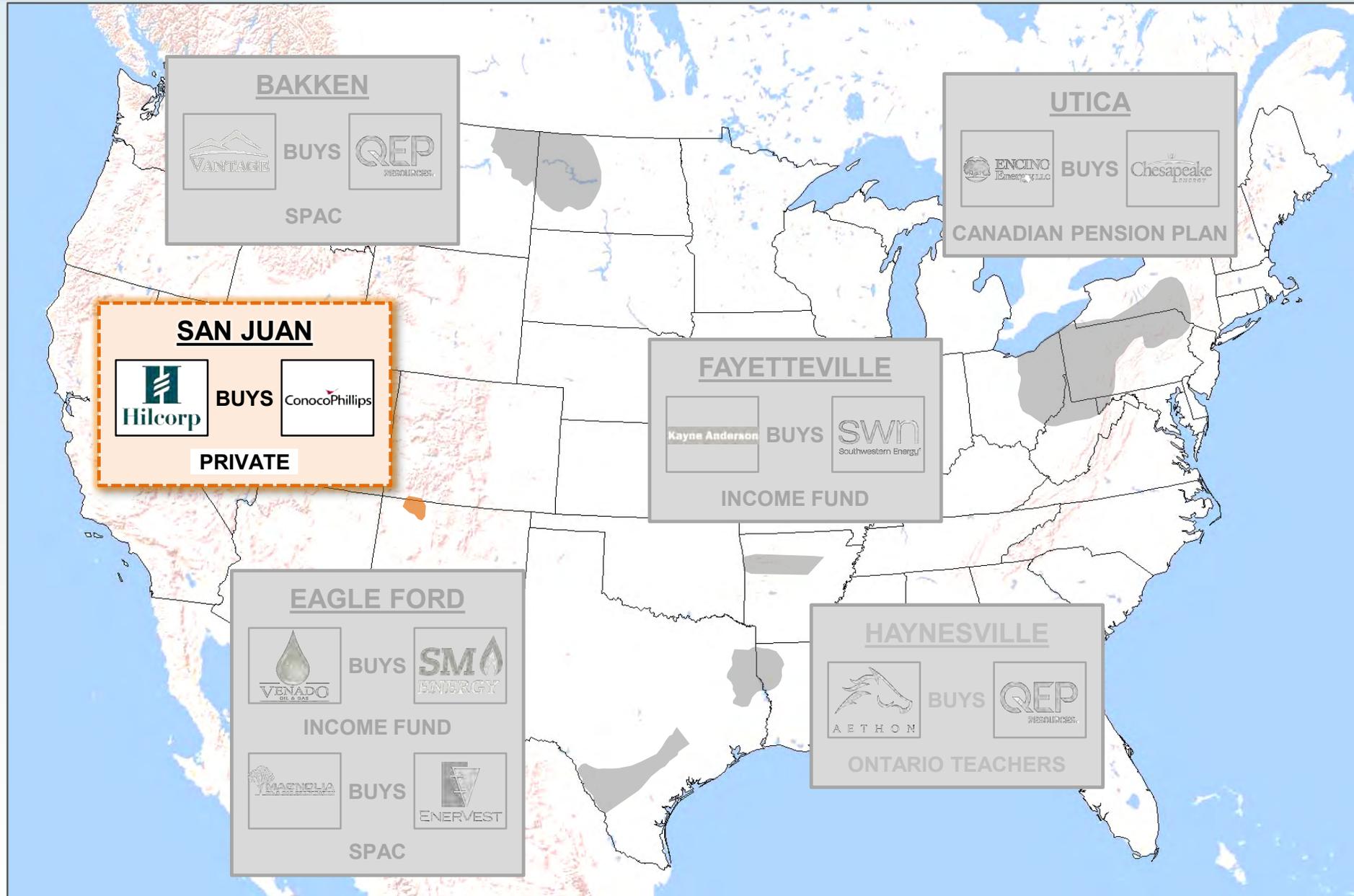
# PDP / YIELD INVESTORS



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# PDP / YIELD INVESTORS



# Conclusion

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- **Best Deals Come Out of the Fog**

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- **Change is Inevitable**

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- **Best Deals Come Out of the Fog**
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- **Is the Party Over?**

# Conclusion

- **Best Deals Come Out of the Fog**
- **Change is Inevitable**
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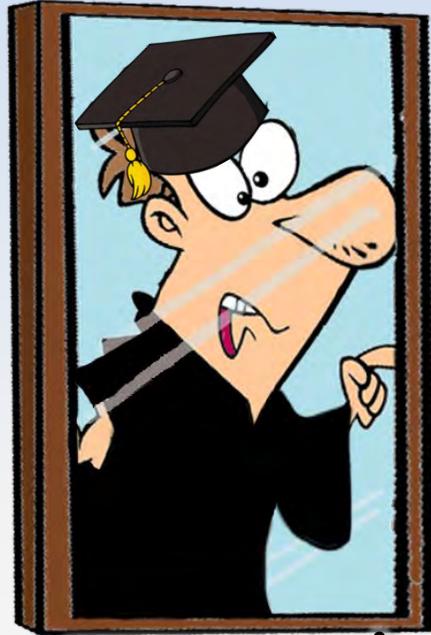
**ABSOLUTELY NOT**

**One More Thing**



**TROUBLE  
BREWING**

# Private Equity



ENDOWMENT

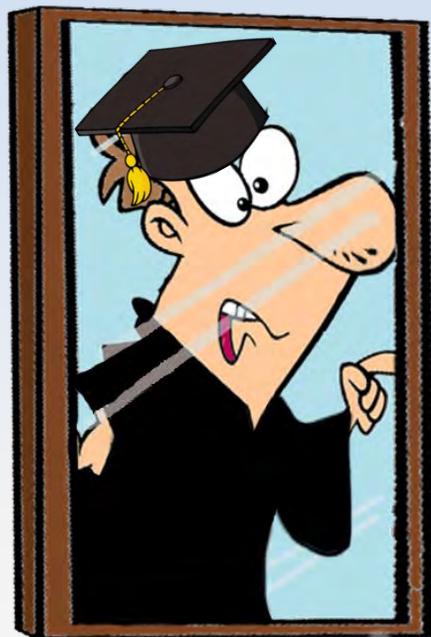
Private Equity Investor



HEDGE FUND

Wall Street Investor

# Private Equity



ENDOWMENT

## Private Equity Investor

- Must beat the S&P 500



HEDGE FUND

## Wall Street Investor

- Must Beat the S&P 500

# Private Equity



ENDOWMENT

## Private Equity Investor

- Must beat the S&P 500
- Wants to be a **Social Investor** – Hydrocarbons are out of Favor



HEDGE FUND

## Wall Street Investor

- Must Beat the S&P 500
- Only Cares about Making Money

# Private Equity



ENDOWMENT

## Private Equity Investor

- Must beat the S&P 500
- Wants to be a Social Investor – Hydrocarbons are out of Favor
- Has Longer Hold Periods



HEDGE FUND

## Wall Street Investor

- Must Beat the S&P 500
- Only Cares about Making Money
- Can Have Short-Term Thesis