

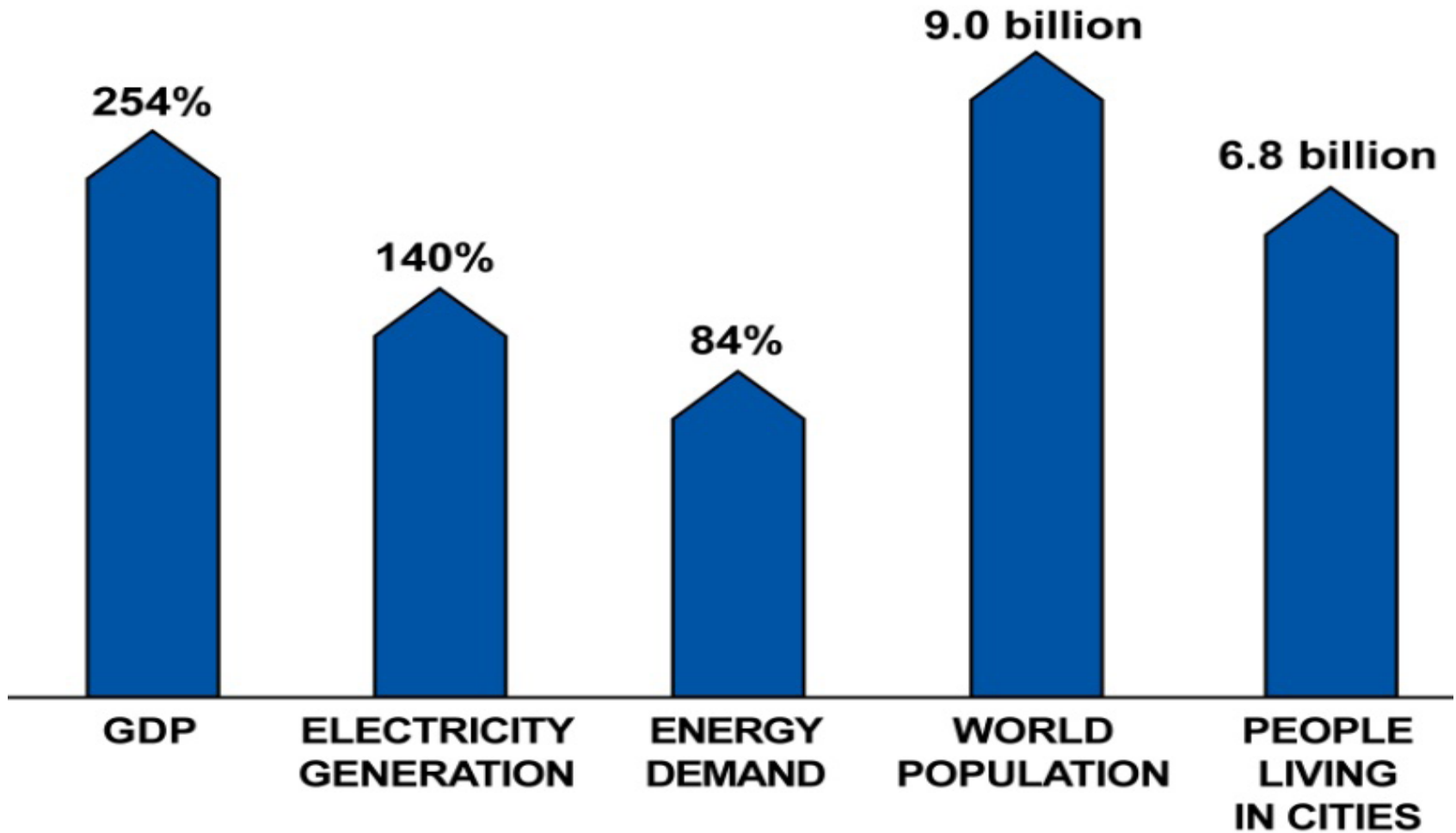


# **Institute for 21st Century Energy**

**U.S. Chamber of Commerce**

Karen A. Harbert  
President and CEO  
Institute for 21st Century Energy  
U.S. Chamber of Commerce

# Monumental Changes by 2050





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# The New Energy Reality

*Energy Security is central to our national and economic security*

- Demand to increase 53% by 2035
  - 90% in non-OECD countries
- Electricity demand to increase 76%
- 1.6 billion people without electricity
- \$38 trillion of new investment by 2035 to meet rising demand

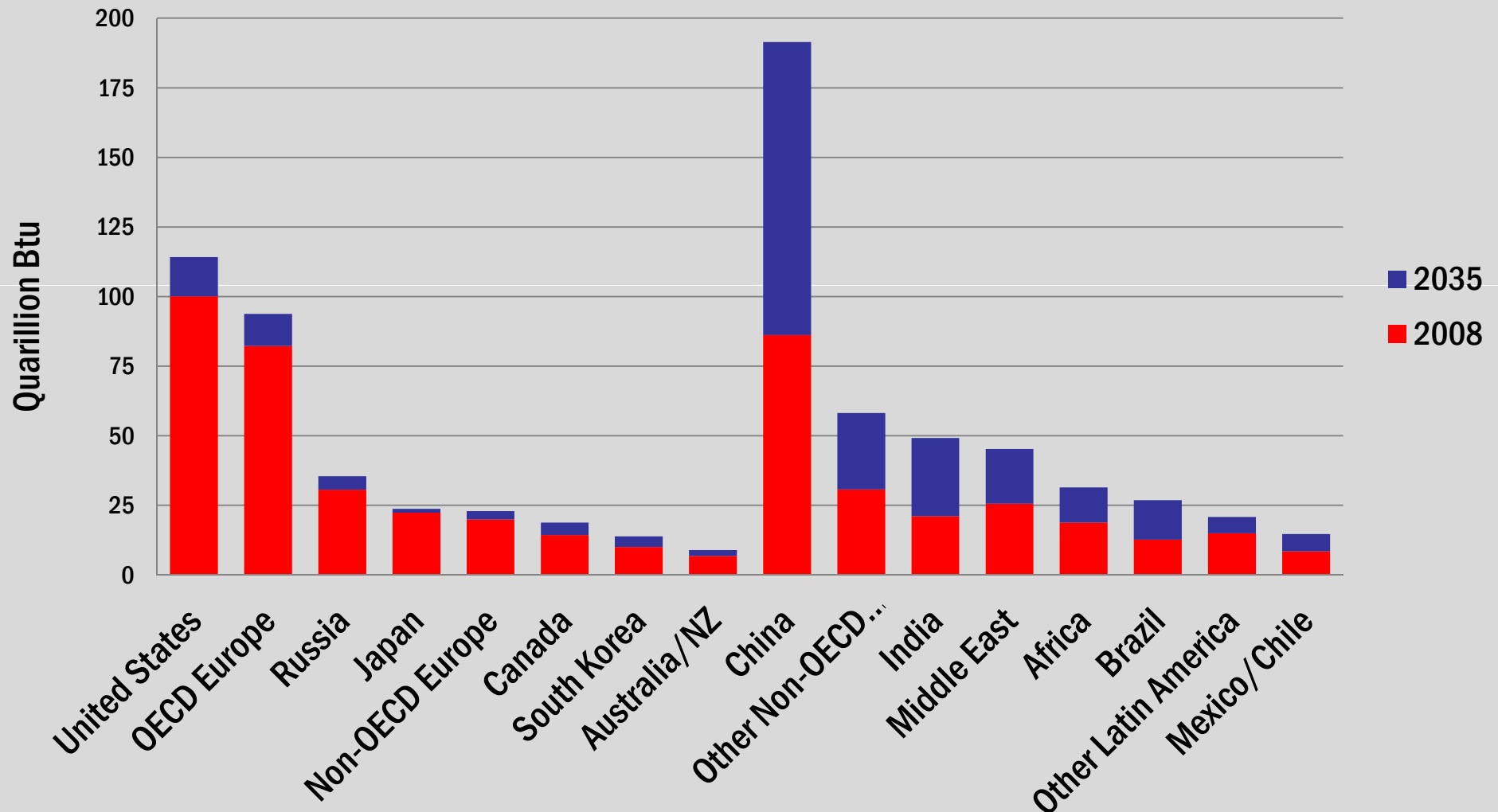


# An Inconvenient Energy Truth

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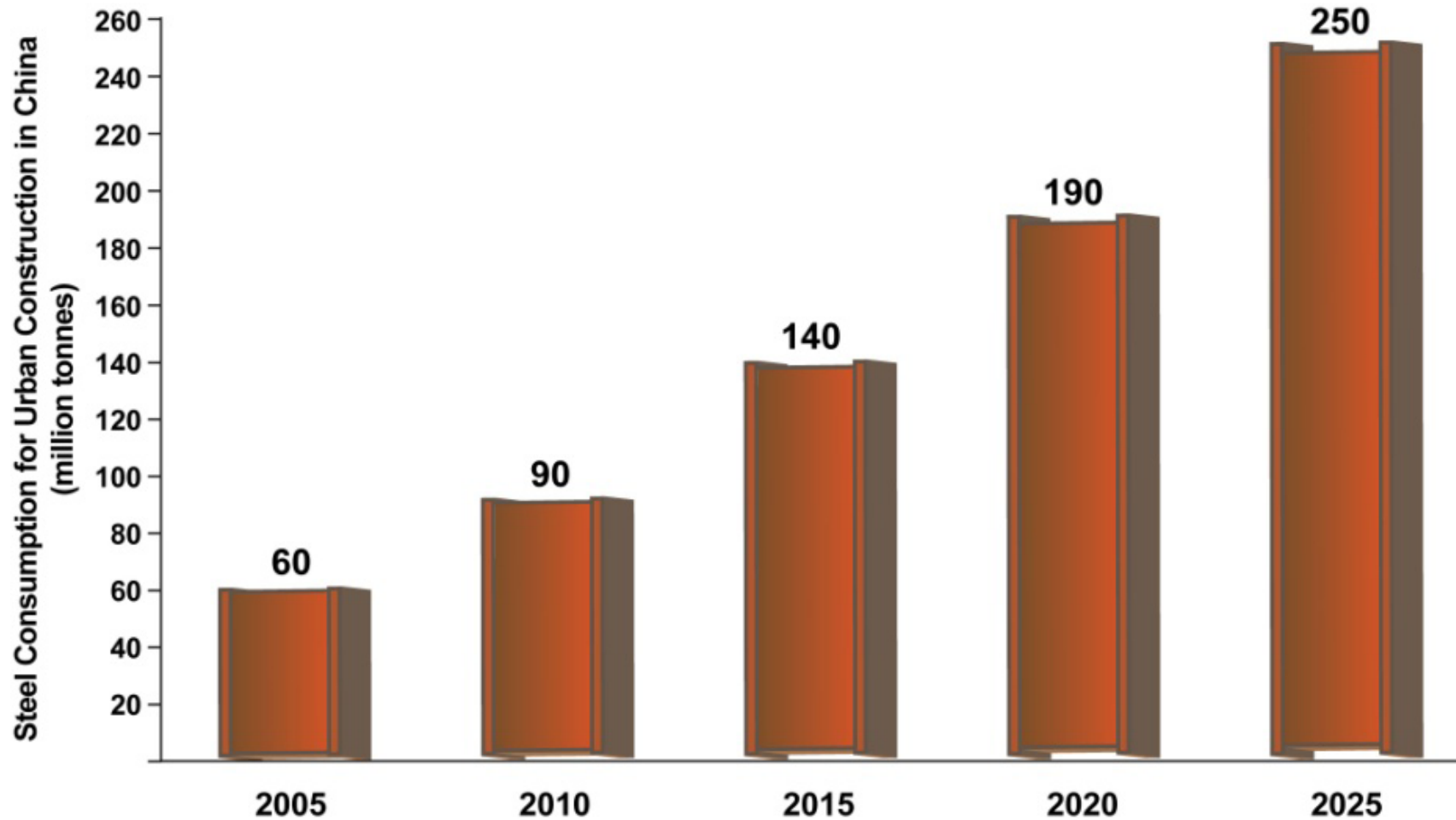


## Global Energy Demand by Region: 2008 & 2035



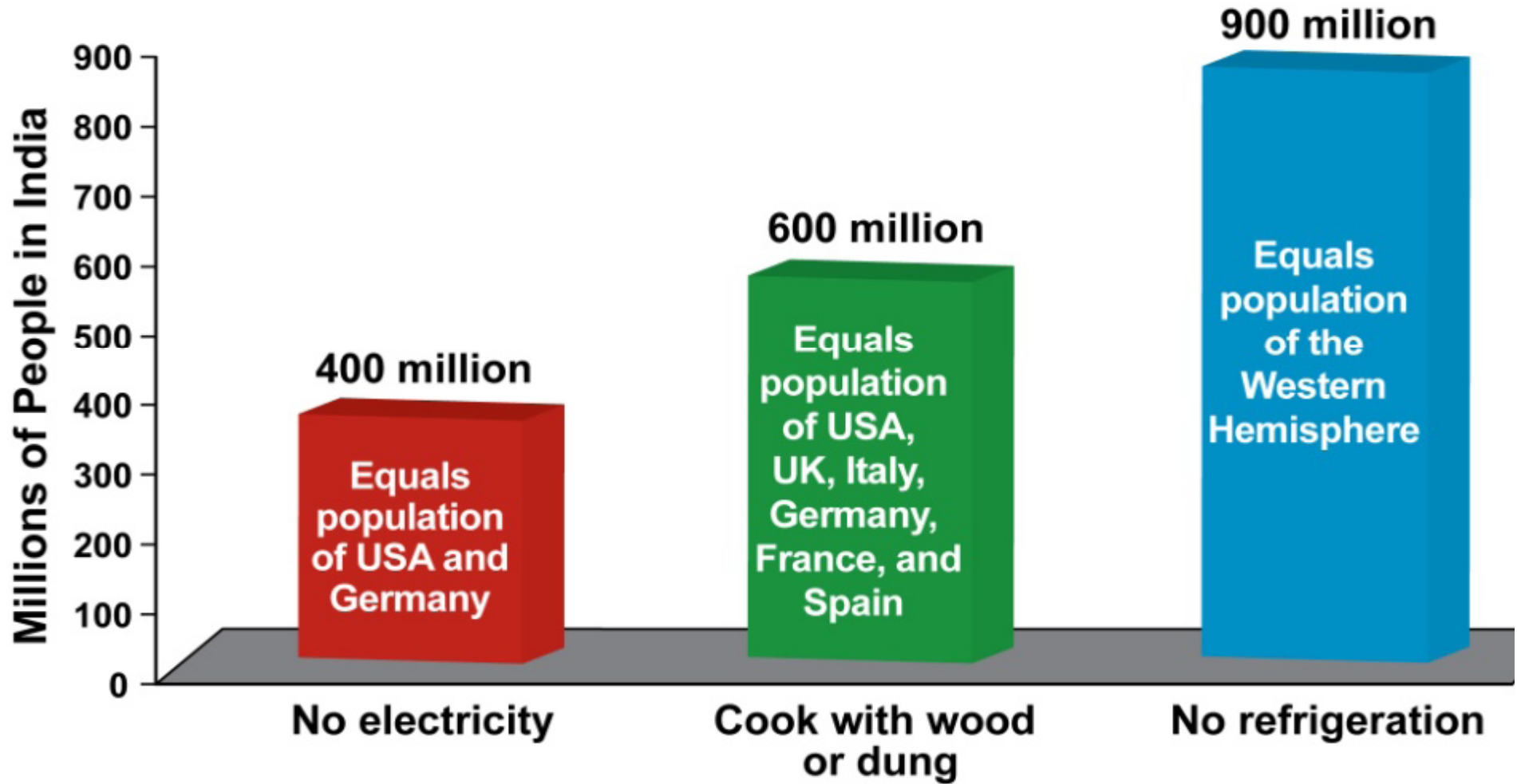


# China: Fueling Urbanization





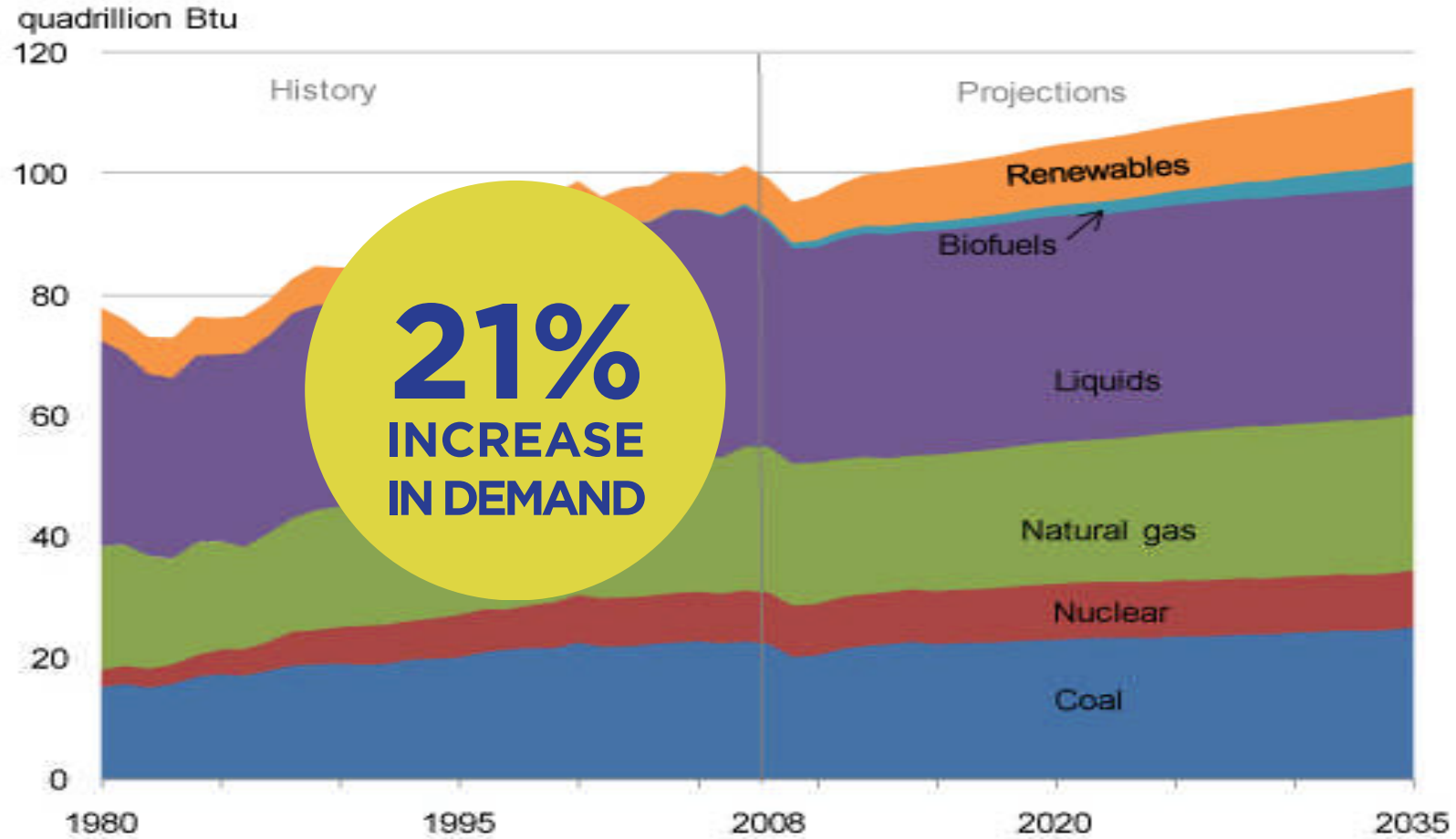
# India's Have Nots





# US Demand for Energy

**Figure 41. Primary energy use by fuel, 1980-2035**





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# A New Paradigm : ENERGY ABUNDANCE

## ● Technically Recoverable Resources

- 120 years of Nat Gas
- 206 Years of Oil
- 464 years of Coal

## ● In-place Resources

- 586 years of Nat Gas
- 536 years of oil
- 9,844 years of coal

Institute for Energy Resources Analysis of U.S. Government Data

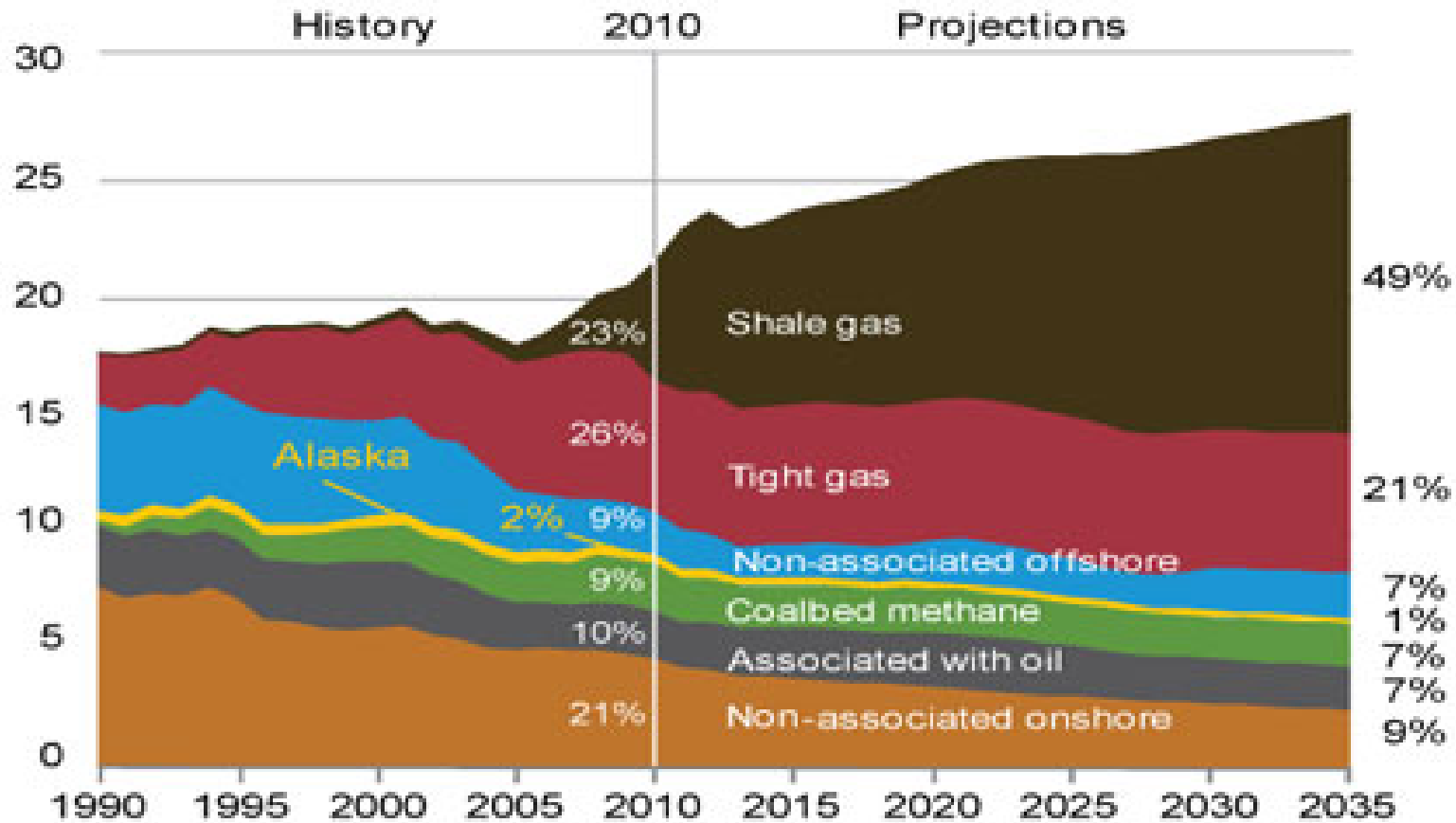
# North American shale plays (as of May 2011)



Source: U.S. Energy Information Administration based on data from various published studies. Canada and Mexico plays from ARI.  
Updated: May 9, 2011

# U.S. Natural Gas Production, 1990-2035

trillion cubic feet

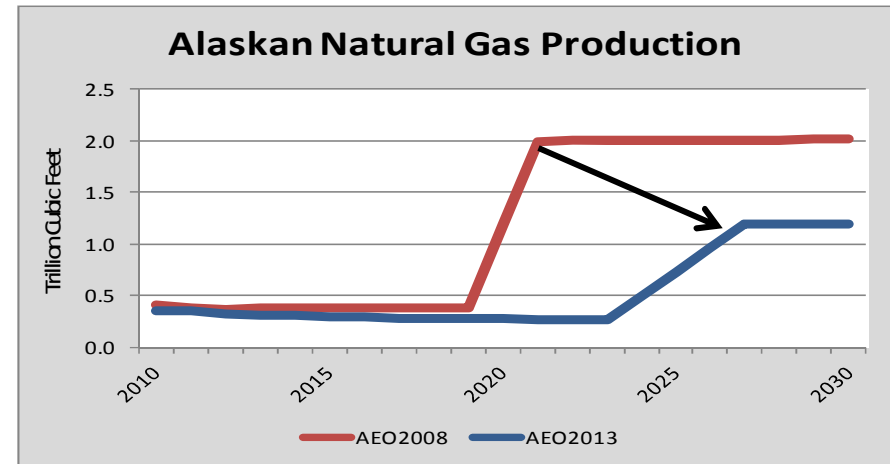
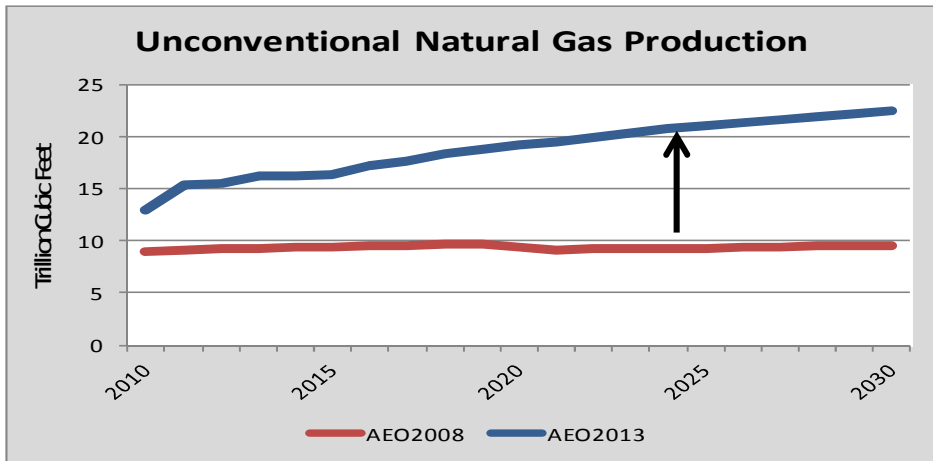
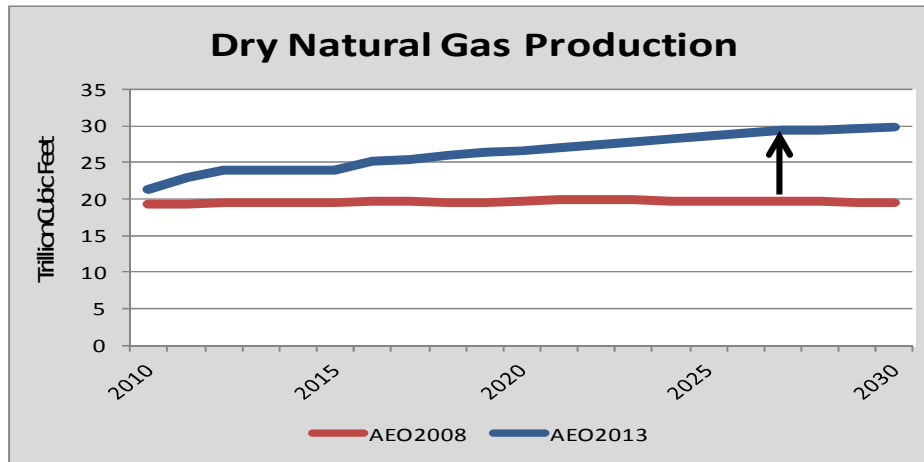


Source: U.S. Energy Information Administration, AEO2012 Early Release Overview, January 23, 2012.



# “SHALE GALE”: U.S. NATURAL GAS SUPPLY OUTLOOK

**WHAT A  
DIFFERENCE  
4 YEARS  
MAKES**





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# Shale Fueling Our Economy

	<b>2012</b>	<b>2015</b>	<b>2020</b>	<b>2035</b>
<b>Jobs Supported (millions)</b>	<b>1.75</b>	<b>2.5</b>	<b>3</b>	<b>3.5</b>
<b>New Government Revenue (billions)</b>	<b>\$62</b>	<b>\$91</b>	<b>\$111</b>	<b>\$124</b>
<b>Economic Growth (billions)</b>	<b>\$237</b>	<b>\$350</b>	<b>\$417</b>	<b>\$475</b>
<b>New Labor Income (billions)</b>	<b>\$125</b>	<b>\$181</b>	<b>\$215</b>	<b>\$250</b>



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# Fueling Our Economy

- **Oil & Gas sector created 9% of all American jobs in 2011**
- **Shale is driver behind 68% increase in domestic oil production by 2020.**
- **Net oil imports expected to decrease 60% in 2020...reducing America's import bill by \$200B by 2020.**
- **Manufacturing Renaissance**
- **Return of the Chemical, Fertilizer, Steel Industries**
- **Change the Geopolitical Balance in US favor**



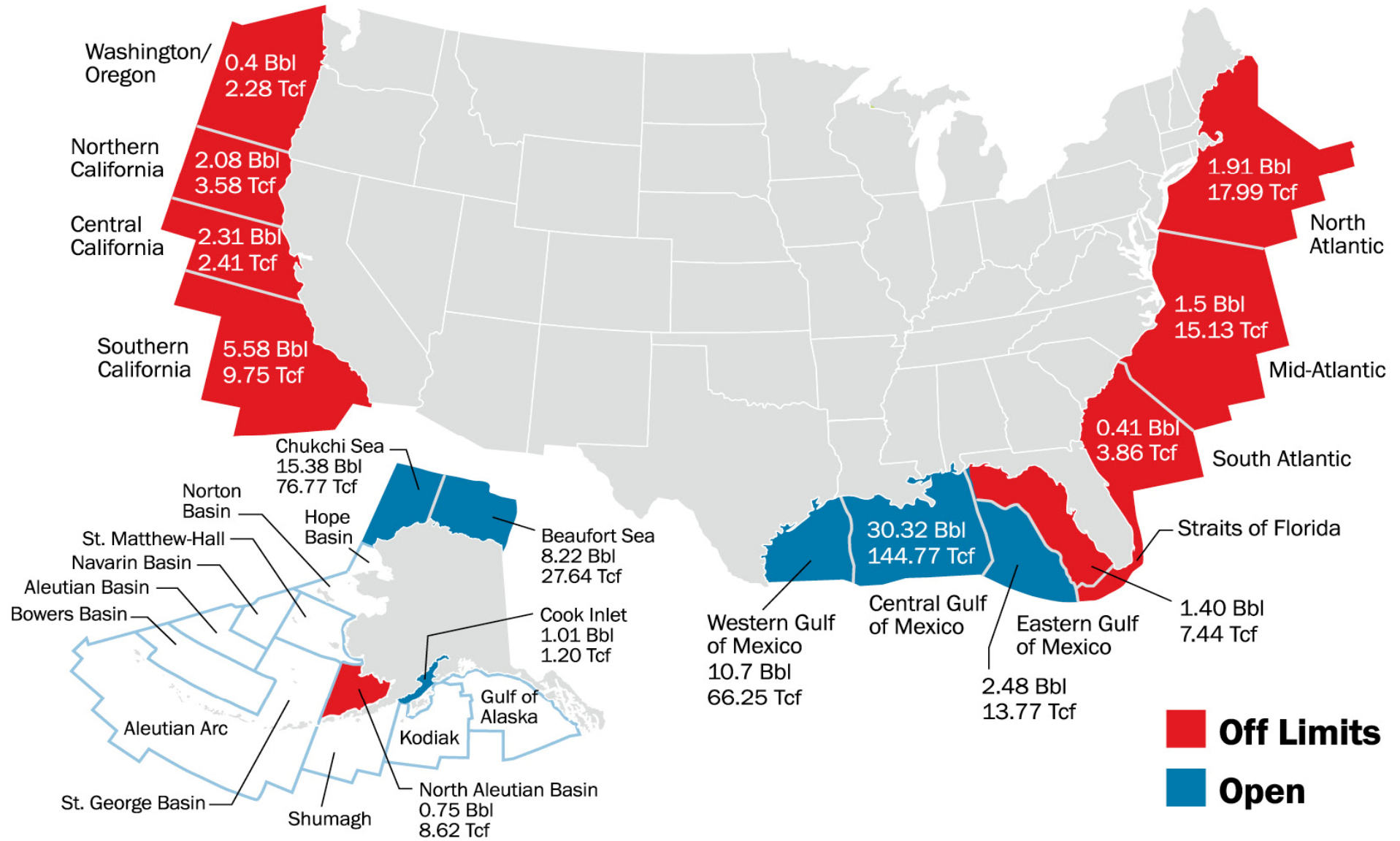
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# Fueling Our Economy

- **By 2035, U.S. unconventional oil and natural gas could generate more than:**
  - **3.5 million new jobs;**
  - **\$2.5 trillion in additional revenue;**
  - **\$5.1 trillion in investment**
  - **and 10 million barrels worth of added daily oil and natural gas production**

# Offshore Undiscovered Technically Recoverable Federal Oil and Natural Gas Resources

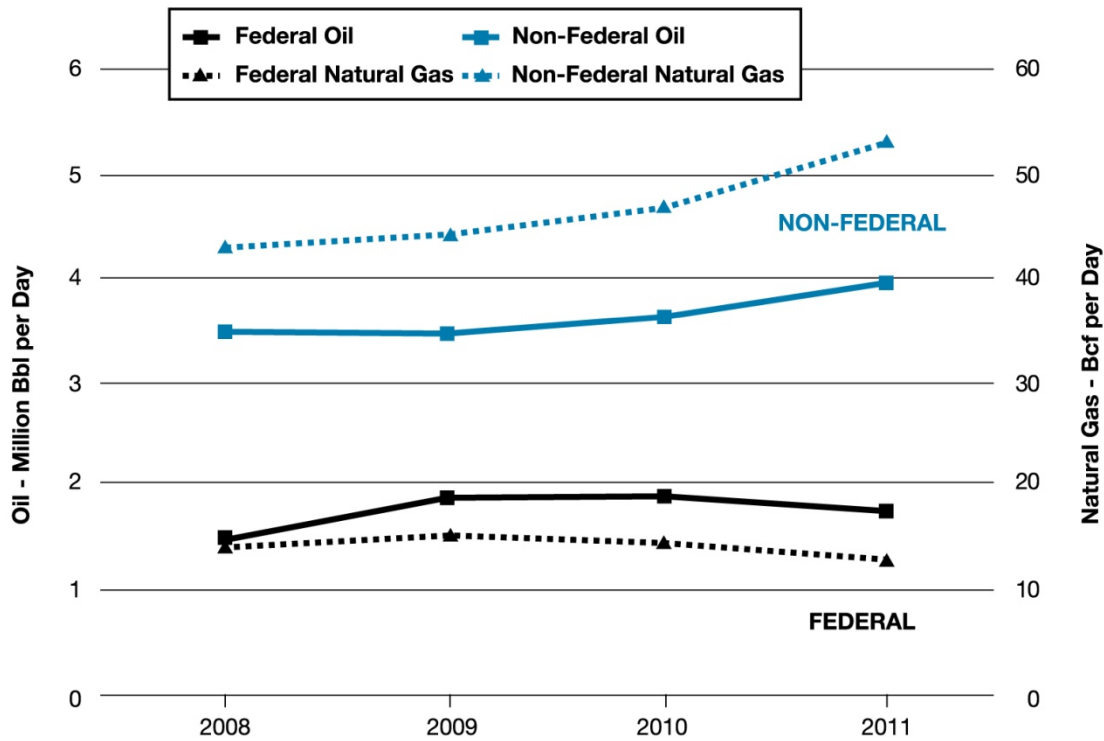


Source: MMS and Department of the Interior



# Where the Action IS and ISN'T

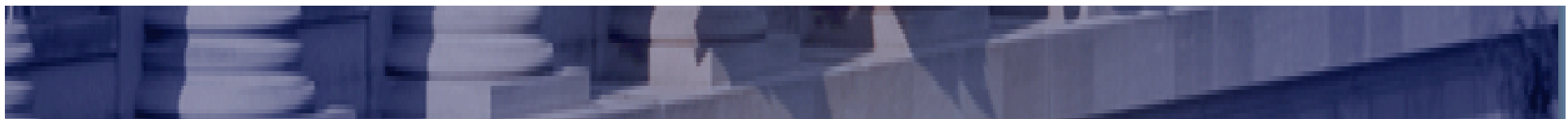
U.S. Oil and Natural Gas Production on Federal vs. Non-federal Lands and Waters



Source: EIA, Office of Natural Resource Revenue

All oil increase on private and state lands; 7% decrease

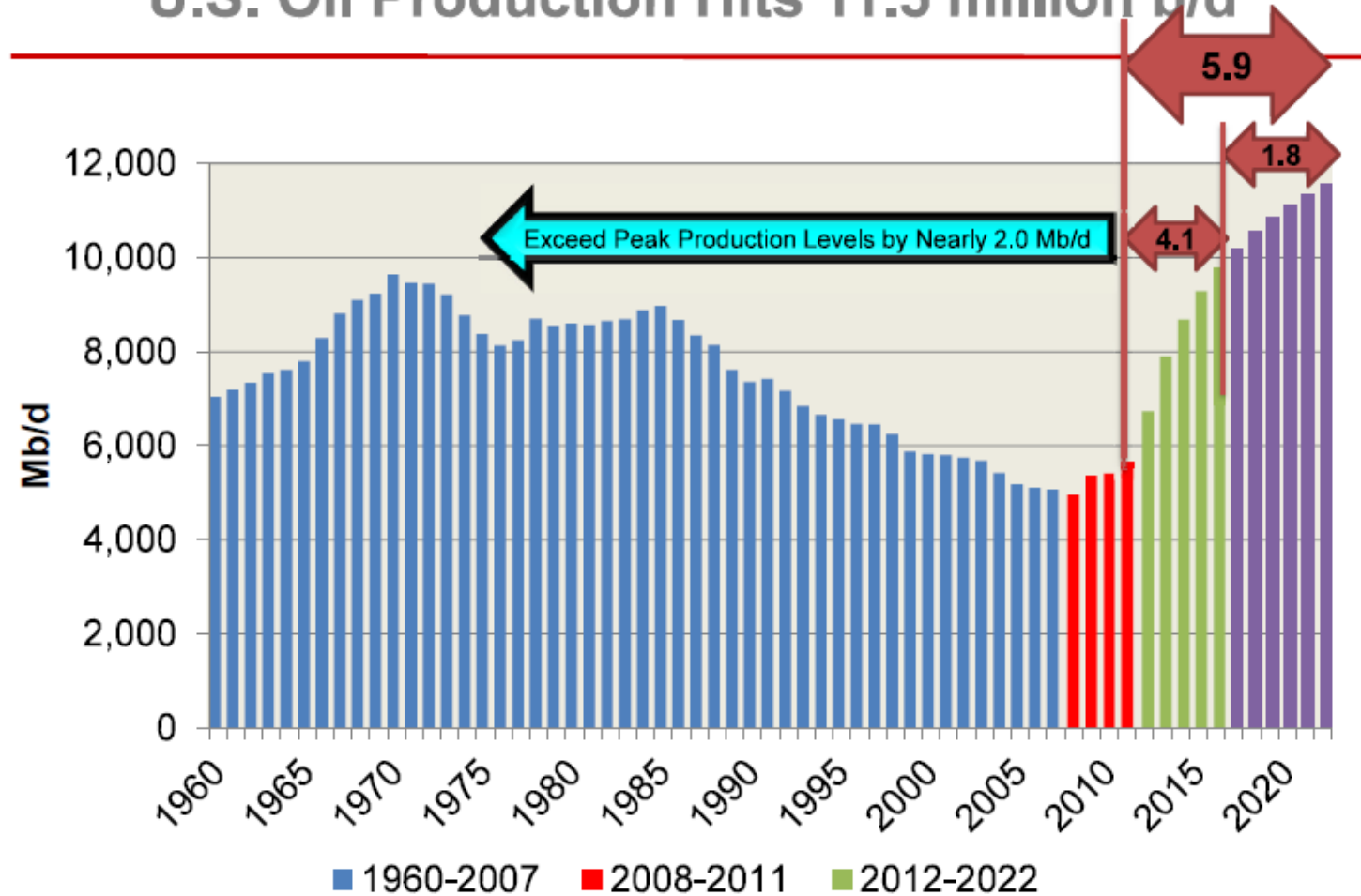
Gas down 33% on fed lands and up 44% on state lands





# U.S. Oil Production

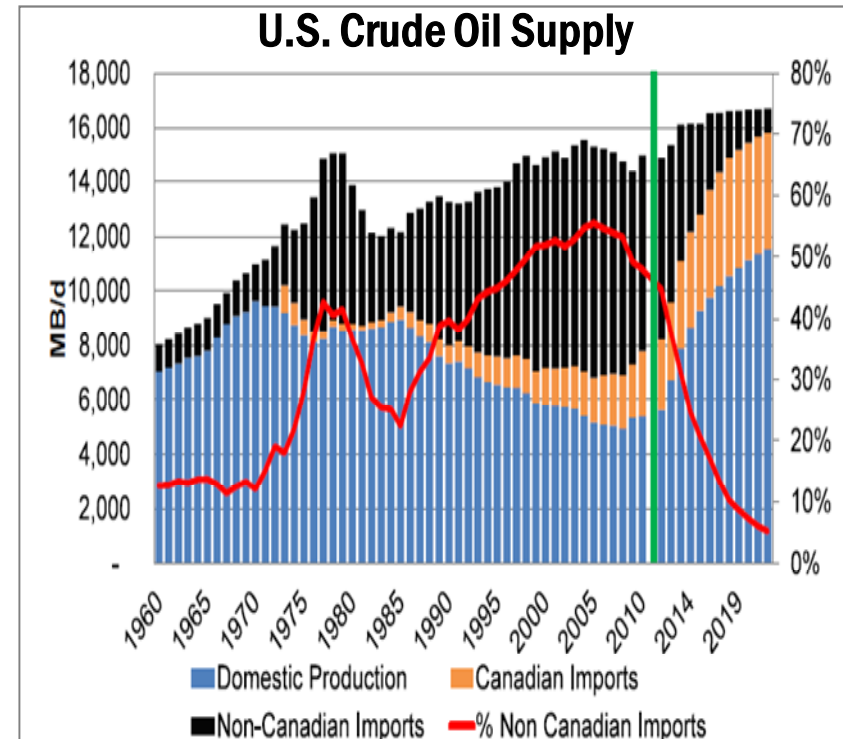
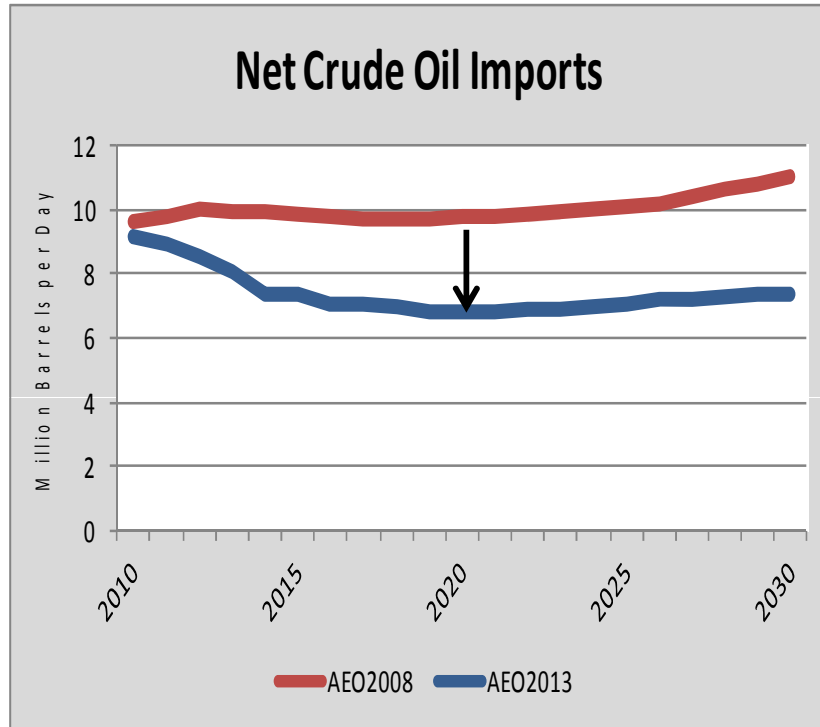
## U.S. Oil Production Hits 11.5 million b/d



Source BENTEK Crude Awakening Part 6



# OUTLOOK FOR U.S. CRUDE OIL IMPORTS



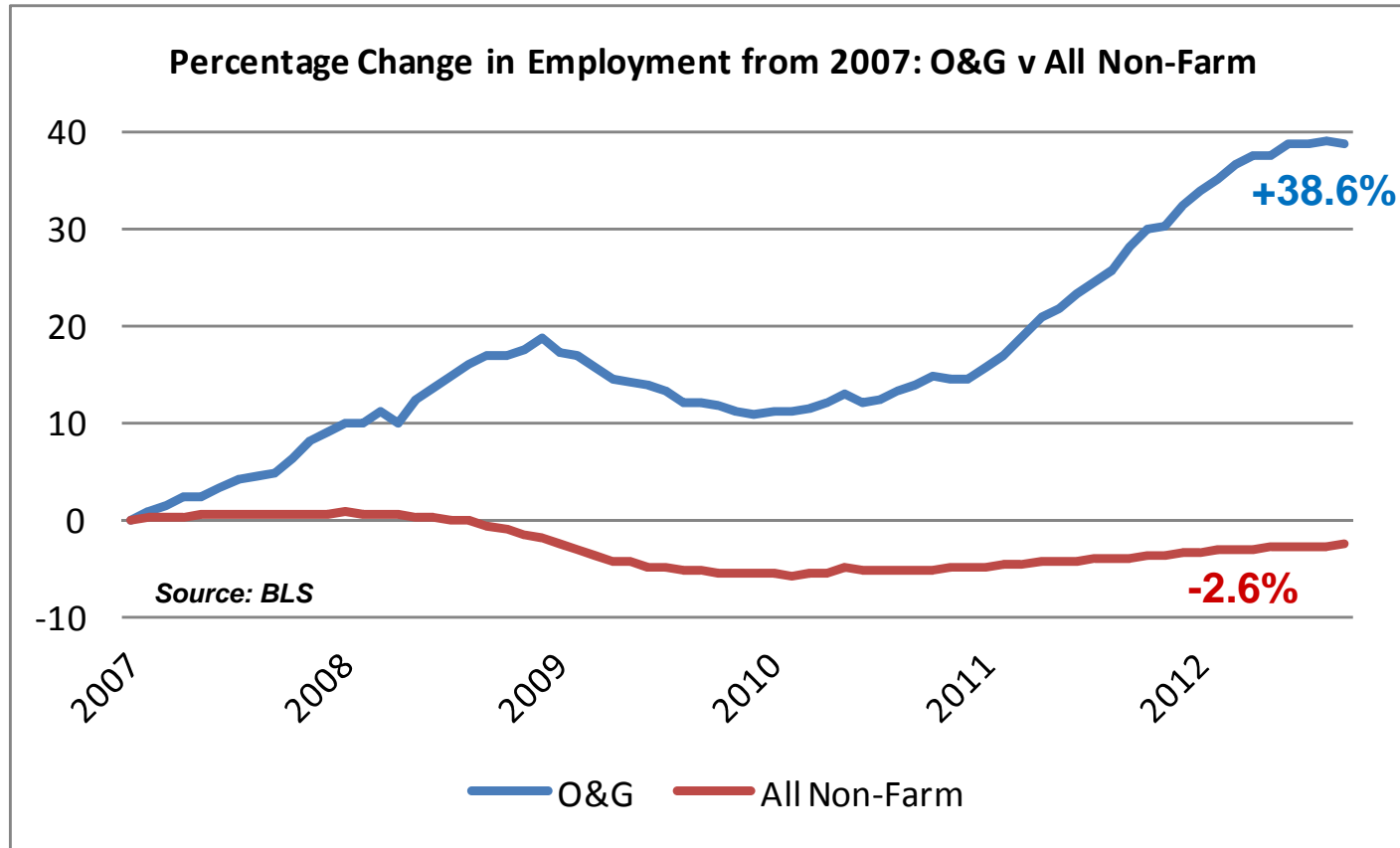
Crude oil imports decline because of:

- (1) flat demand for oil; and
- (2) greater domestic output.





# Oil & Gas is THE Job Driver

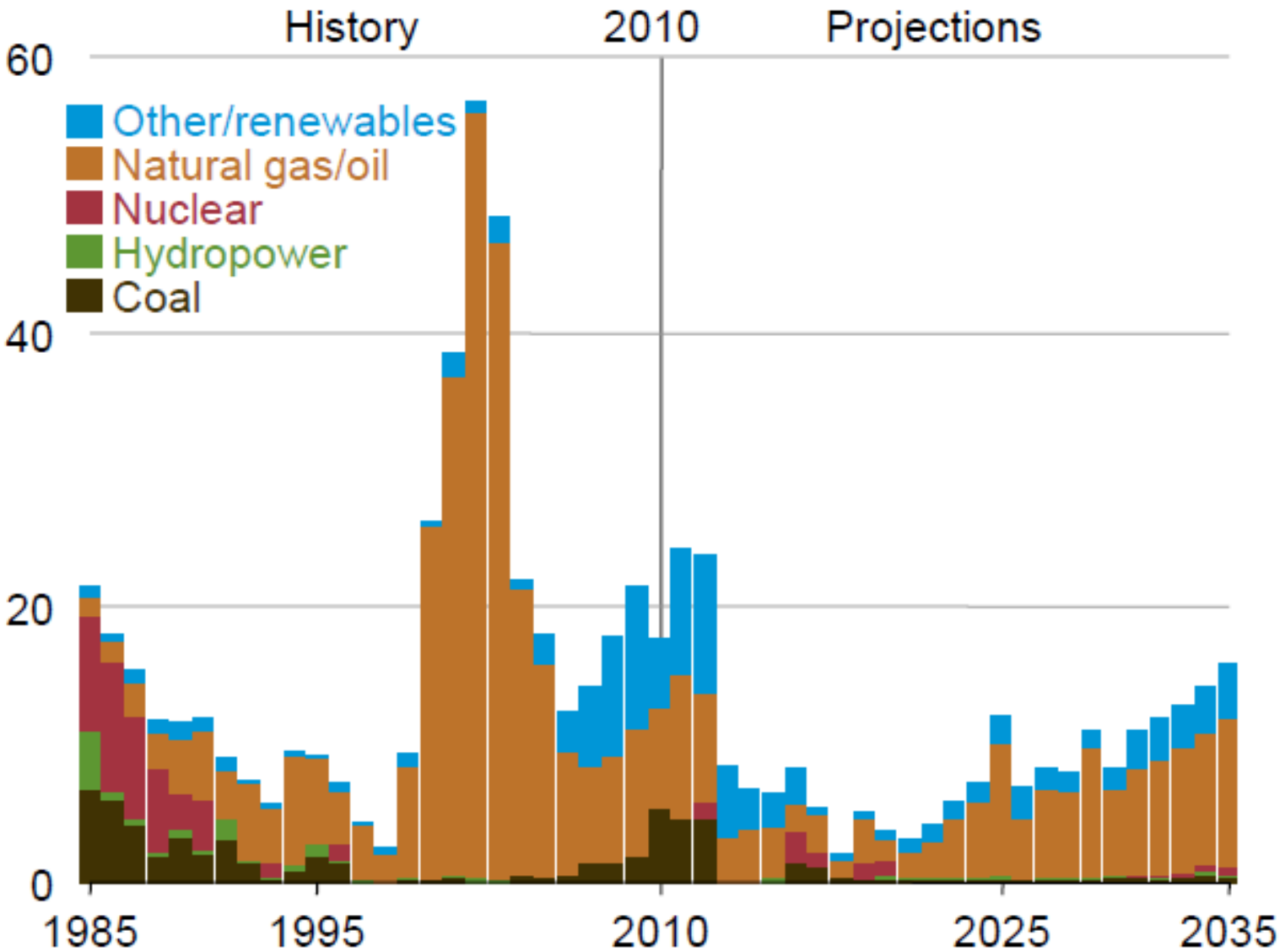




# Keystone XL Pipeline proposal



# Electricity Generating Capacity Additions 1985-2035 (gigawatts)



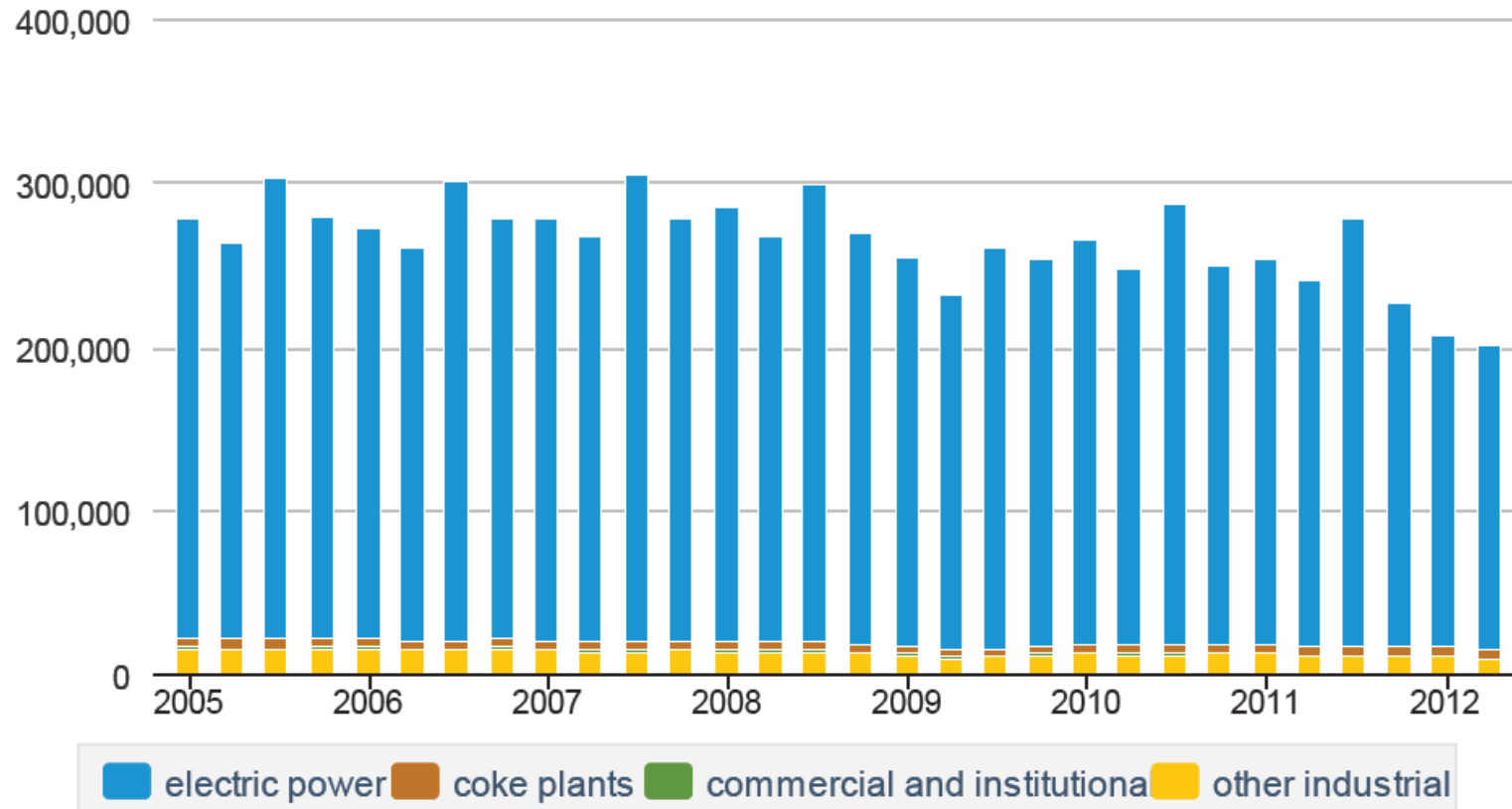


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# Domestic Coal Consumption Down

thousand short tons



Source: EIA Quarterly Coal Report 10-4-12

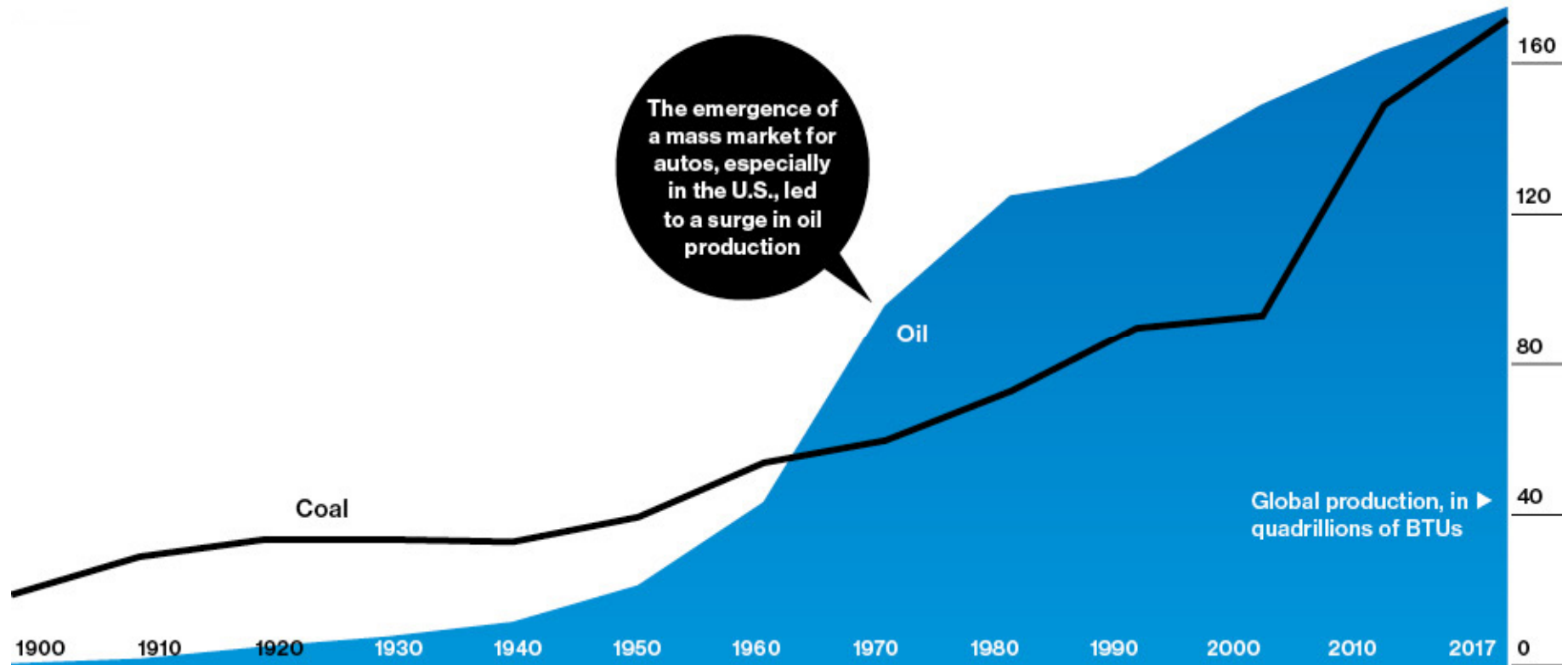
## U.S. Consumption Down 27% in five years



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# Global Coal Demand Way Up



GRAPHIC BY BLOOMBERG BUSINESSWEEK, DATA: INTERNATIONAL ENERGY AGENCY, VACLAV SMIL  
Source: EIA Quarterly Coal Report 10-4-12

## Global production to meet oil by 2017

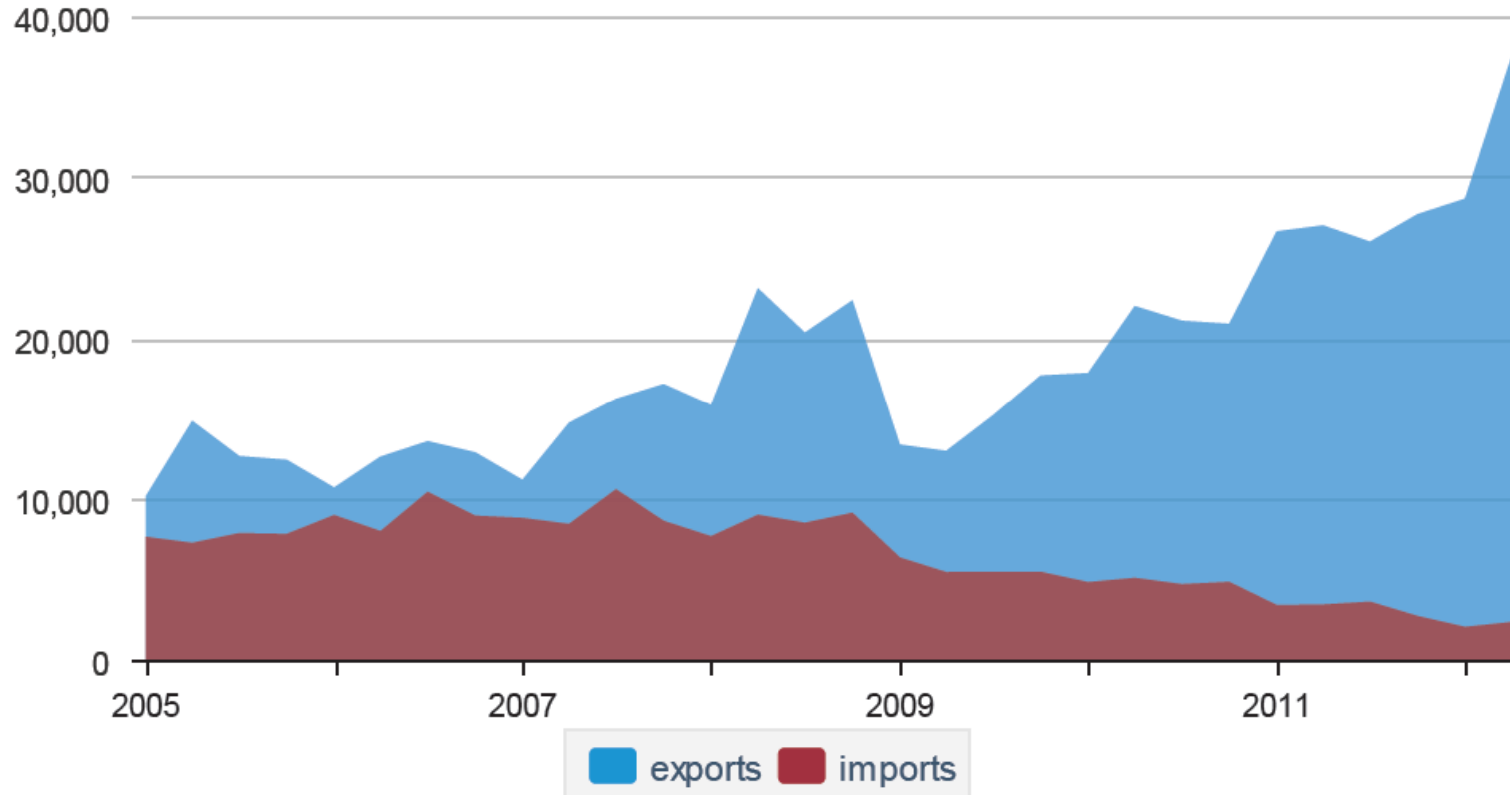


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# Coal Exports Up...WAY UP

thousand short tons

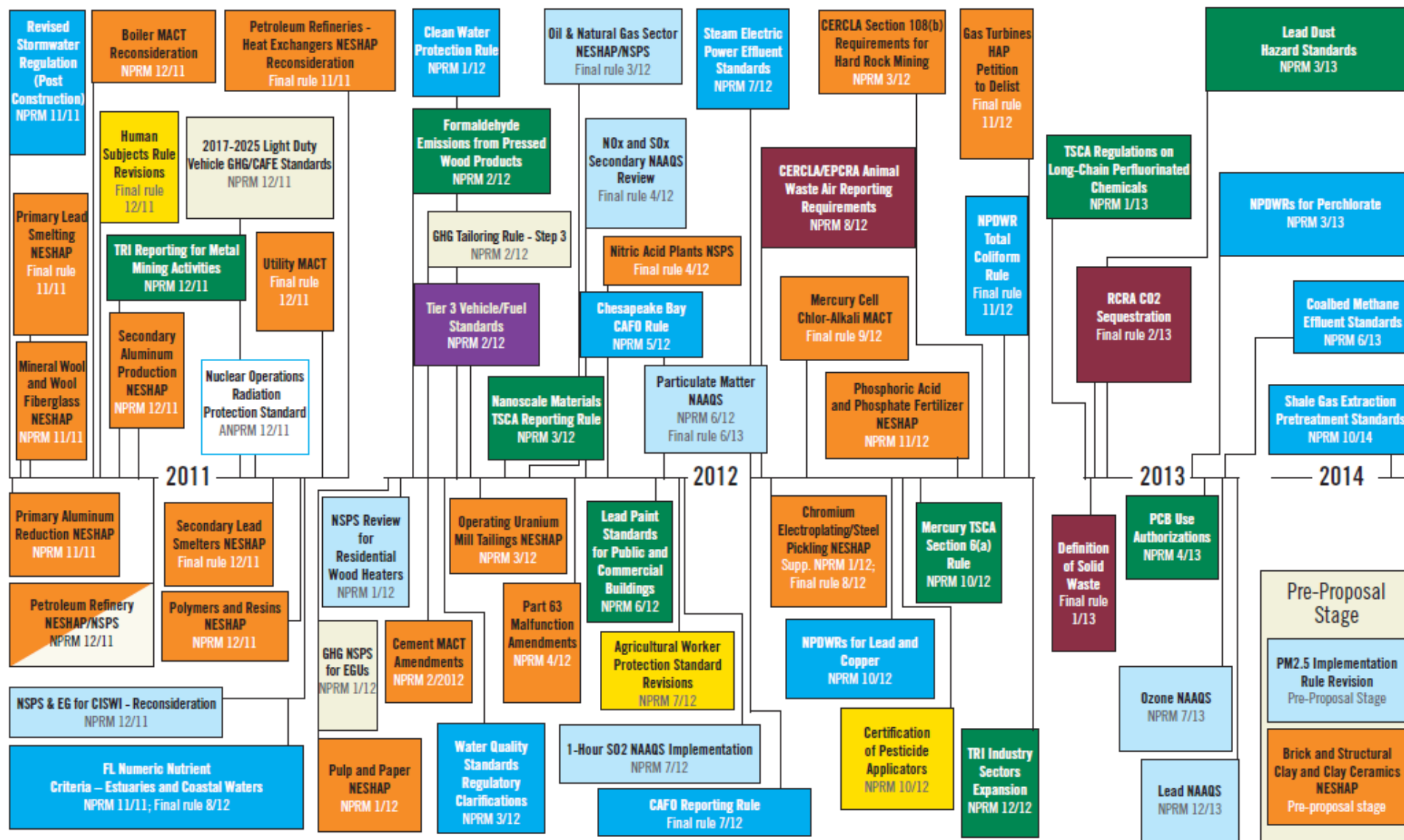


Source: EIA Quarterly Coal Report 10-4-12

**Exports have increased 190% in three years**

**2012 will beat all-time high in 1981**

# EPA's Rulemakings on the Runway

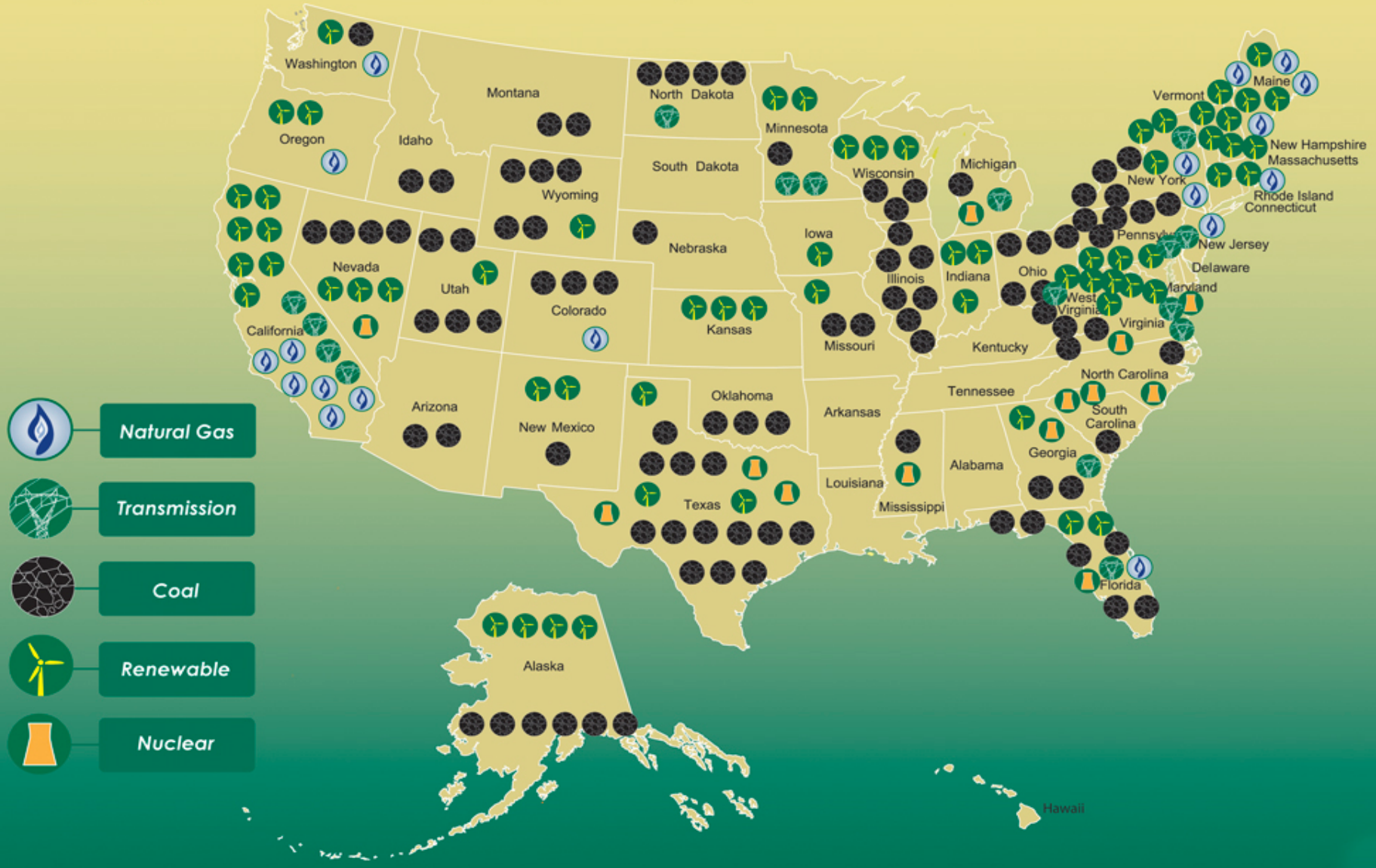


■ Air Quality Regulations
 ■ Fuel Regulations
 ■ GHG Regulations
 ■ Air Toxics Regulations
 ■ Pesticides
 ■ Toxic Substances
 ■ Waste
 ■ Water
 ■ Other



# Project ~~No Project~~

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





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# Time to Capitalize on Opportunity

**ON THE TABLE:** America's national security,  
investment climate and competitiveness

**ENERGYXXI.ORG**

