

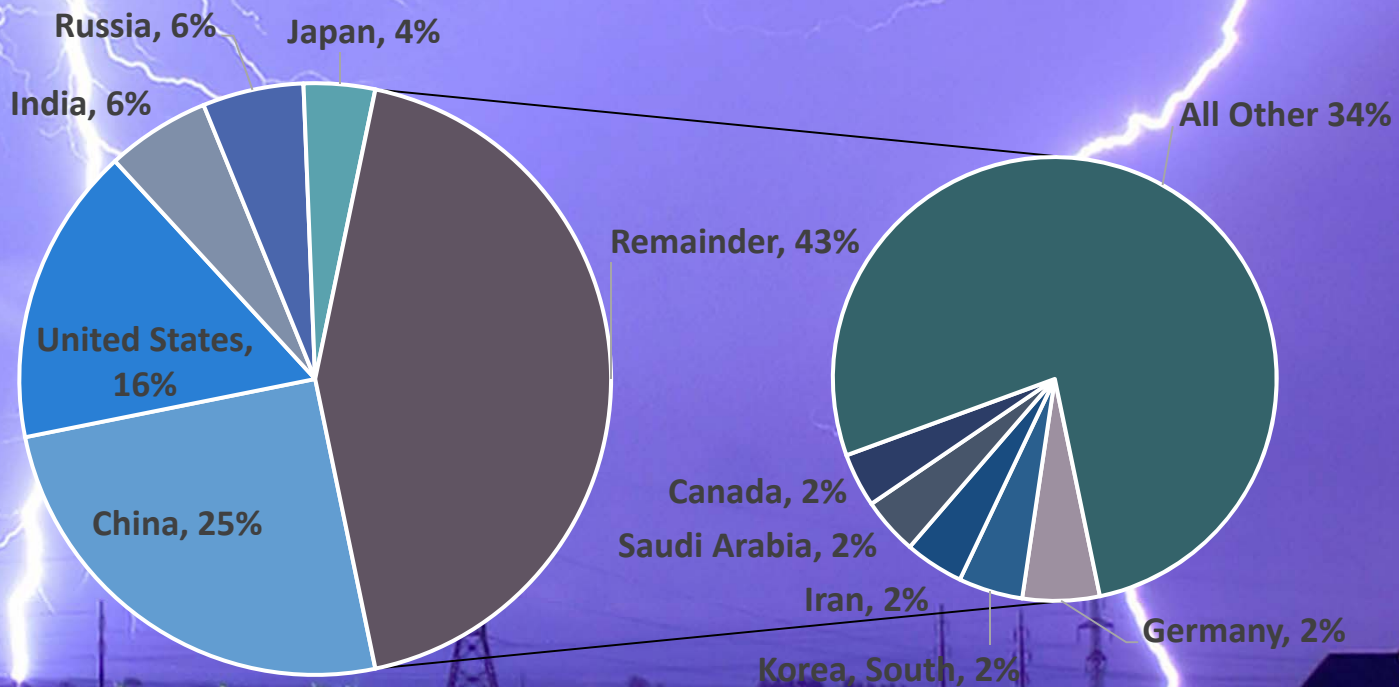
THE OUTLOOK FOR ENERGY
Montana Energy Industries
Another Difficult Year Ahead

By Terry Johnson



Top Energy Development – CO₂ Emissions

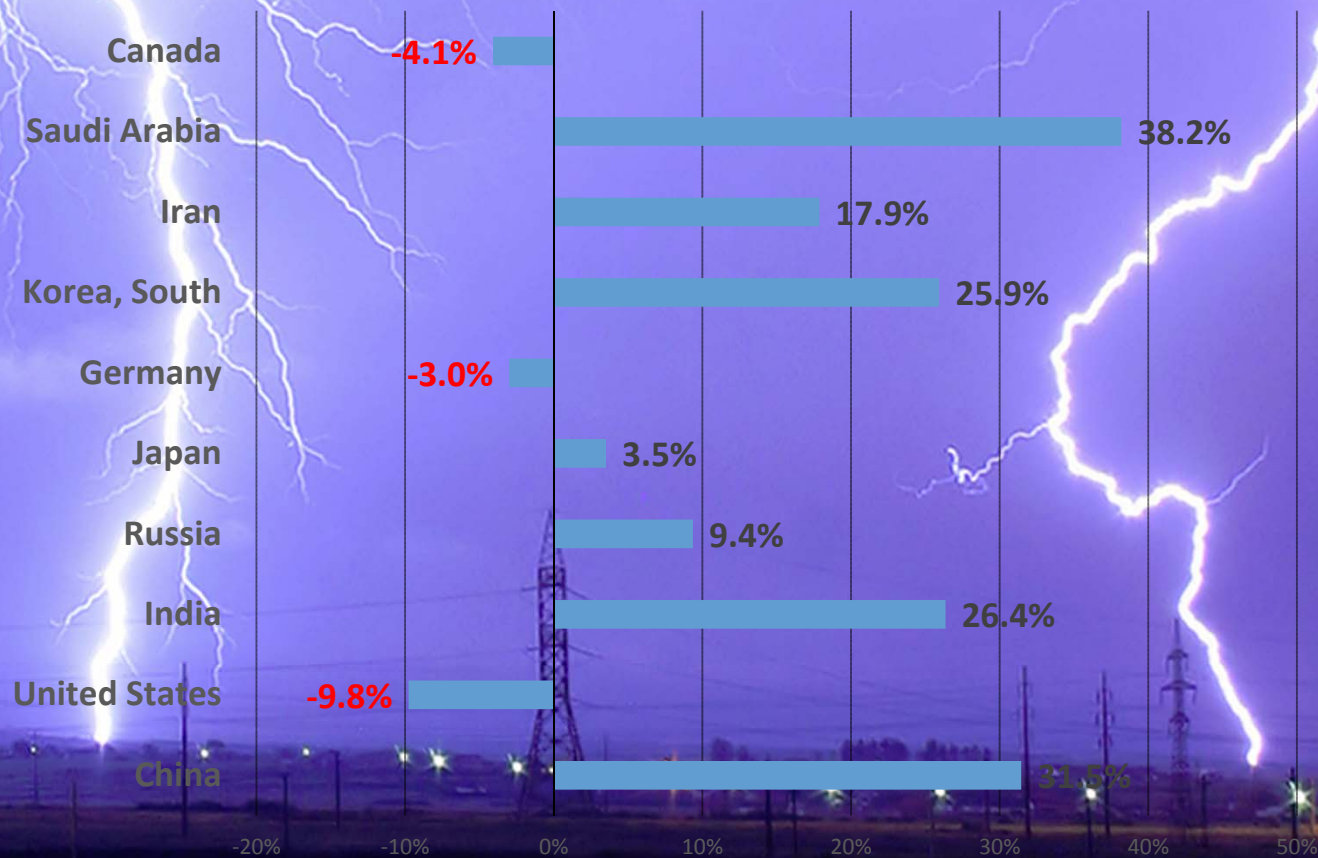
World Top 10 Contributors in 2012



Source: US Energy Information Administration

Top Energy Development – CO₂ Emissions

Growth in CO₂ Emissions 2008 to 2012



Source: US Energy Information Administration

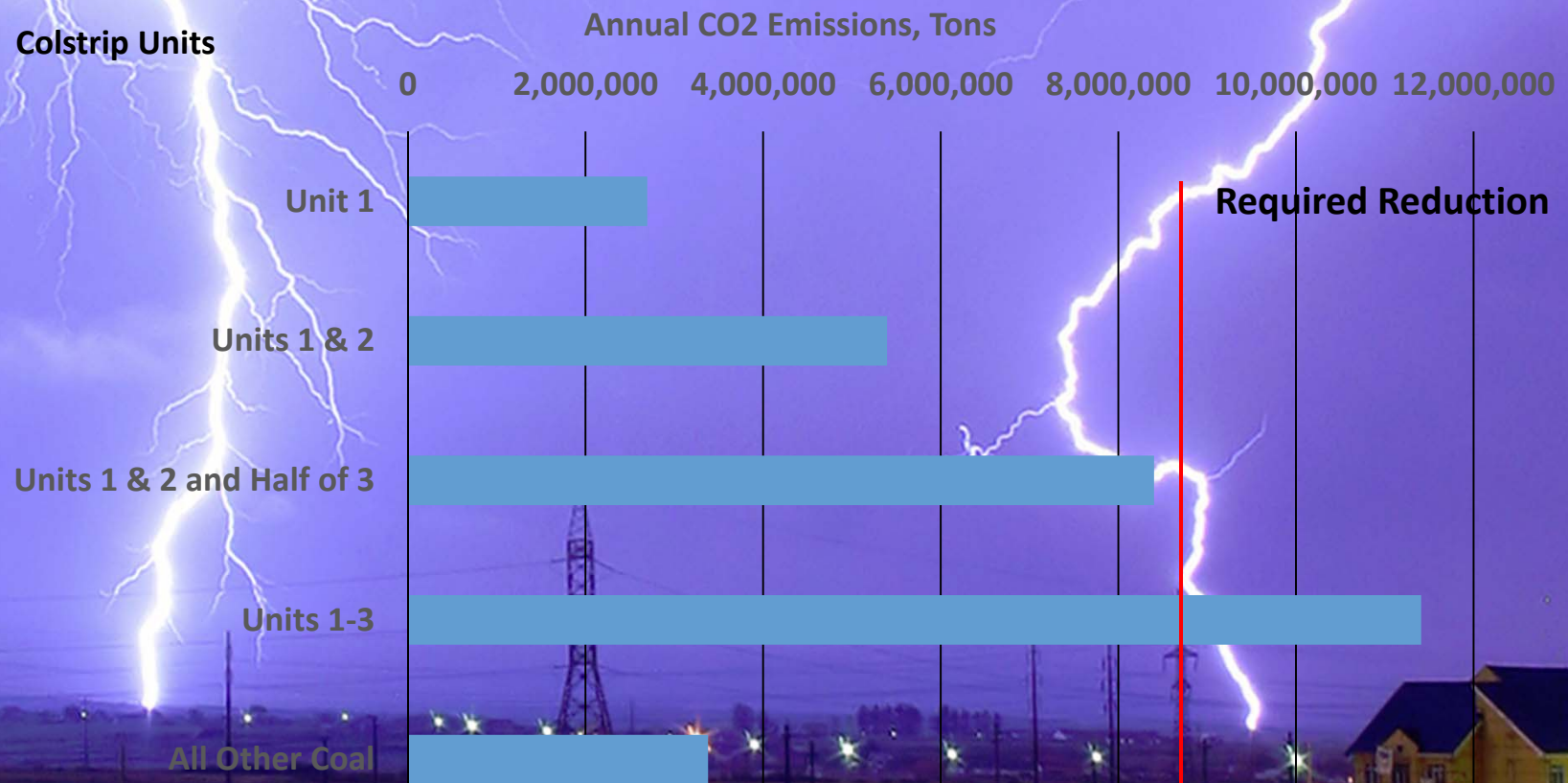
Top Energy Development – CO₂ Emissions

EPA's Clean Power Plan

- EPA's final rule for the Clean Power Plan aimed at reducing CO₂ emission rates for power plants released August 3, 2015
- Percentage reduction for Montana mandated by the rule in 2030 is higher than any other state (47% below 2012 baseline for emission rates).
- As a state where targeted coal facilities make up more than 95 percent of fossil fuel electric energy production, easy options for compliance do not exist.

Top Energy Development – CO₂ Emissions

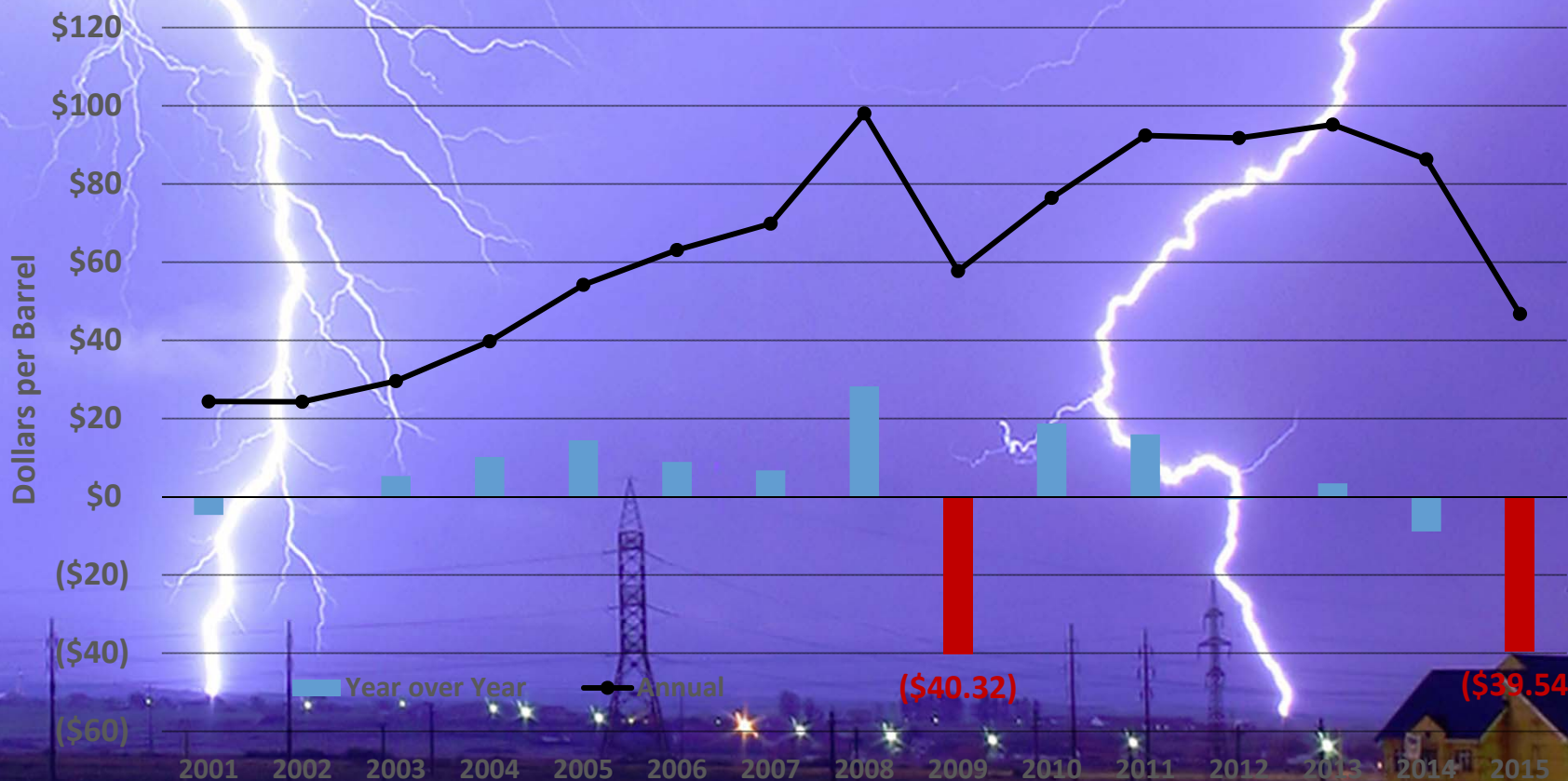
EPA's Clean Power Plan Impact on Colstrip



Source: Bureau of Business and Economic Research

West Texas Intermediate Oil Price

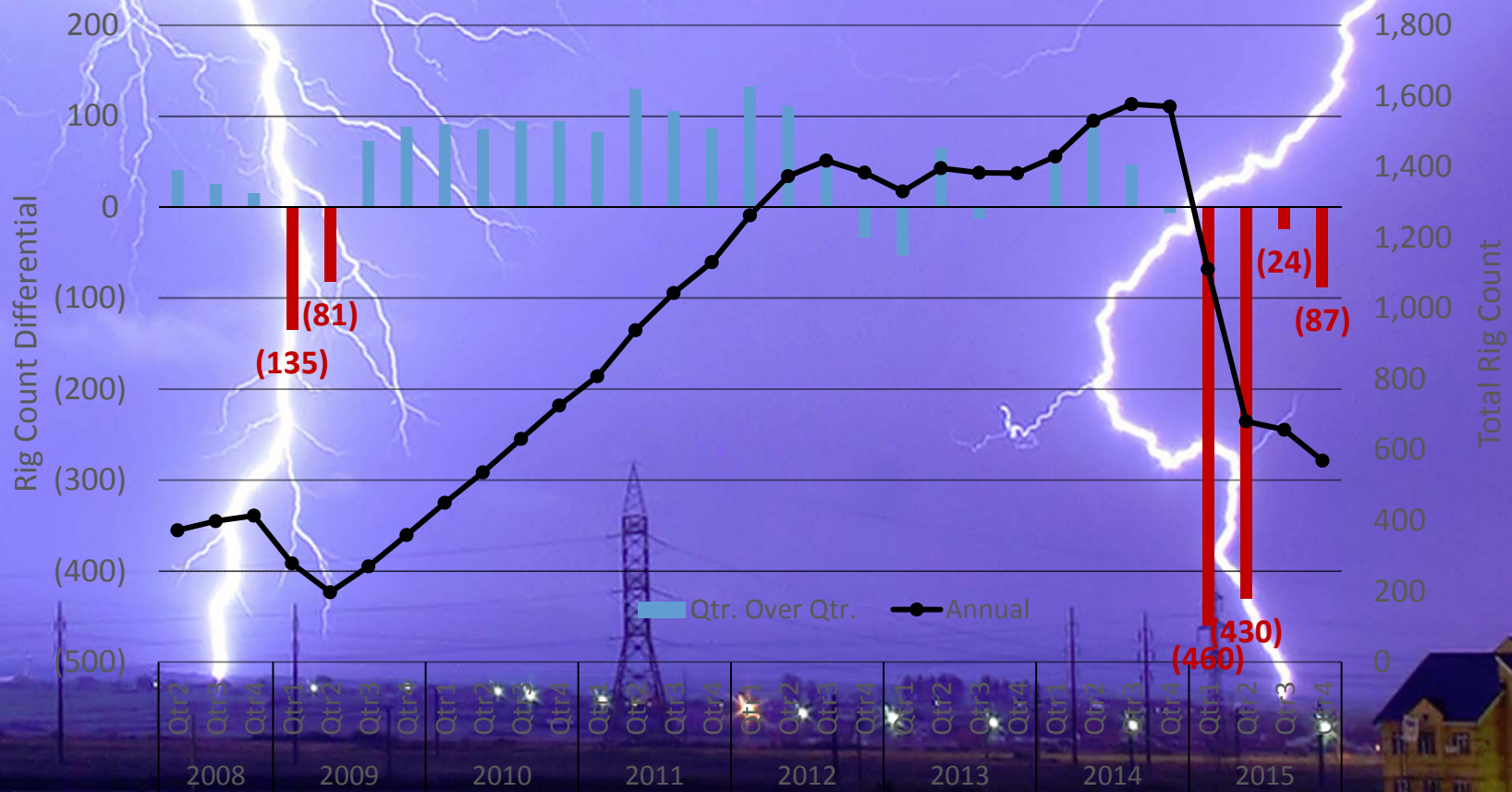
Further Oil Price Declines



Source: US Energy Information Administration

Baker Hughes Oil Rig Count

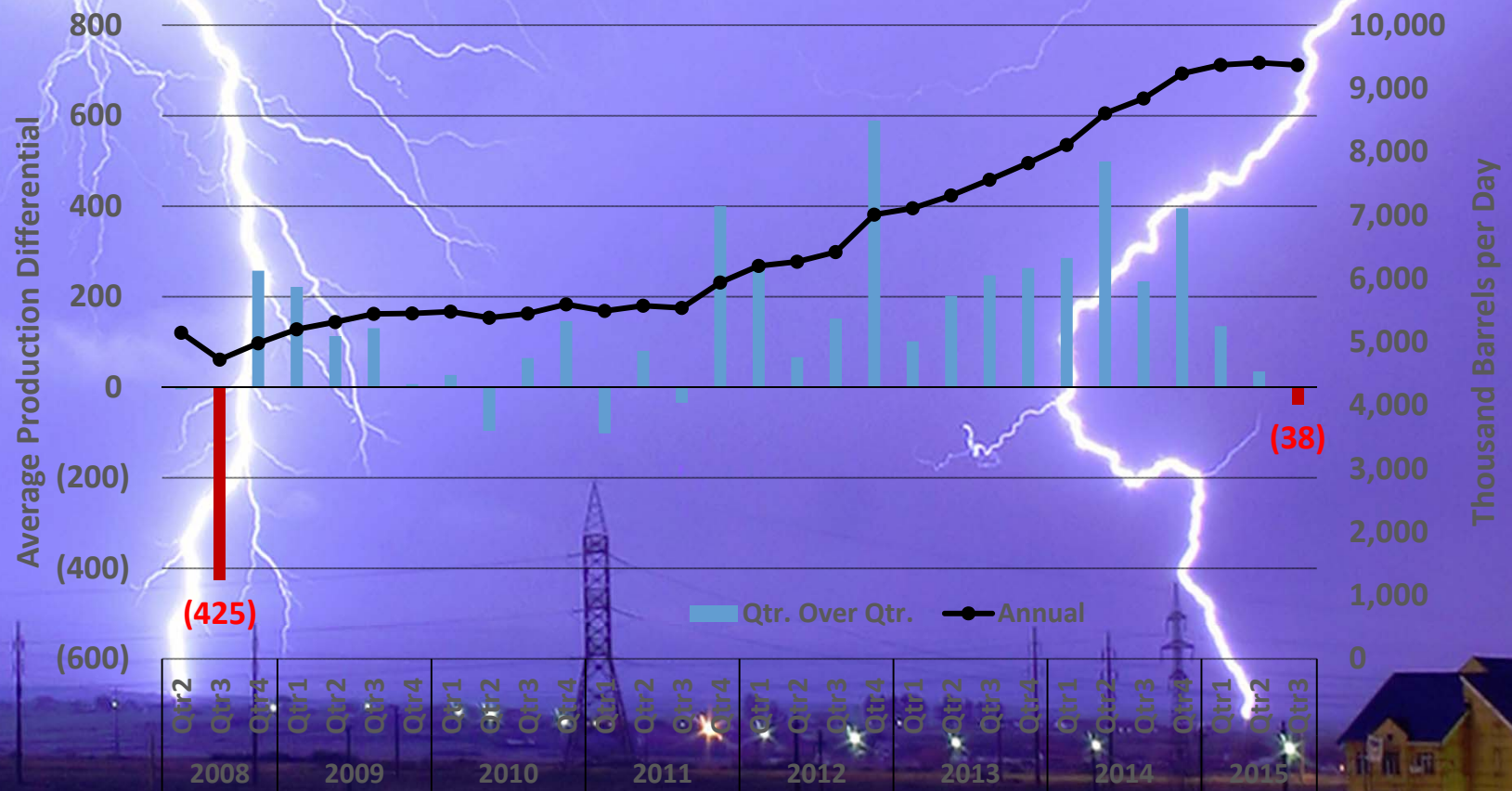
Oil Rig Count Free Fall



Source: Baker Hughes

US Oil Production

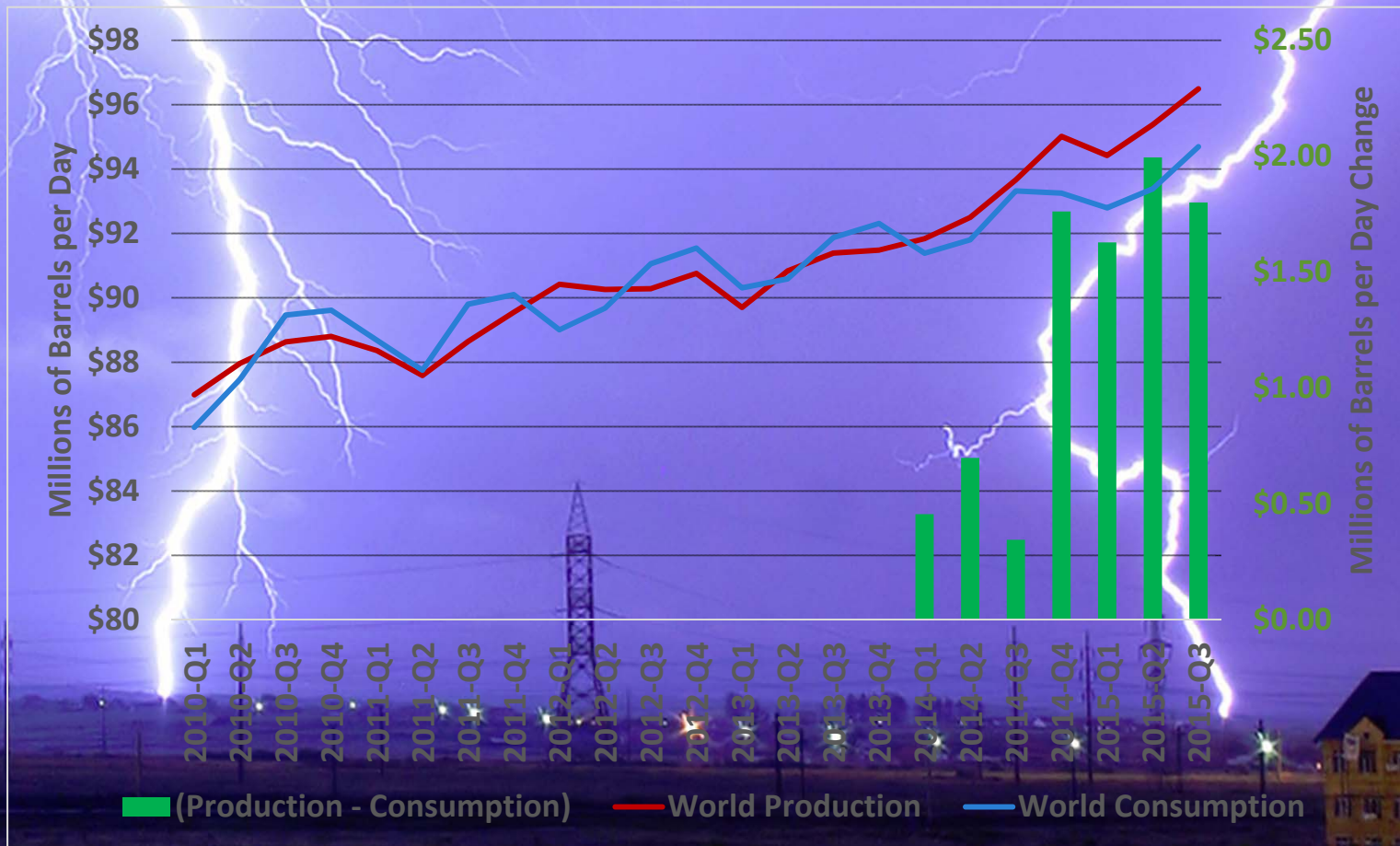
Low Prices & Rigs – Flat Production



Source: US Energy Information Administration

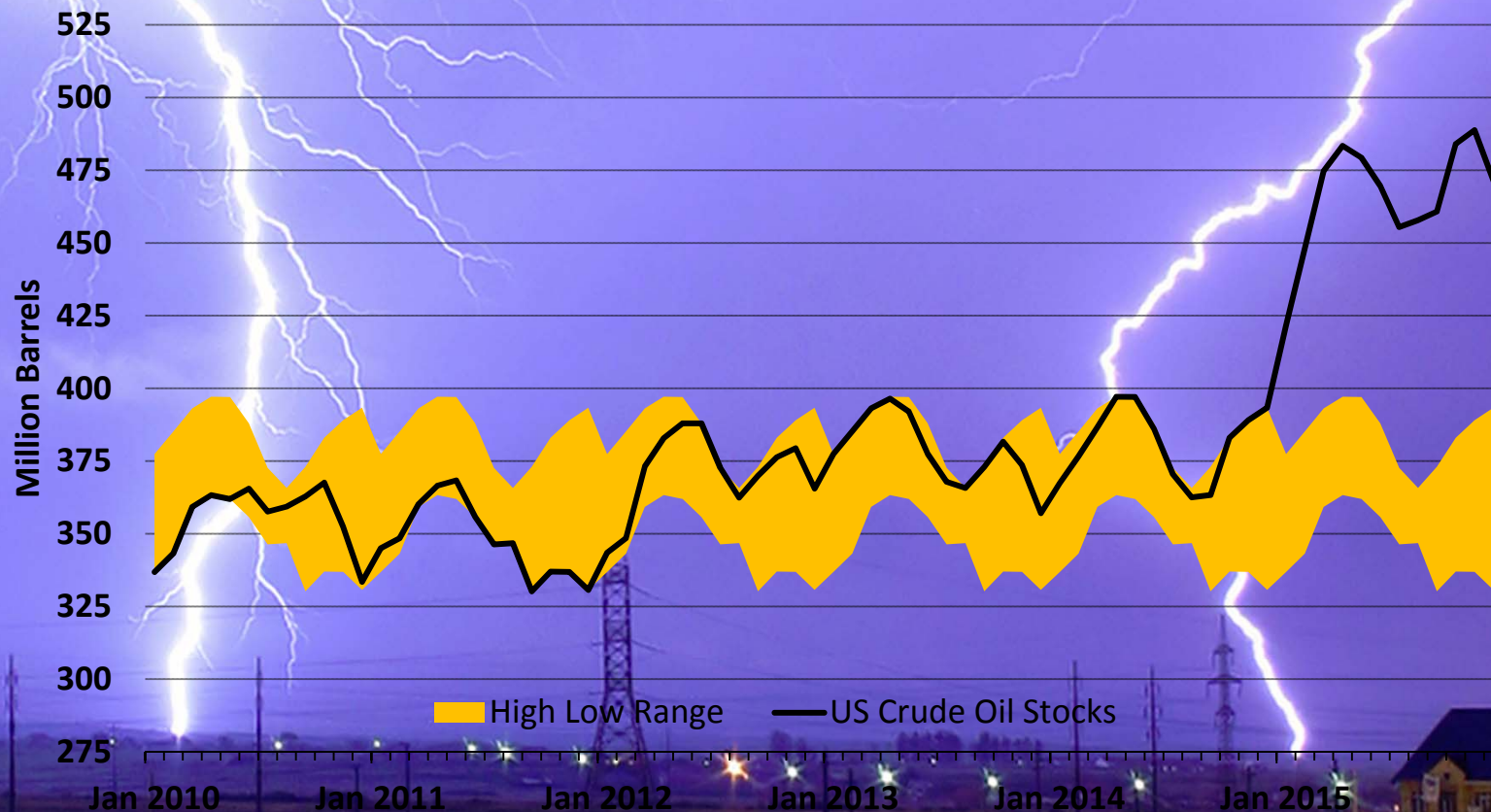
World Oil Trends

Production / Consumption Imbalance



Source: US Energy Information Administration

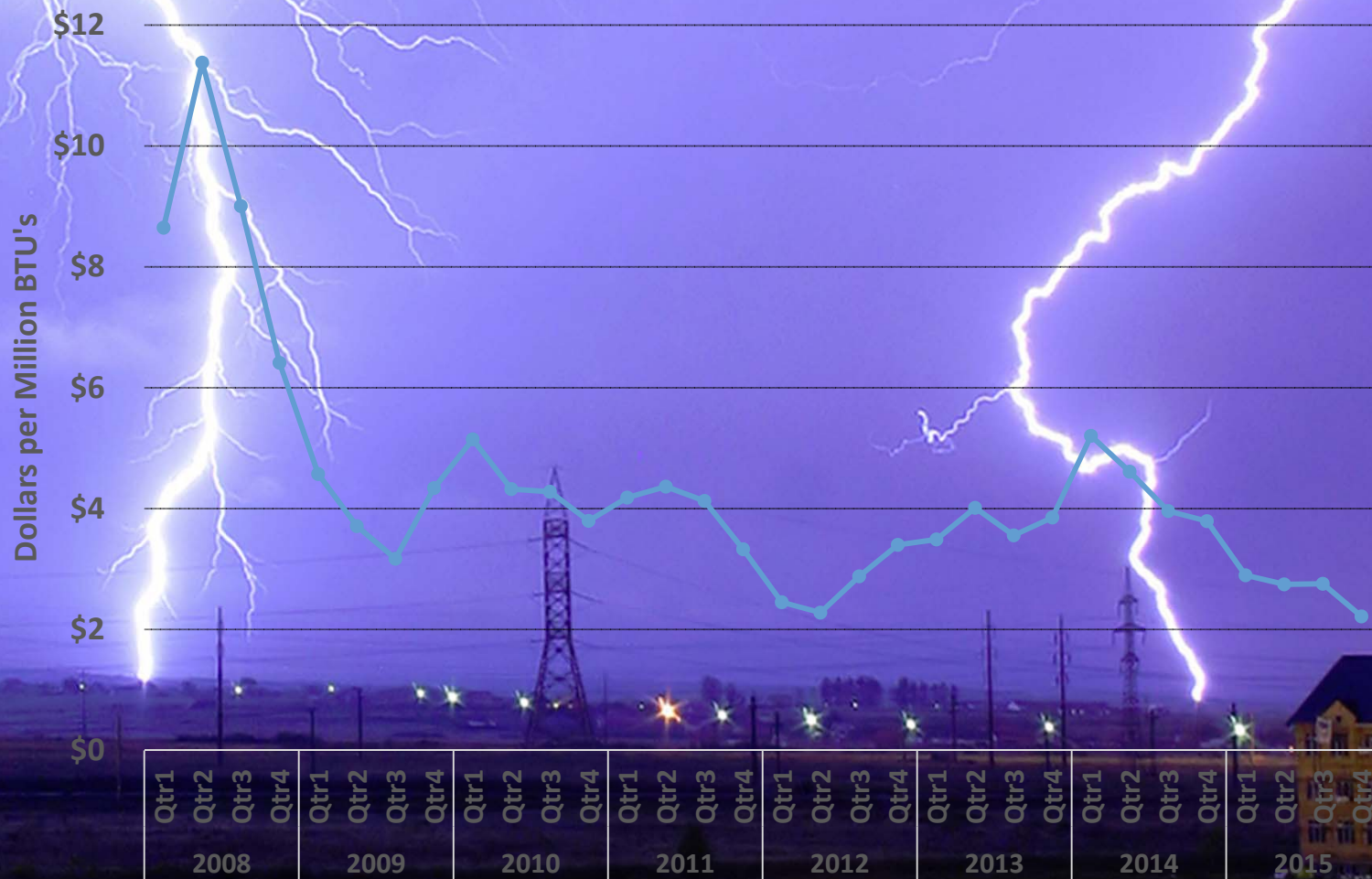
US Crude Oil Storage Levels Storage Levels Explode



Source: US Energy Information Administration

US Natural Gas Henry Hub Price Trends

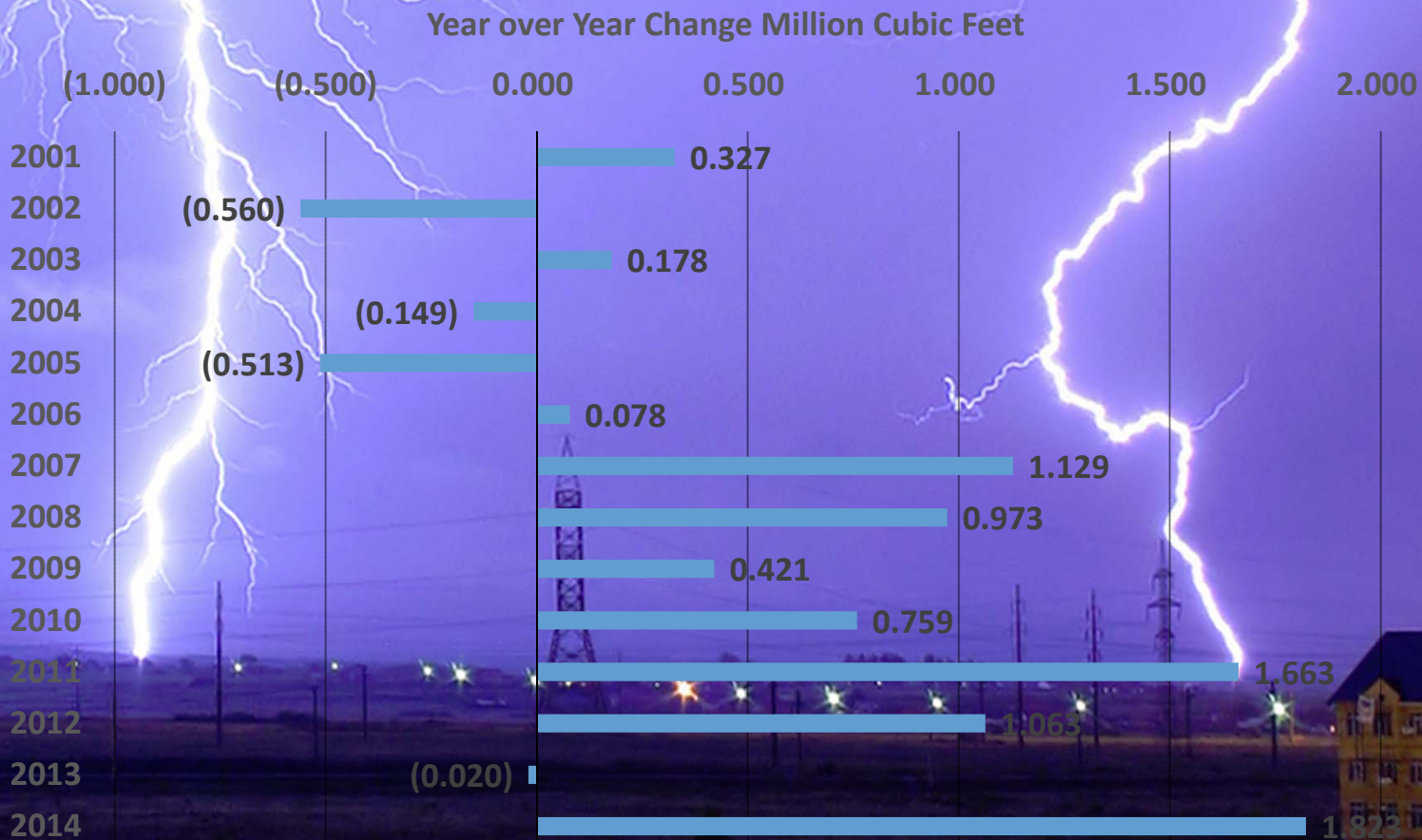
Continued Nat. Gas Price Weakness



Source: US Energy Information Administration

US Natural Gas Production

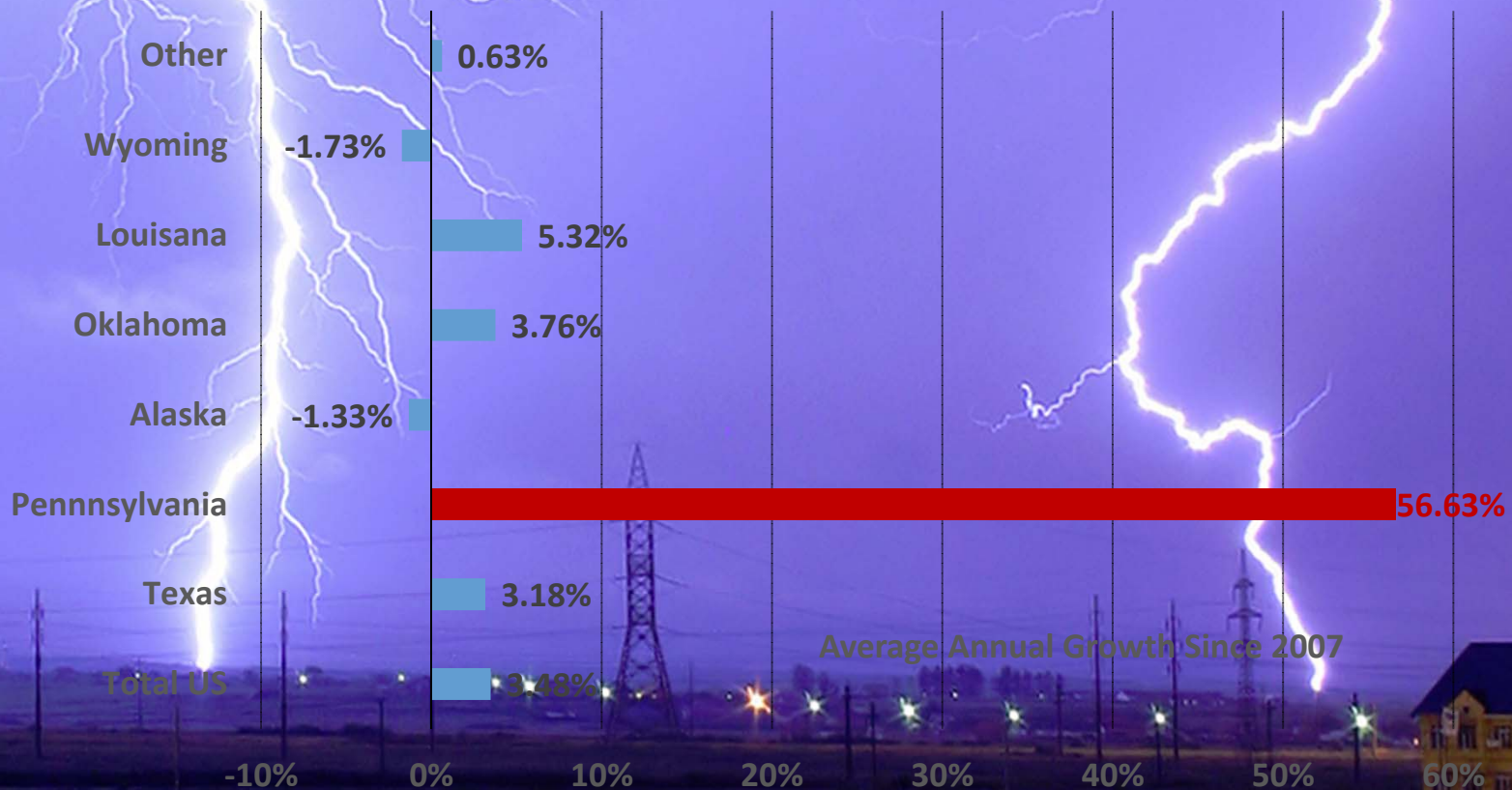
Weak Prices, Production Accelerates



Source: US Energy Information Administration

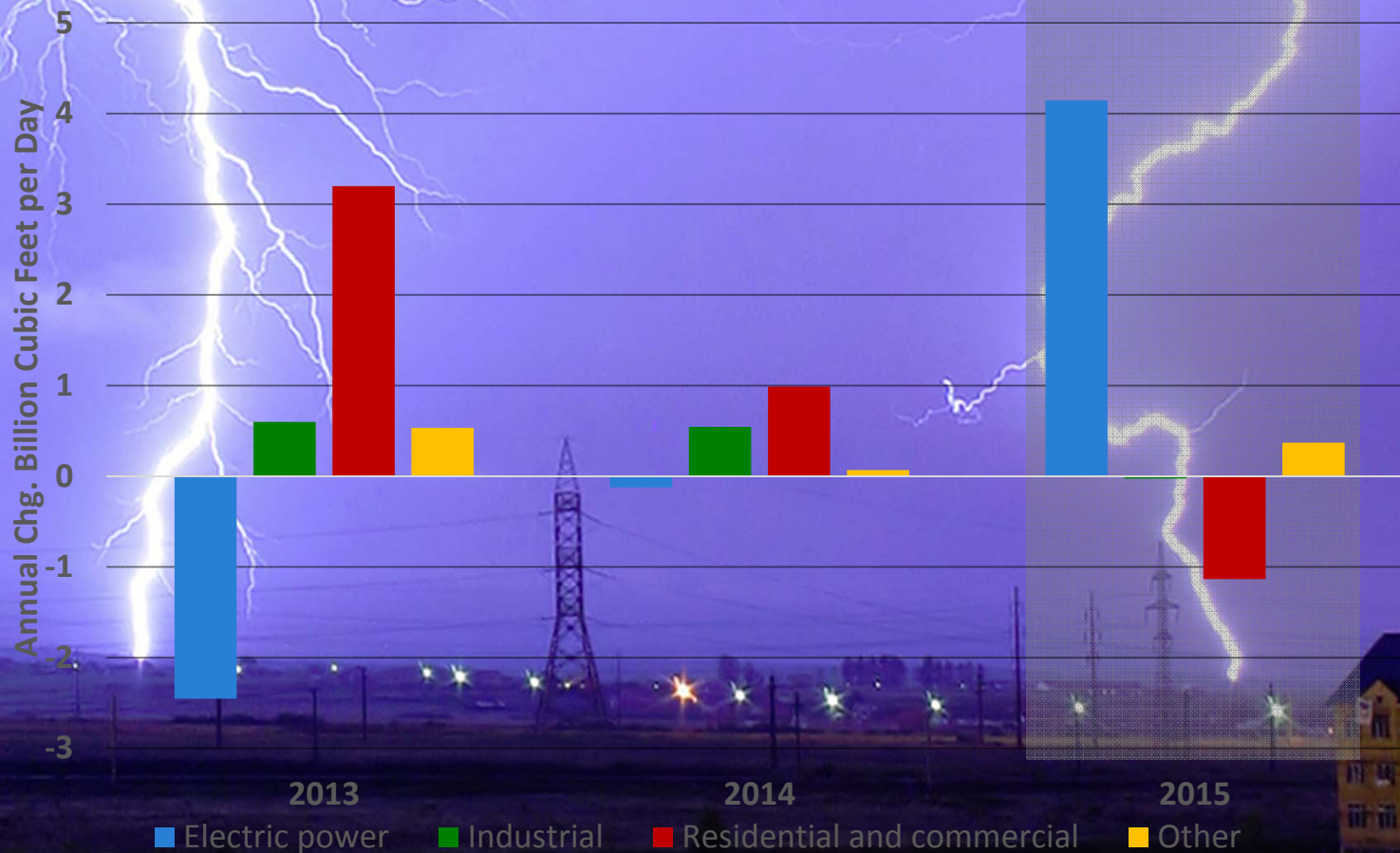
US Natural Gas Production By State

Marcellus Leads the Way



US Natural Gas Consumption

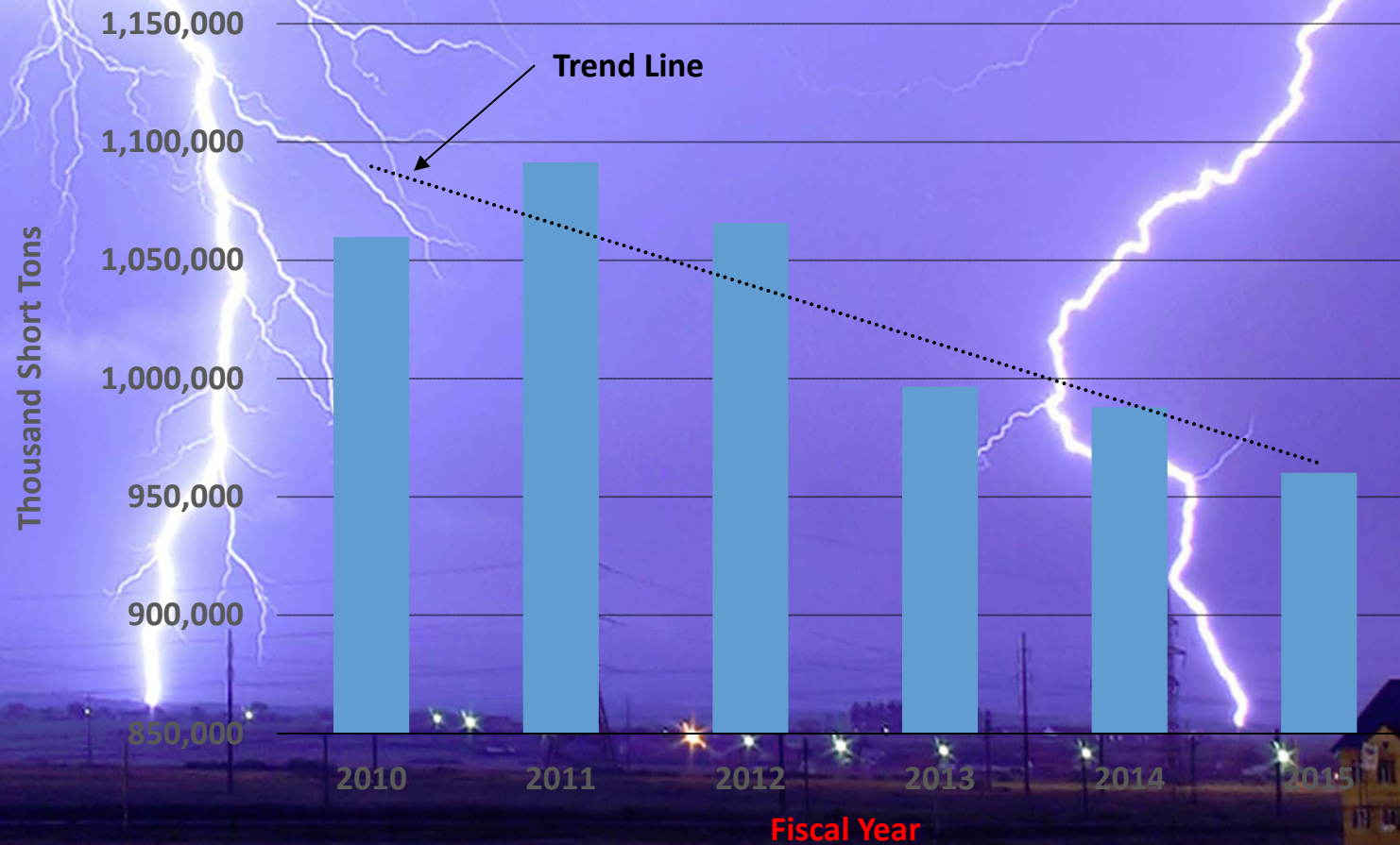
Nat. Gas Usage Up, Coal Down



Source: US Energy Information Administration

US Coal Production

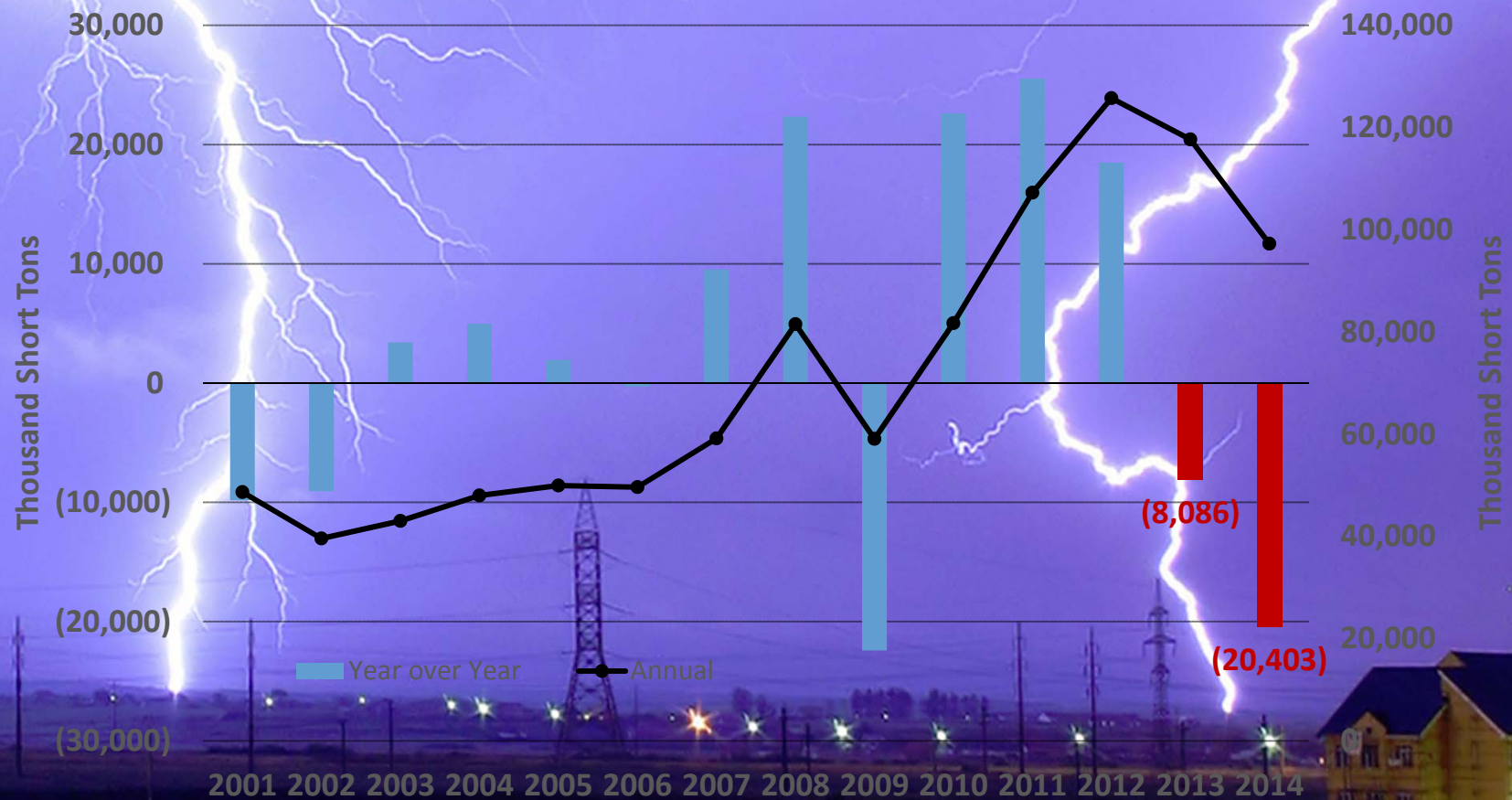
US Coal Production Declining



Source: US Energy Information Administration

US Coal Exports

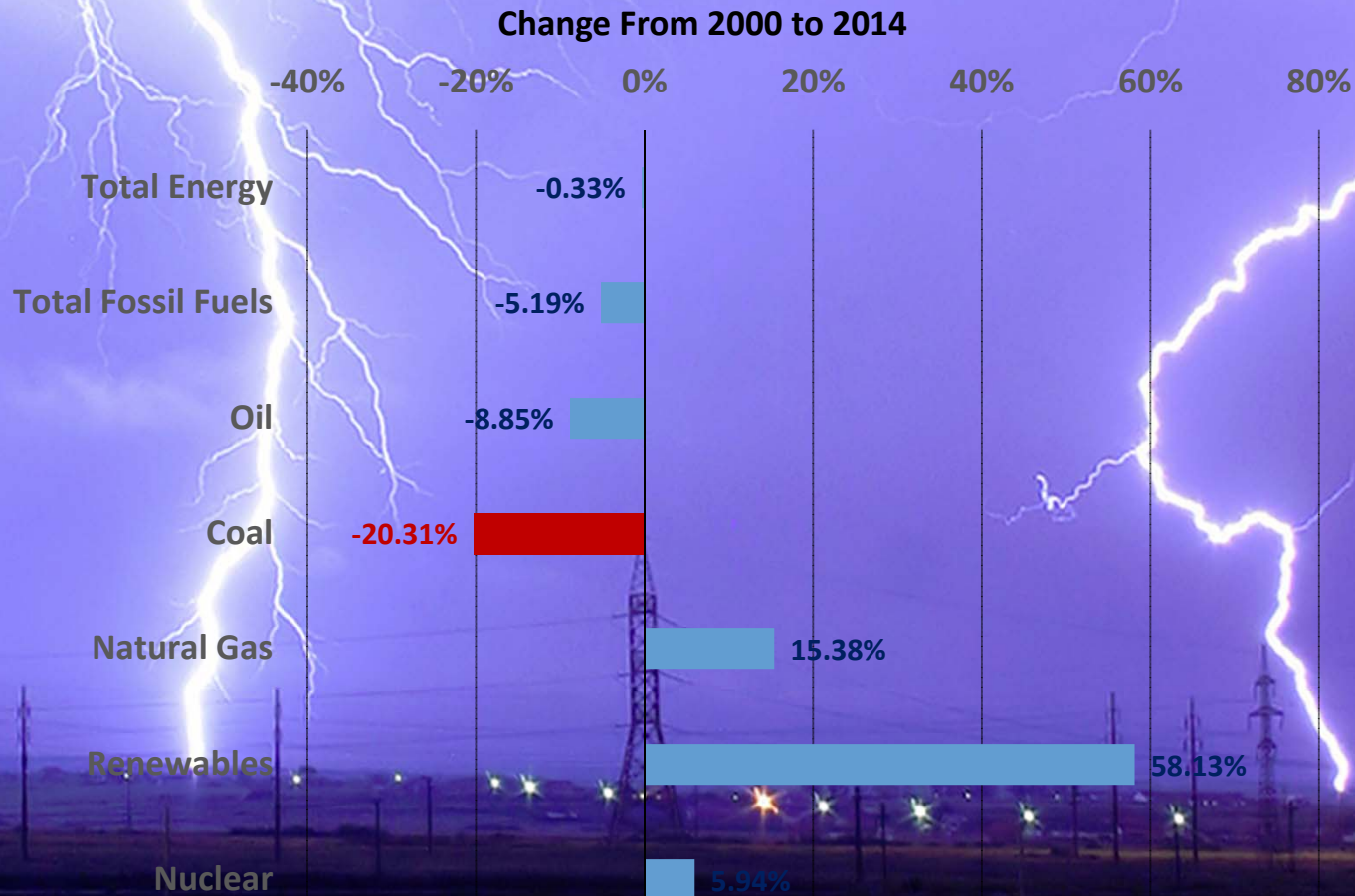
Coal Exports on the Decline



Source: US Energy Information Administration

US Total Energy Components

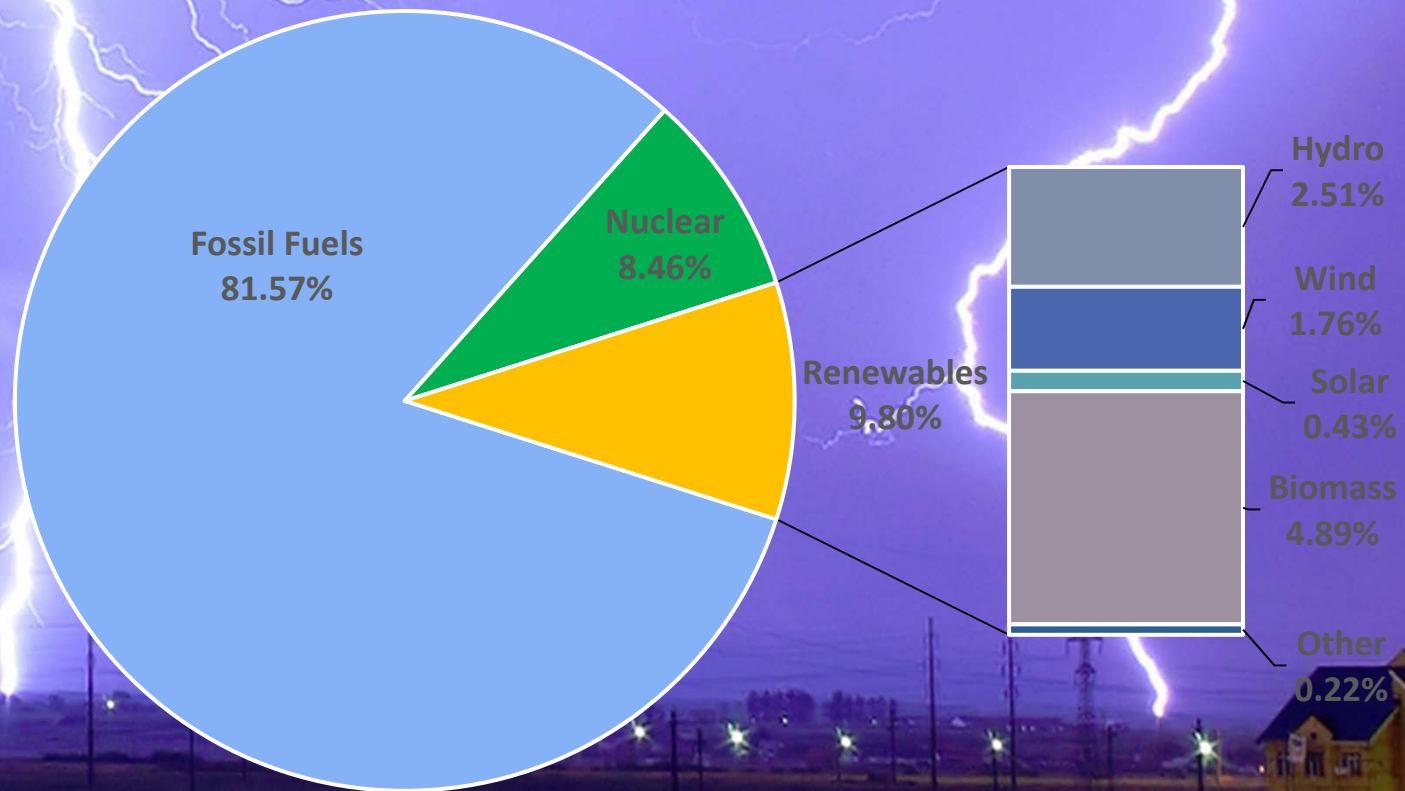
Fossil Fuels Down, Renewable Up



Source: US Energy Information Administration

US Total Energy Use

Fossil Fuels Still Dominant



Source: US Energy Information Administration

Montana Energy Outlook

Oil, Natural Gas, Coal, Renewables

– Montana Outlook

- Oil

- Declining Production
- Stable Prices Trending Upward

- Natural Gas

- Increased Production
- Prices Remaining at Low Levels

- Coal

- Declining Production
- Stable Prices Trending Downward

- Renewables

- Further Development

Questions

Terry W. Johnson

Director of Energy and Natural Resources Program

Bureau of Business & Economic Research

University of Montana

terry.johnson@business.umt.edu

(406)243-5113

