

The Economic Downturn – Lessons on the Correlation between Economic Growth and Energy Demand

presented to

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presented by

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“It’s the economy, stupid”

- Attributed to James Carville during the 1992 presidential election campaign
- Applicable to Indiana’s current energy situation

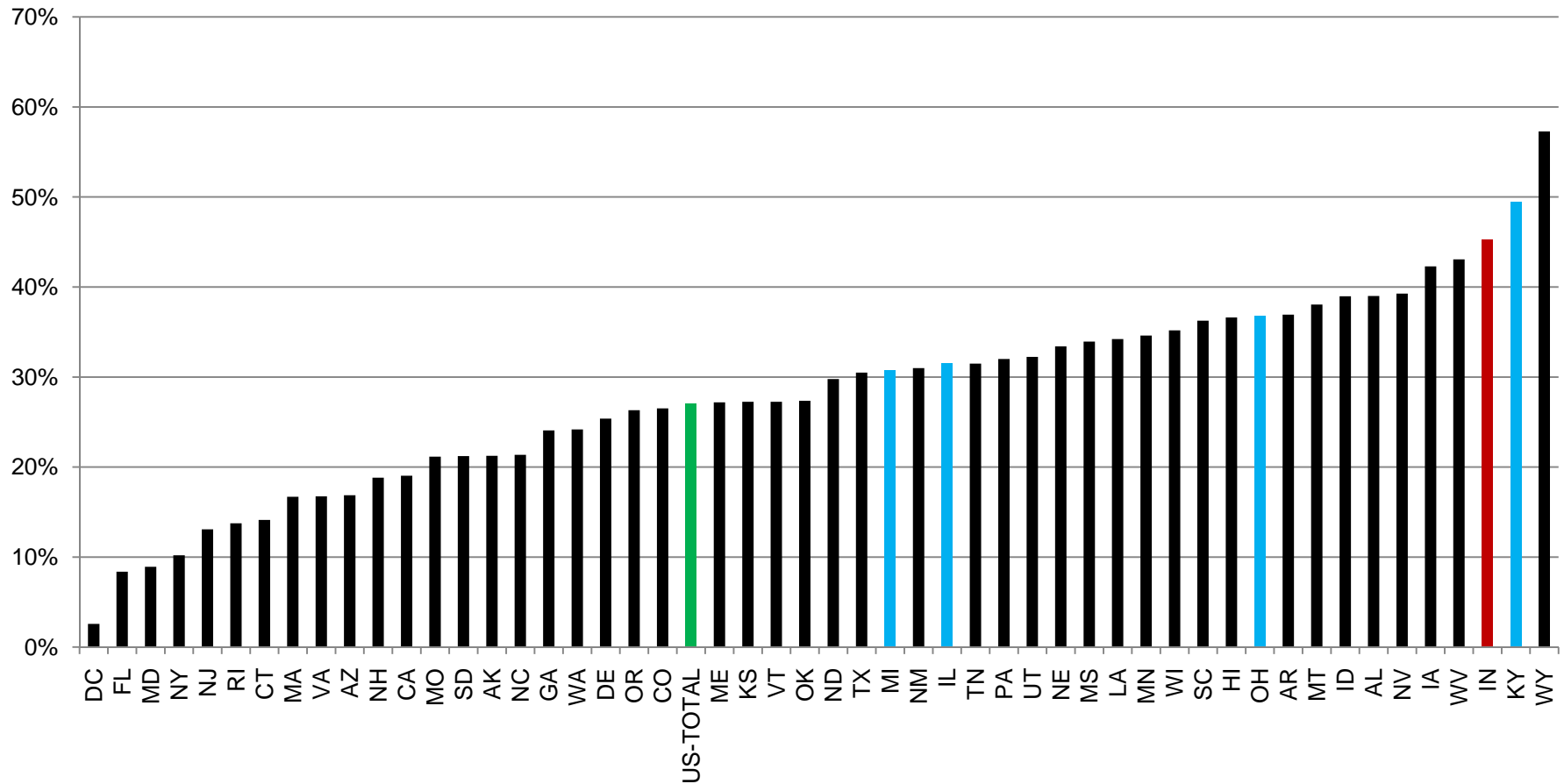
Data Sources & Availability

- Electricity Sales
 - Energy Information Administration
(Department of Energy)
- Gross Domestic Product
 - Bureau of Economic Analysis
(Department of Commerce)
- Little data available for 2009

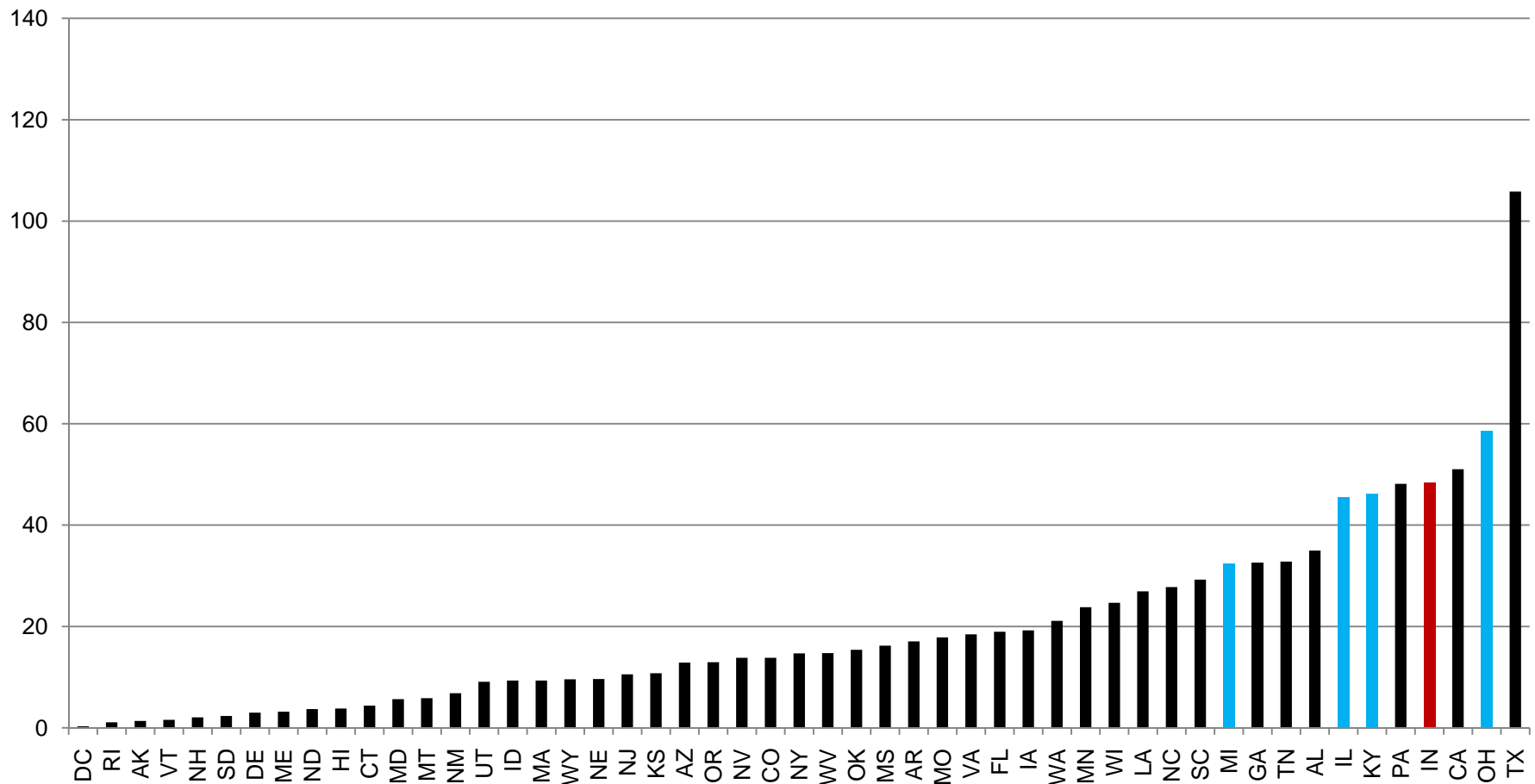
Indiana - an Industrial State

- In 2008, Indiana accounted for 2.9% of the nation's retail electricity sales
 - 11th most in the U.S.
- But Indiana accounted for 4.8% of the nation's industrial sector retail electricity sales
 - 4th most in the U.S.

2008 Industrial Demand as Percentage of Total



2008 Industrial Electricity Sales (million MWh)

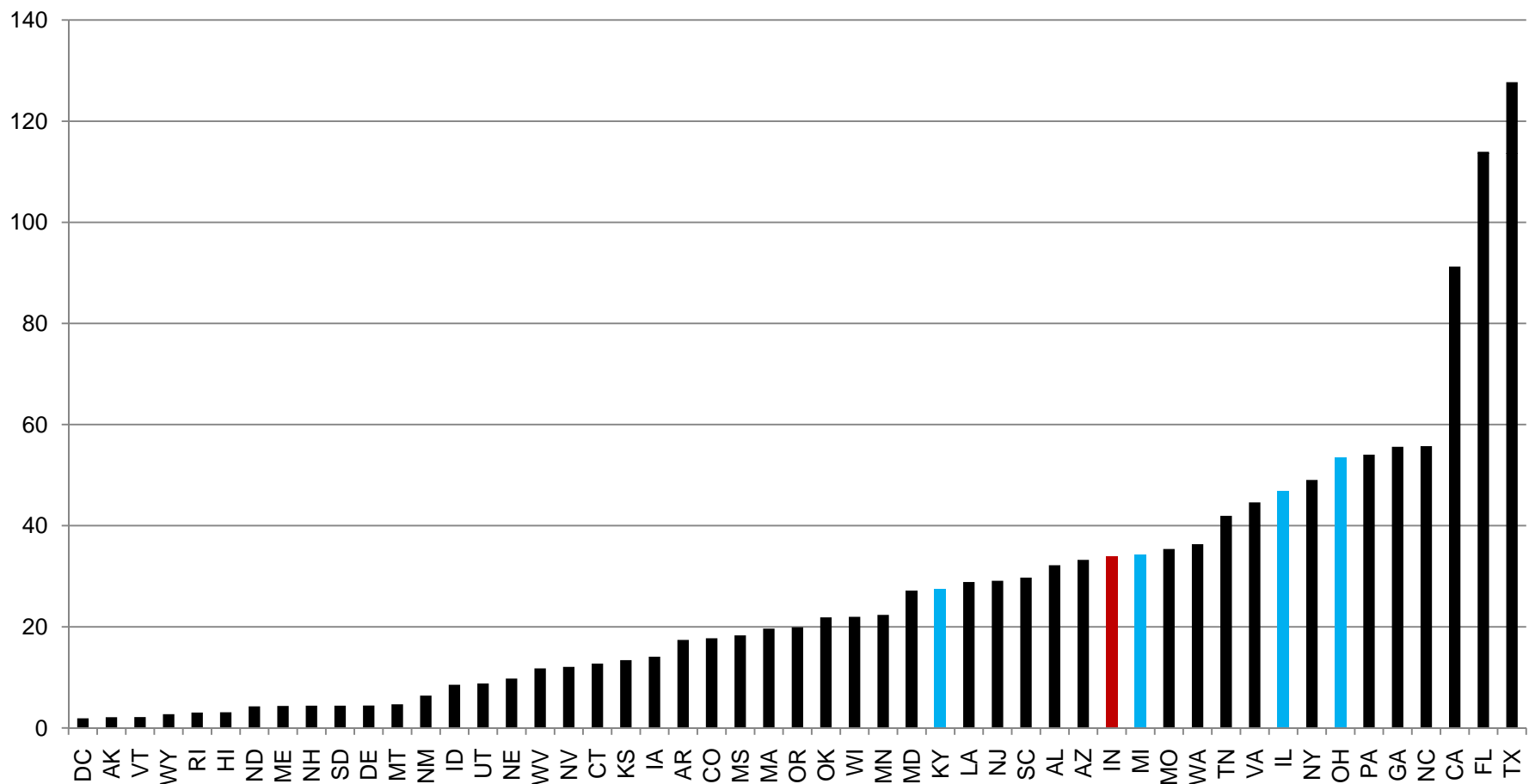


Industrial Model Sensitivities

10 Percent Increase In	Causes This Percent Change in Electric Use
Real Manufacturing Product	10.0
Electric Rates	-4.8
Natural Gas Price	1.4
Oil Prices	0.9
Coal Prices	0.2

Source: SUFG 2009 Forecast

2008 Residential Electricity Sales (million MWh)

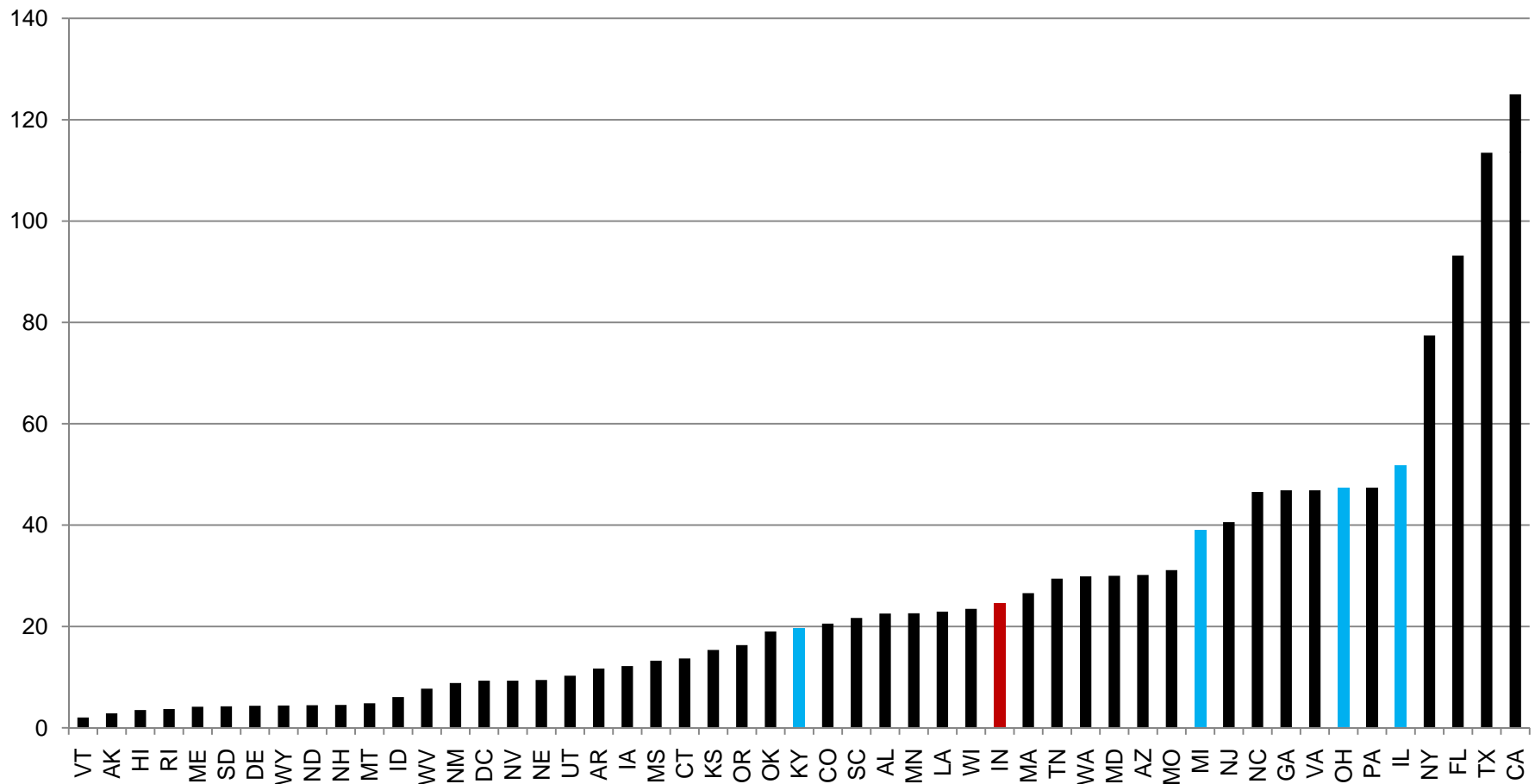


Residential Model Sensitivities

10 Percent Increase In	Causes This Percent Change in Electric Use
Number of Customers	11.1
Electric Rates	-2.4
Natural Gas Price	1.0
Distillate Oil Prices	0.0
Appliance Price	-1.8
Household Income	2.0

Source: SUFG 2009 Forecast

2008 Commercial Electricity Sales (million MWh)

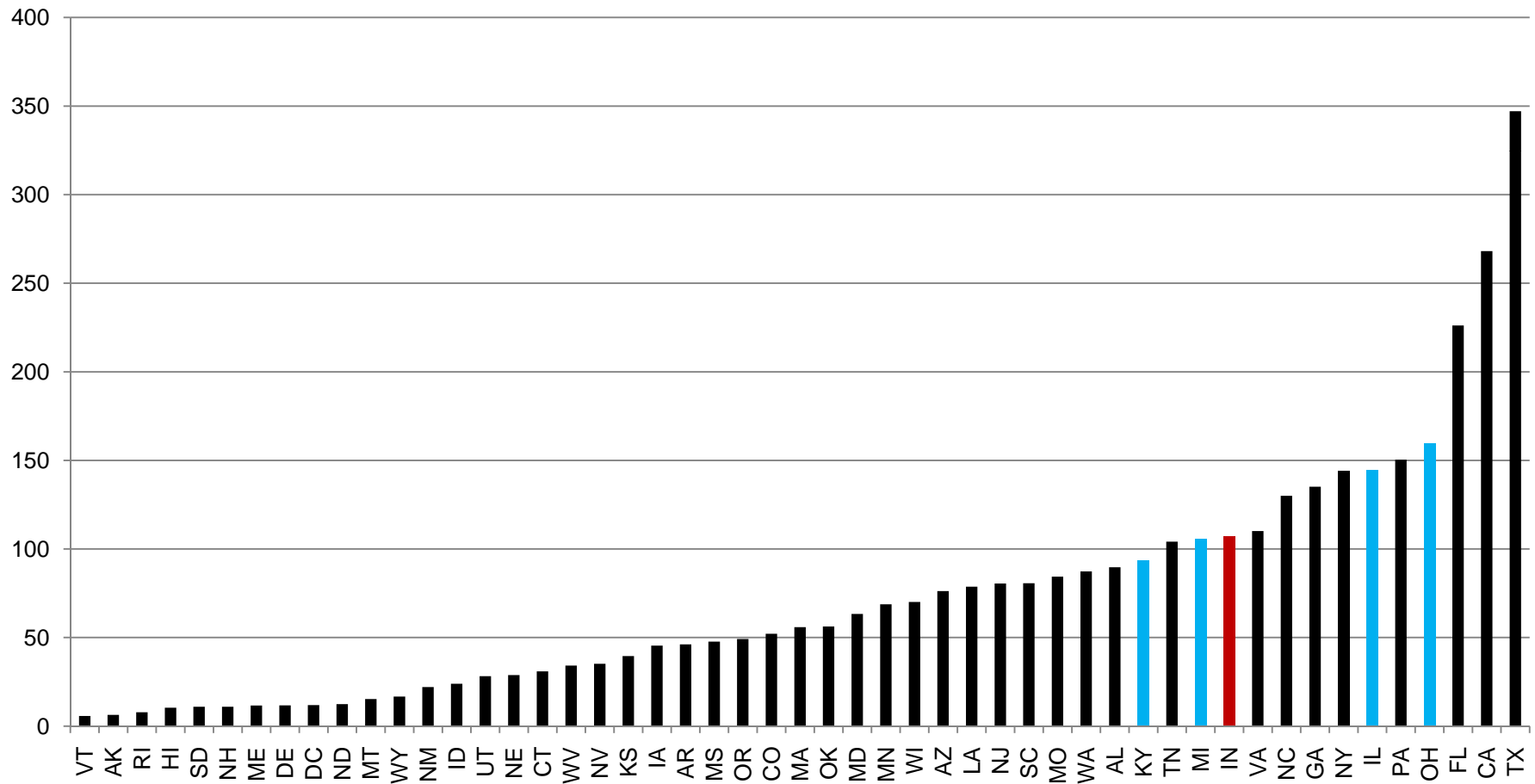


Commercial Model Sensitivities

10 Percent Increase In	Causes This Percent Change in Electric Use
Electric Rates	-2.5
Natural Gas Price	0.2
Distillate Oil Prices	0.0
Coal Prices	0.0
Electric Energy-weighted Floor Space	12.0

Source: SUFG 2009 Forecast

2008 Total Electricity Sales (million MWh)



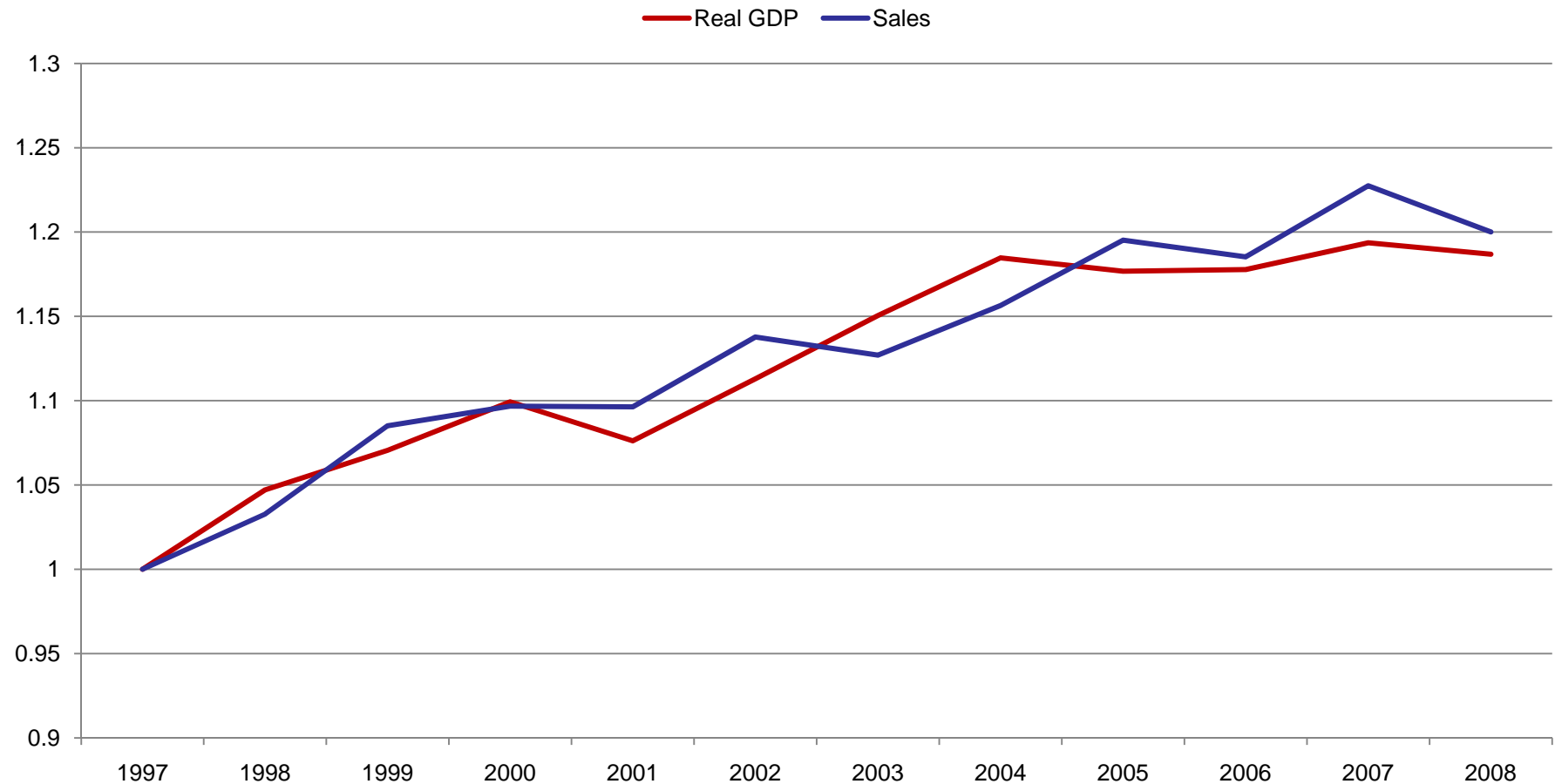
Changes in Indiana Electricity Sales from 2007 to 2008

- Residential sector -1.9%
- Commercial sector -0.8%
- Industrial sector -3.2%
- Total -2.2%

Was it the Economy?

- Indiana Gross Domestic Product dropped by 0.6% from 2007 to 2008
- But the summer of 2008 was considerably cooler than 2007, which affected electricity demand
 - Cooling degree days in Indianapolis dropped by 30% from 2007

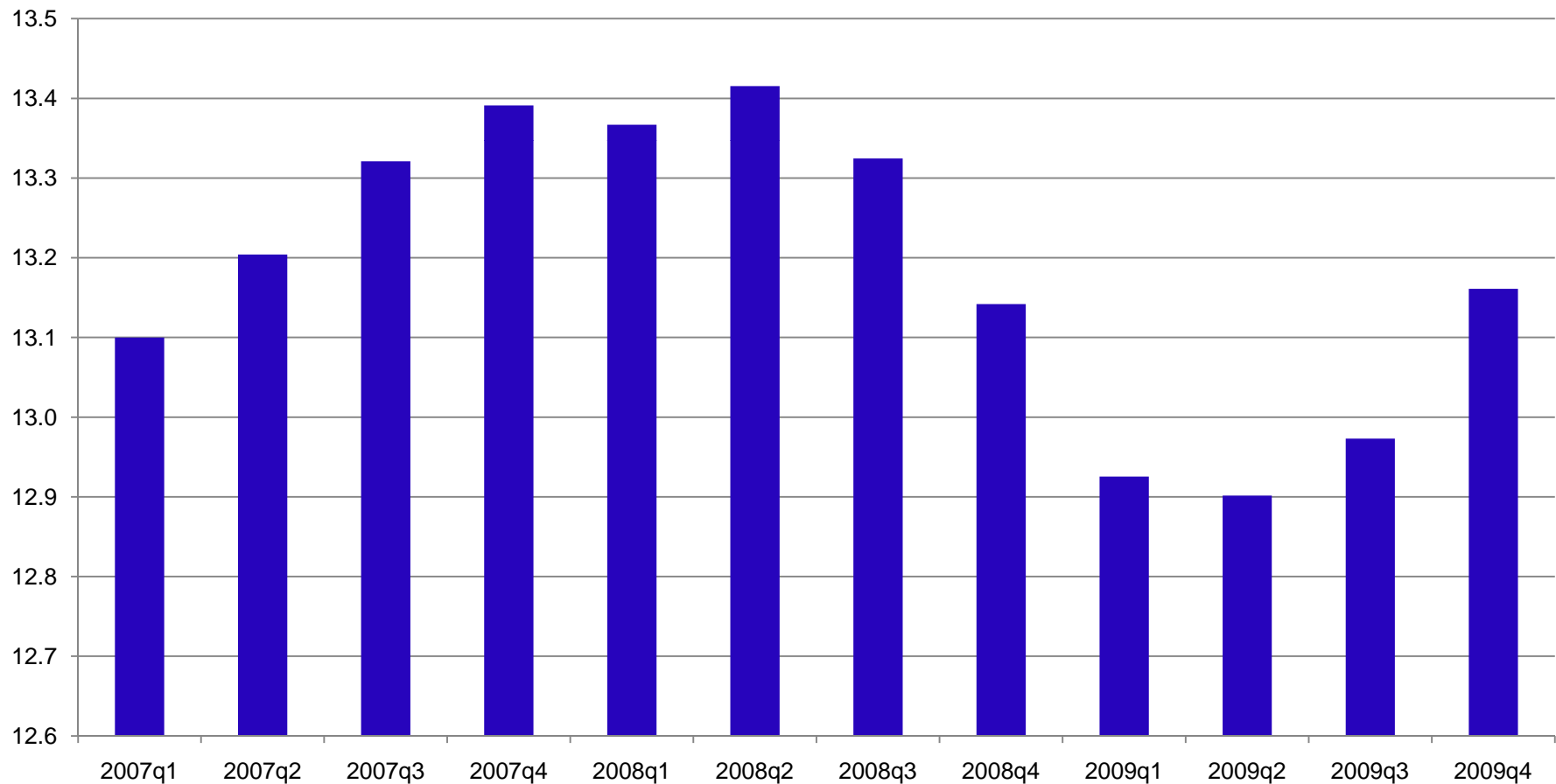
Indiana Real Gross Domestic Product and Total Electricity Sales



2009 – Effects were More Pronounced

- Economic impact largely confined to last quarter of 2008
- Economic impact was felt across all 4 quarters of 2009
- The summer of 2009 was even milder
 - cooling degree days were down another 11% from 2008

U.S. Gross Domestic Product (trillions of 2005 dollars)

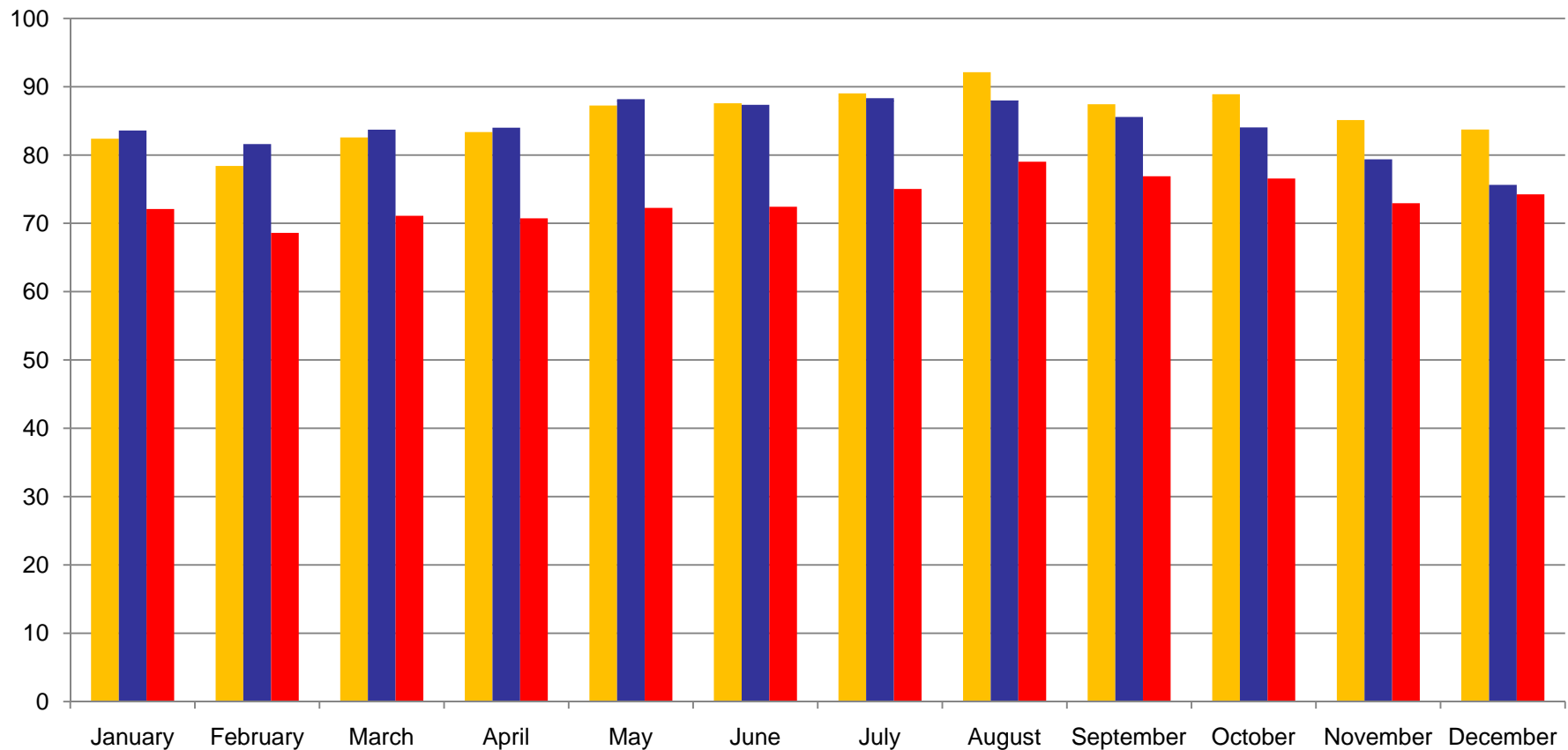


Annual Change in U.S. Electricity Sales

- | | | | |
|---------------|--------|--------------|-------|
| • Industrial | | • Commercial | |
| – 2007-08 | -1.8% | – 2007-08 | 0% |
| – 2008-09 | -12.6% | – 2008-09 | -1.0% |
| • Residential | | • Total | |
| – 2007-08 | -0.9% | – 2007-08 | -0.8% |
| – 2008-09 | -1.2% | – 2008-09 | -4.2% |

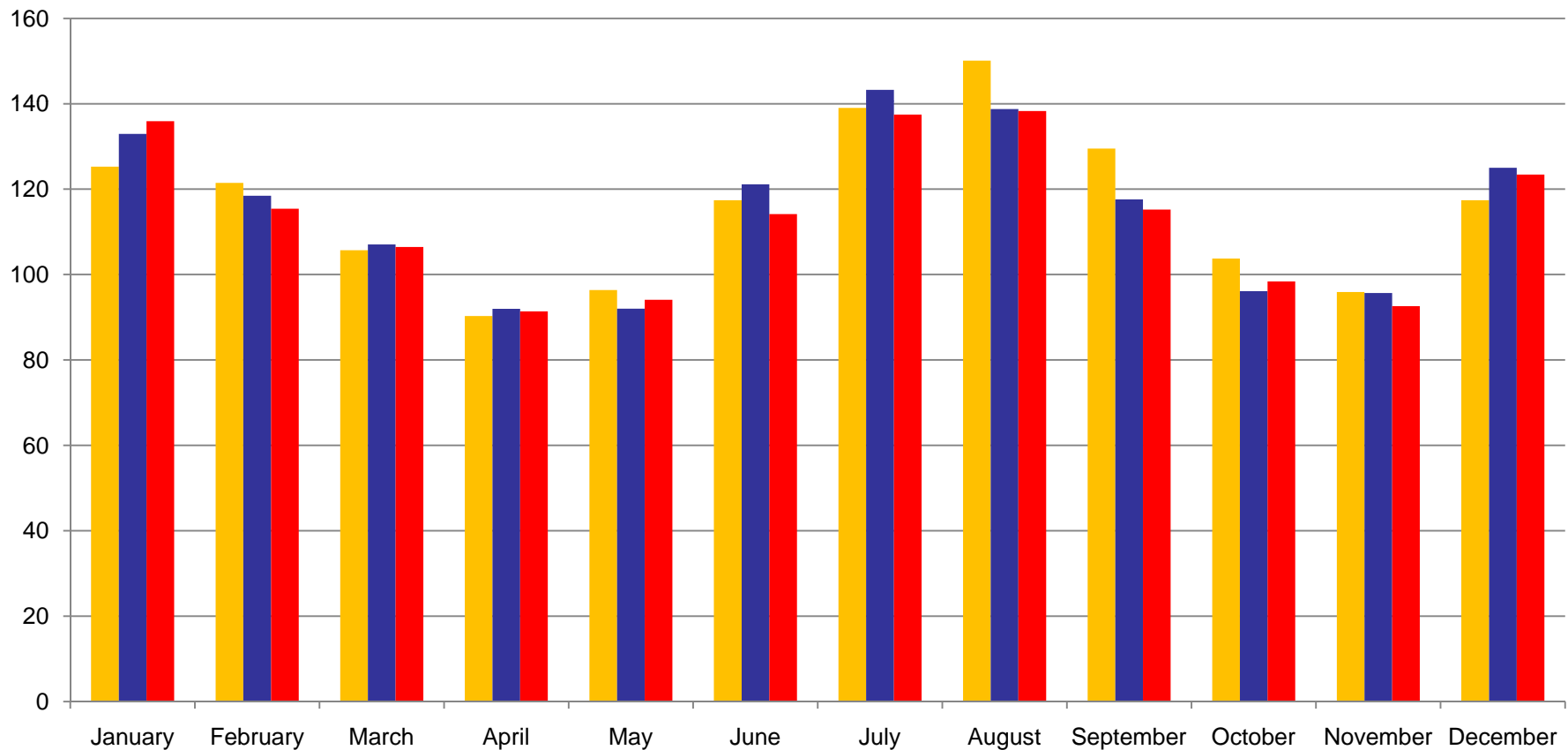
U.S. Retail Industrial Electricity Sales (TWh)

■ 2007 ■ 2008 ■ 2009



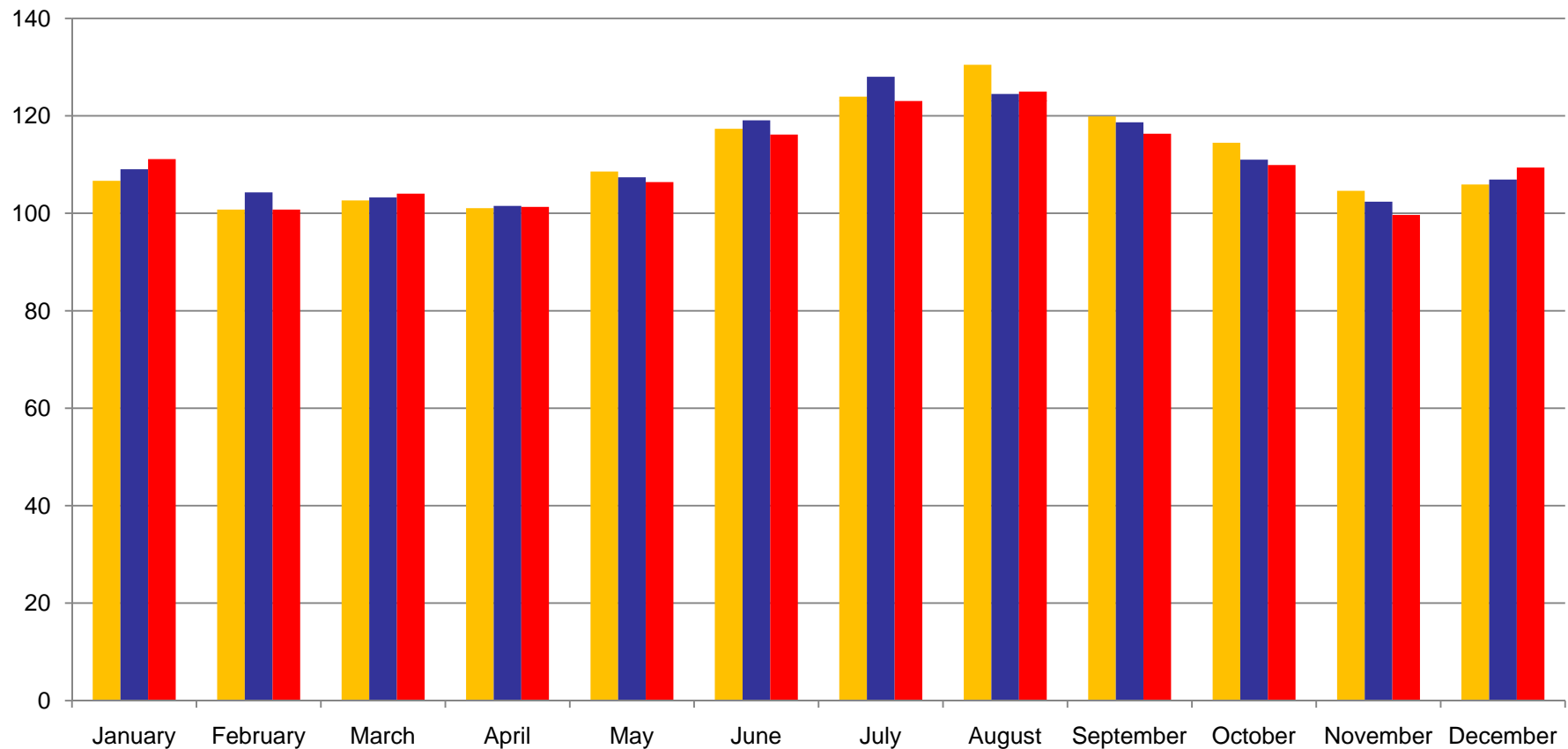
U.S. Retail Residential Electricity Sales (TWh)

■ 2007 ■ 2008 ■ 2009



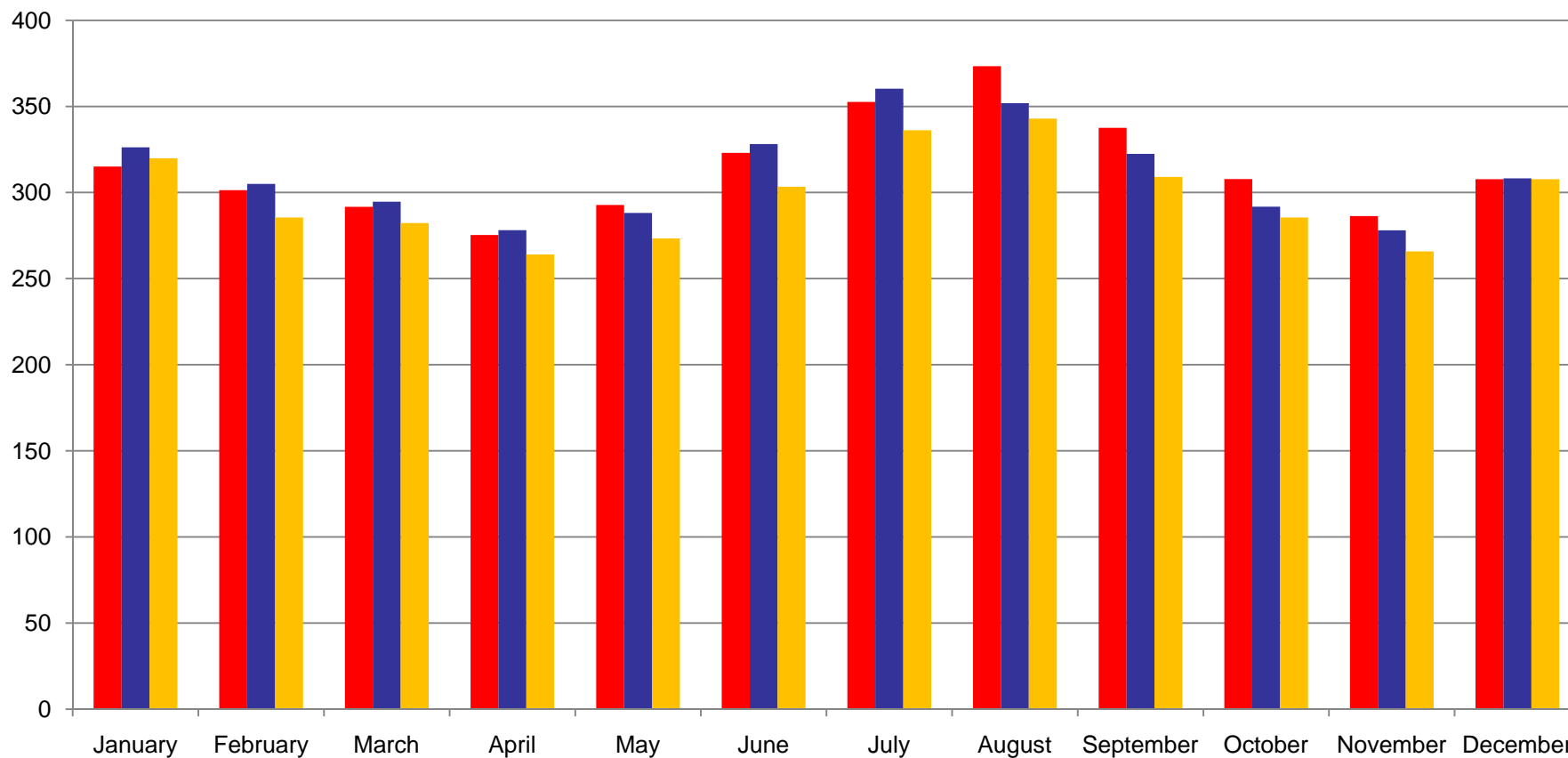
U.S. Retail Commercial Electricity Sales (TWh)

■ 2007 ■ 2008 ■ 2009



U.S. Retail Total Electricity Sales (TWh)

■ 2007 ■ 2008 ■ 2009



EIA April Short-Term Outlook

- U.S. residential electricity sales increased by an estimated 7.6% in the 1st quarter of 2010 relative to the 1st quarter of 2009
 - colder weather caused much of the increase

EIA April Short-Term Outlook

- EIA projects U.S. total electricity consumption to increase by 2.9% in 2010 and again by 1.2% in 2011
 - note: sales and consumption are not interchangeable, but they do tend to follow each other closely

Further Information

- State Utility Forecasting Group
 - <http://www.purdue.edu/dp/energy/SUFG/>
- Energy Information Administration
 - <http://www.eia.doe.gov/>
- Bureau of Economic Analysis
 - <http://www.bea.gov/>