

Indiana Energy Landscape

presented to

WIndiana 2008

June 17-18, 2008

presented by

David Nderitu / Doug Gotham
State Utility Forecasting Group

Outline

- Characteristics of Indiana's existing generation
- Emissions
- Consumers
- Prices
- Summary

NOTE: All data from Energy Information Administration unless otherwise noted

Fuel Sources for Electric Power in 2005

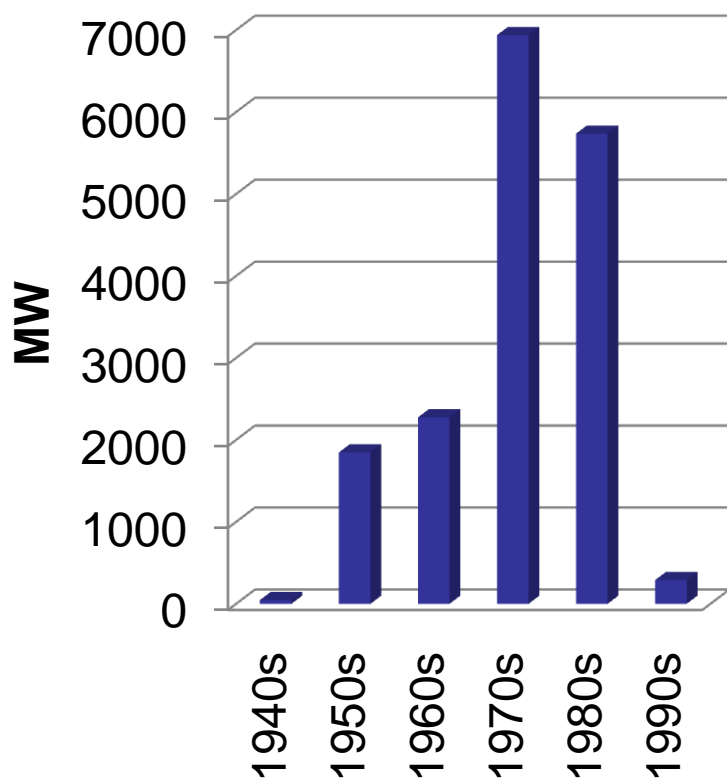
	United States	Indiana
Coal	50 %	96 %
Nuclear	20 %	0 %
Natural Gas	15 %	3 %
Petroleum	6 %	0 %
Renewables	8 %	0.4 %

- Indiana numbers do not include out-of-state generators that serve Indiana customers
 - Cook (nuclear) in Michigan
 - Madison (natural gas) in Ohio
 - Trimble County (coal) in Kentucky

In 2006....

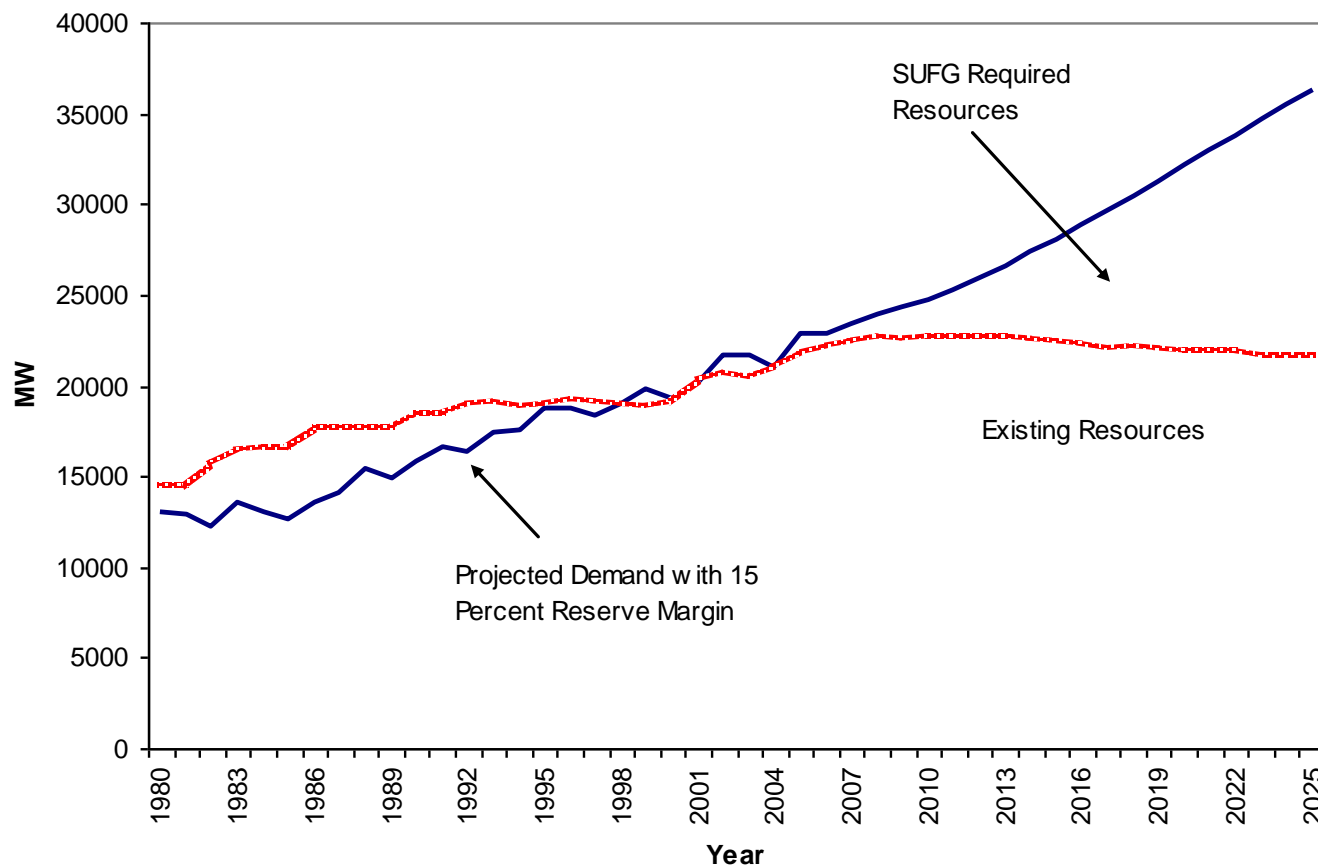
- Indiana produced 3.2 % of the electricity generated in the U.S.
- Indiana produced 6.2 % of the electricity generated from coal in the U.S.
- Indiana produced 0.3 % of the electricity generated from natural gas in the U.S.

Coal-fired Generating Capacity by Decade Installed



	# of units	MW
1940s	1	45
1950s	20	1847
1960s	12	2275
1970s	17	6938
1980s	9	5736
1990s	2	289

Projected Resource Requirements



Coal Developments

- IMPA share of Prairie State (IL), Trimble County (KY), and Thoroughbred (KY)
- Duke Energy integrated coal gasification unit at Edwardsport
- Proposed syngas facility

Natural Gas Developments

- Hoosier Energy – Wabash Valley Power proposed purchase of Holland combined cycle facility (IL)
- NIPSCO proposed purchase of Sugar Creek combined cycle facility (IN)

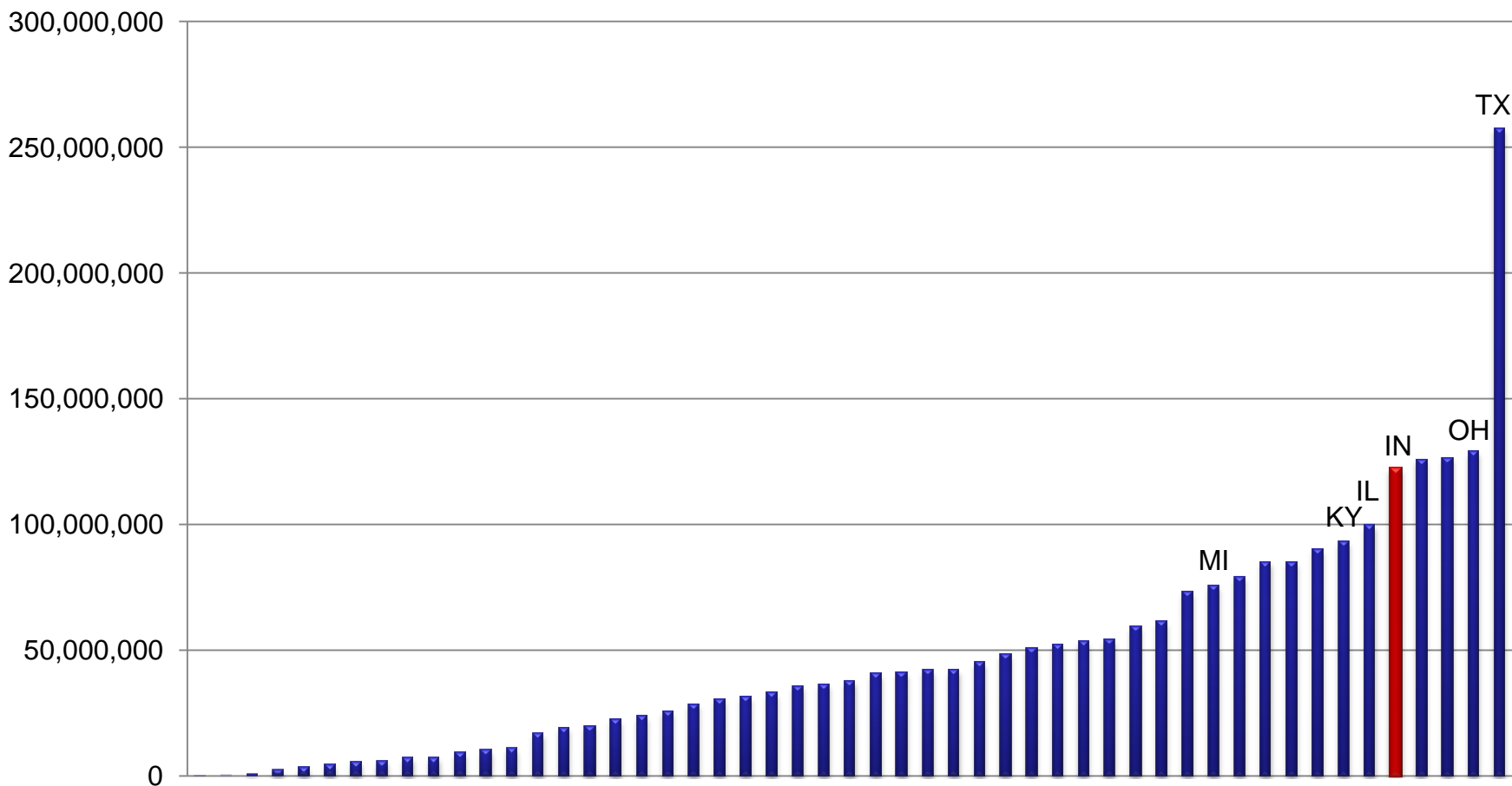
Wind Developments

- Benton County Wind Farm
 - Duke Energy and Vectren
- Fowler Ridge Wind Farm
 - Indiana Michigan
- Hoosier Wind Farm
 - Indianapolis Power & Light
- NIPSCO pending purchases (IA and MN)

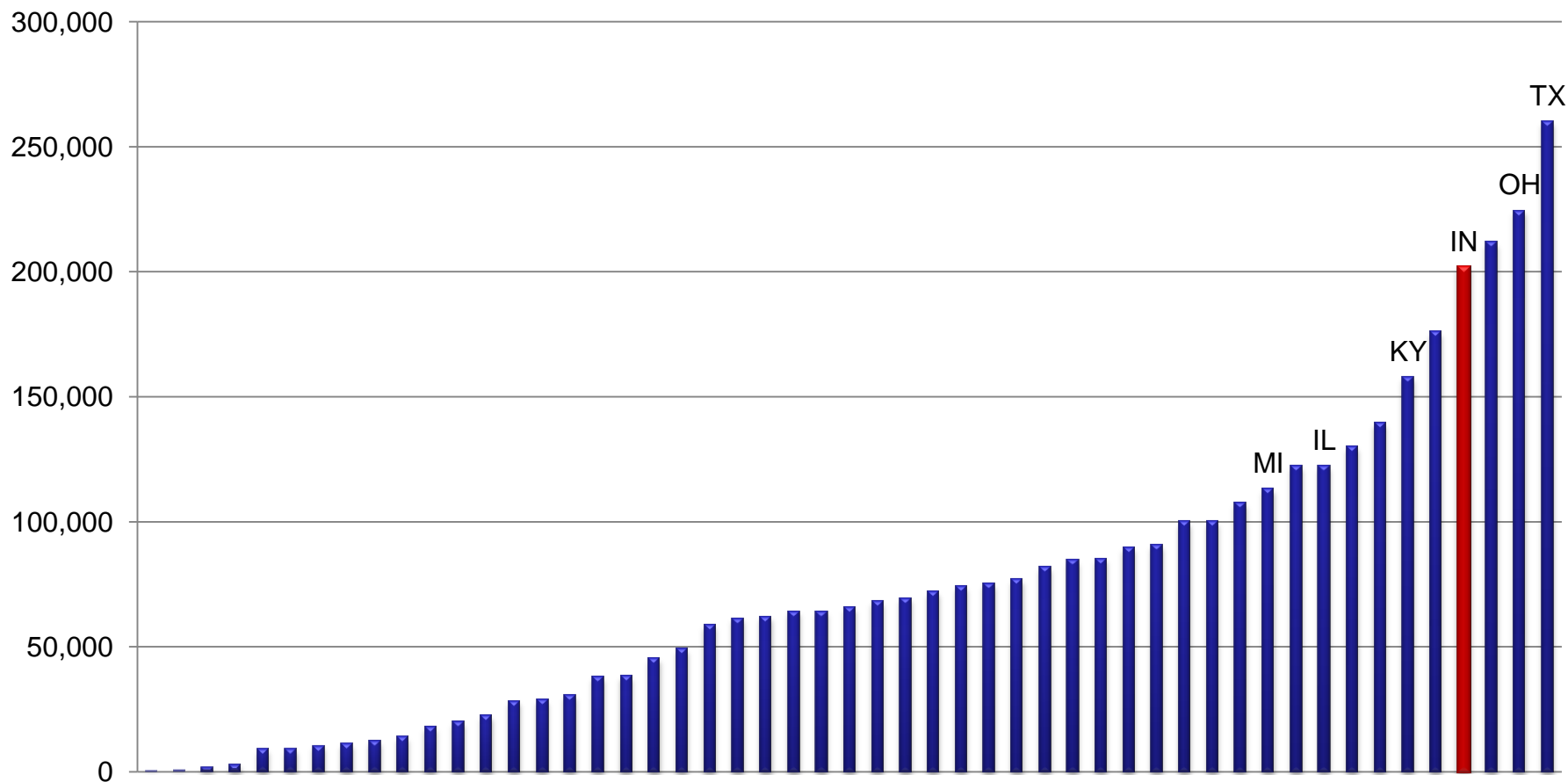
Summary of Generation Characteristics

- Indiana is heavily reliant on coal for electricity generation
 - But becoming slightly less so
- The existing fleet has been in place for 20 to 50 years
- New resources will be needed in the near future

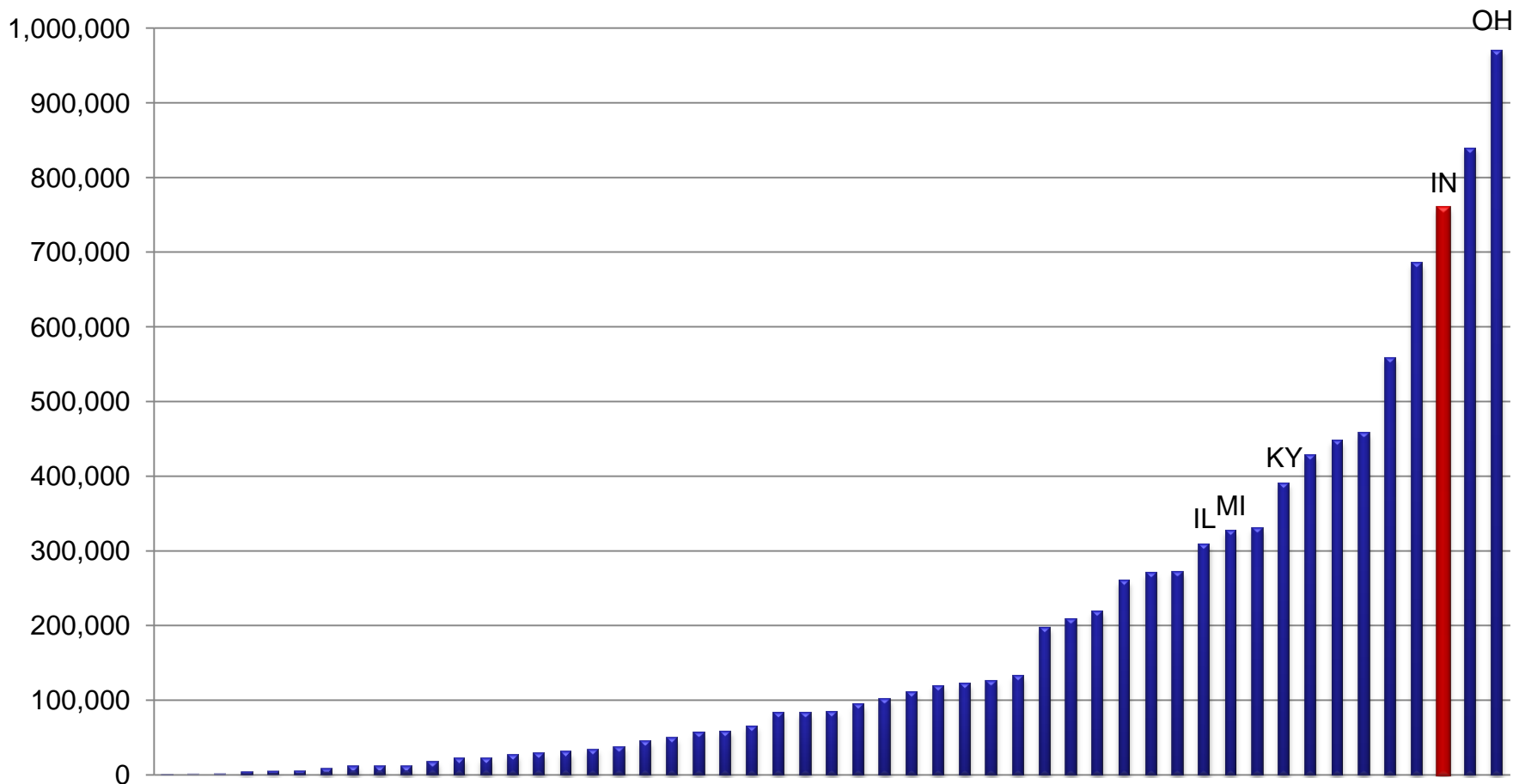
2006 CO₂ Emissions (metric tons)



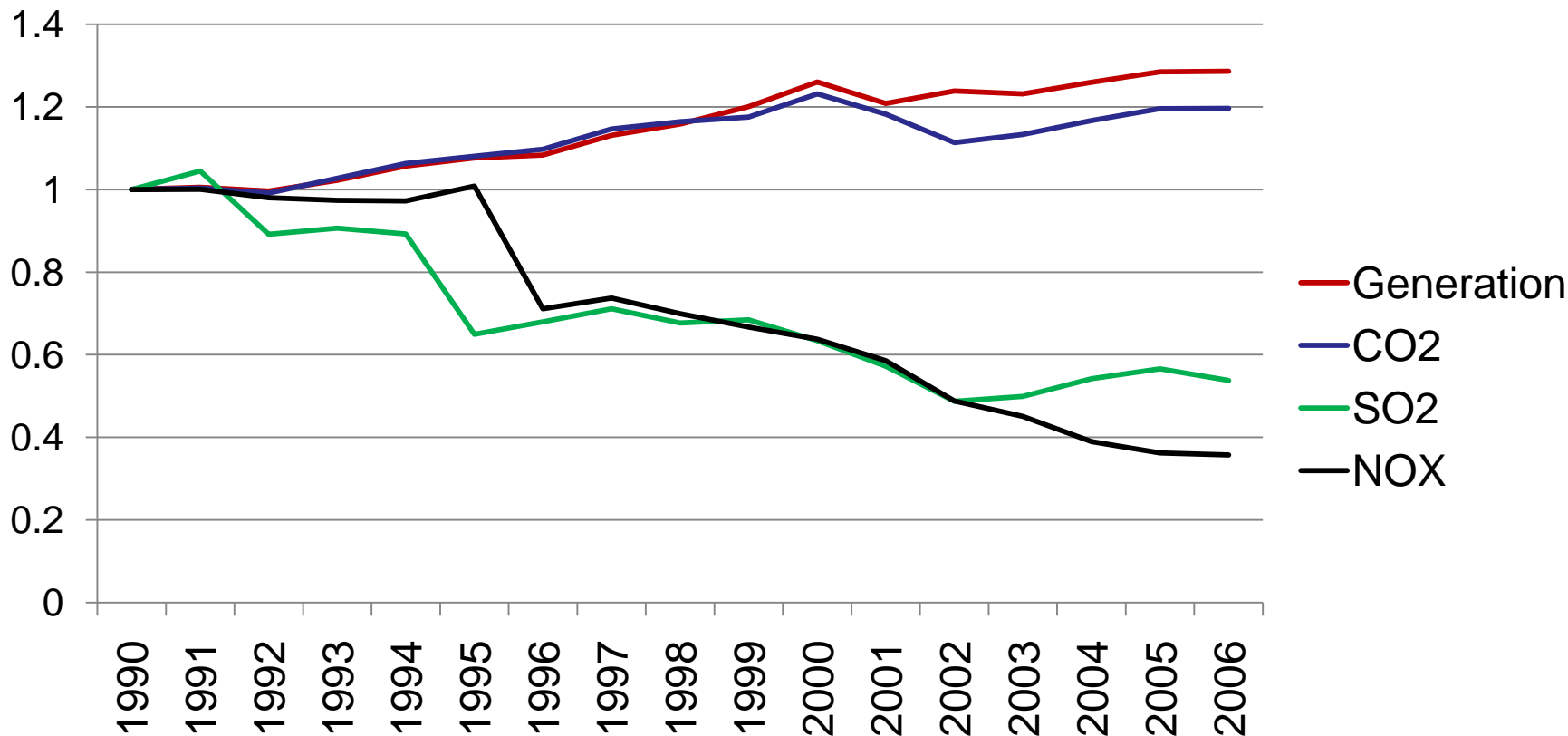
2006 NO_x emissions (metric tons)



2006 SO₂ emissions (metric tons)



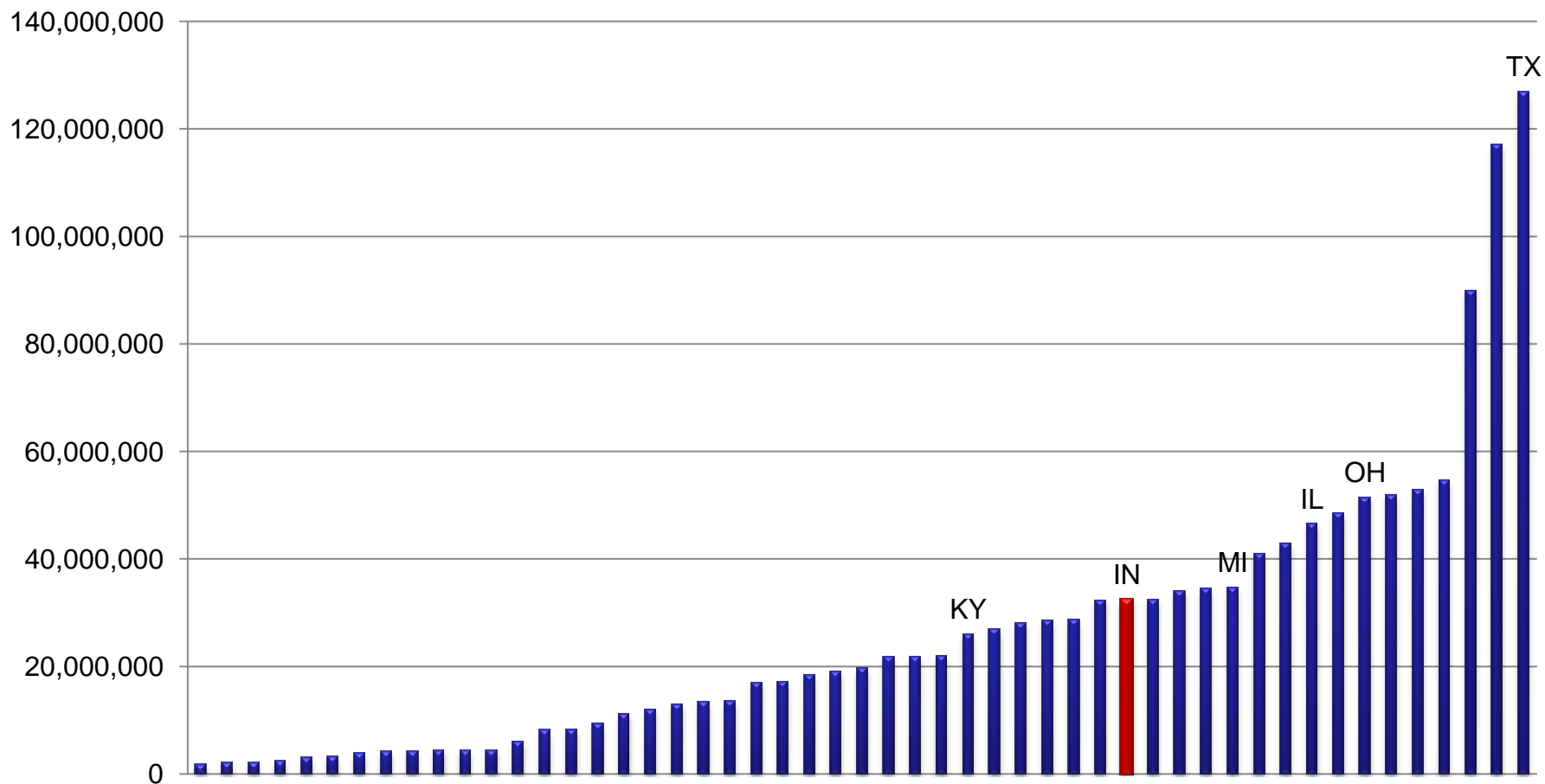
Emissions Trends for Indiana Electricity Industry (normalized to 1990 values)



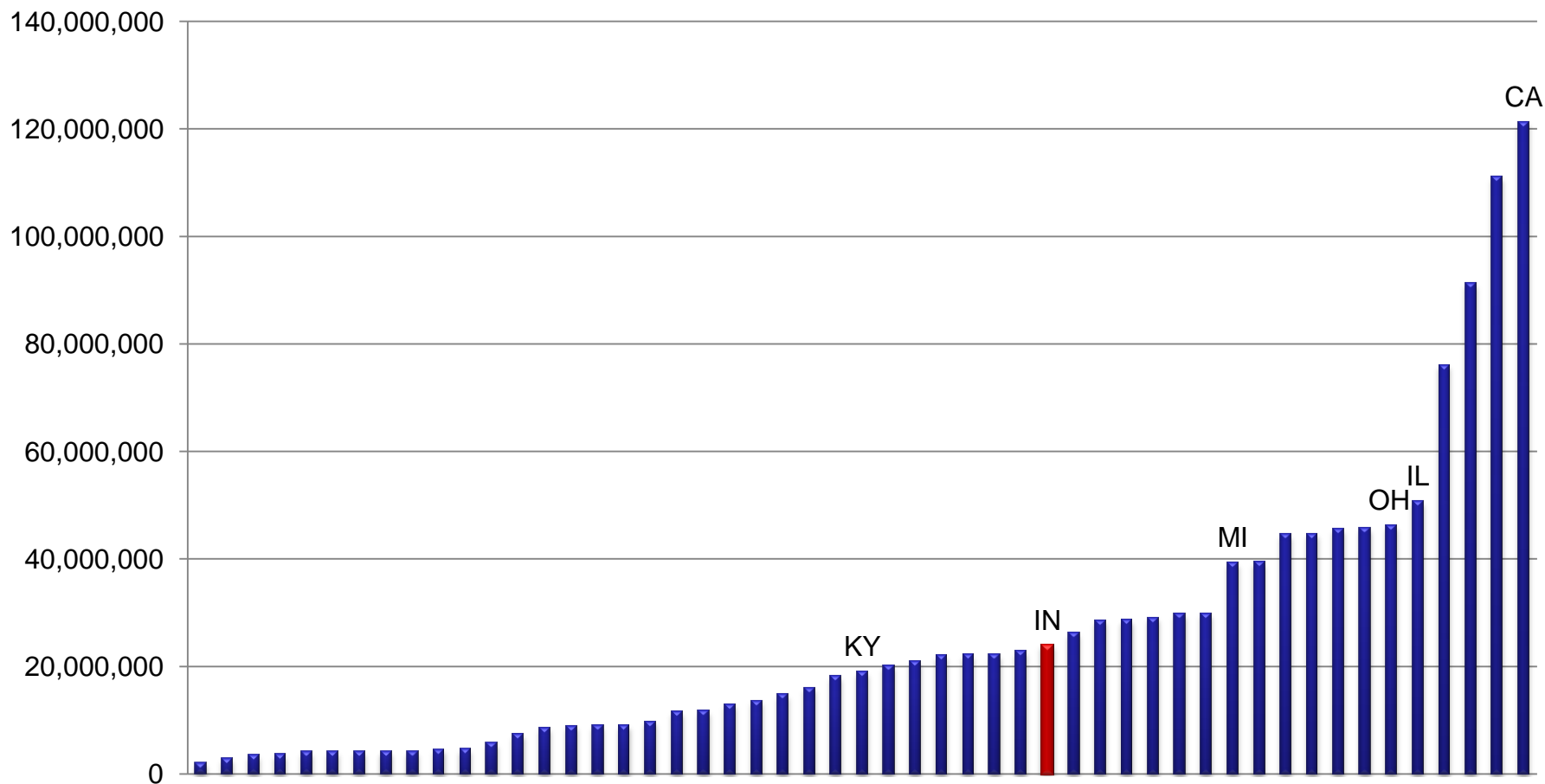
Emissions

- Indiana ranks in the top 5 in emissions of CO₂, SO₂, and NO_x
 - Reliance on coal
 - Large industrial sector
- Emissions levels have decreased substantially for SO₂ and NO_x (and CO₂ has grown slower than sales)
- Uncertainty over future rules
 - Mercury, CO₂

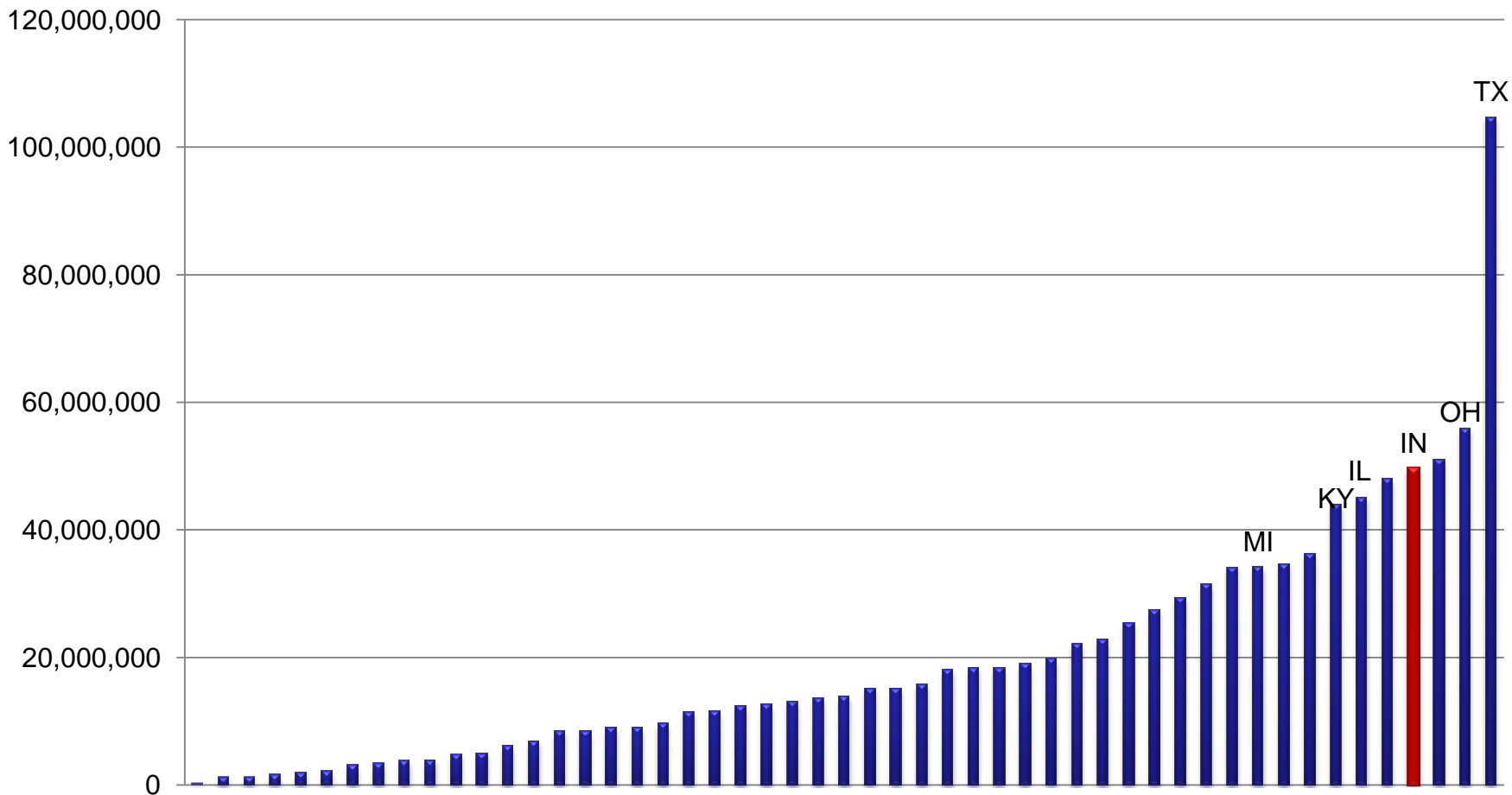
2006 Residential Electricity Sales (MWh)



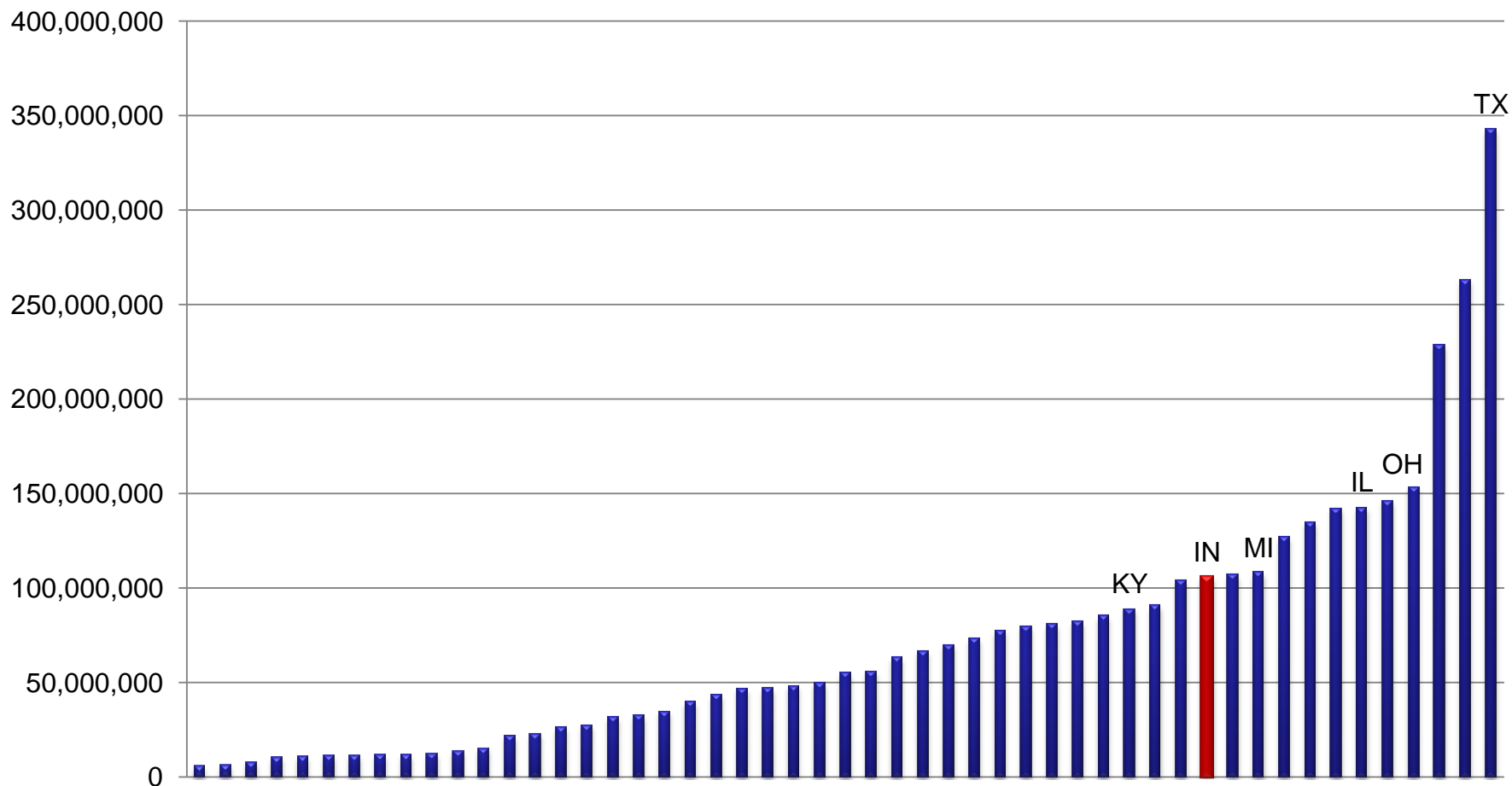
2006 Commercial Electricity Sales (MWh)



2006 Industrial Electricity Sales (MWh)



2006 Total Electricity Sales (MWh)

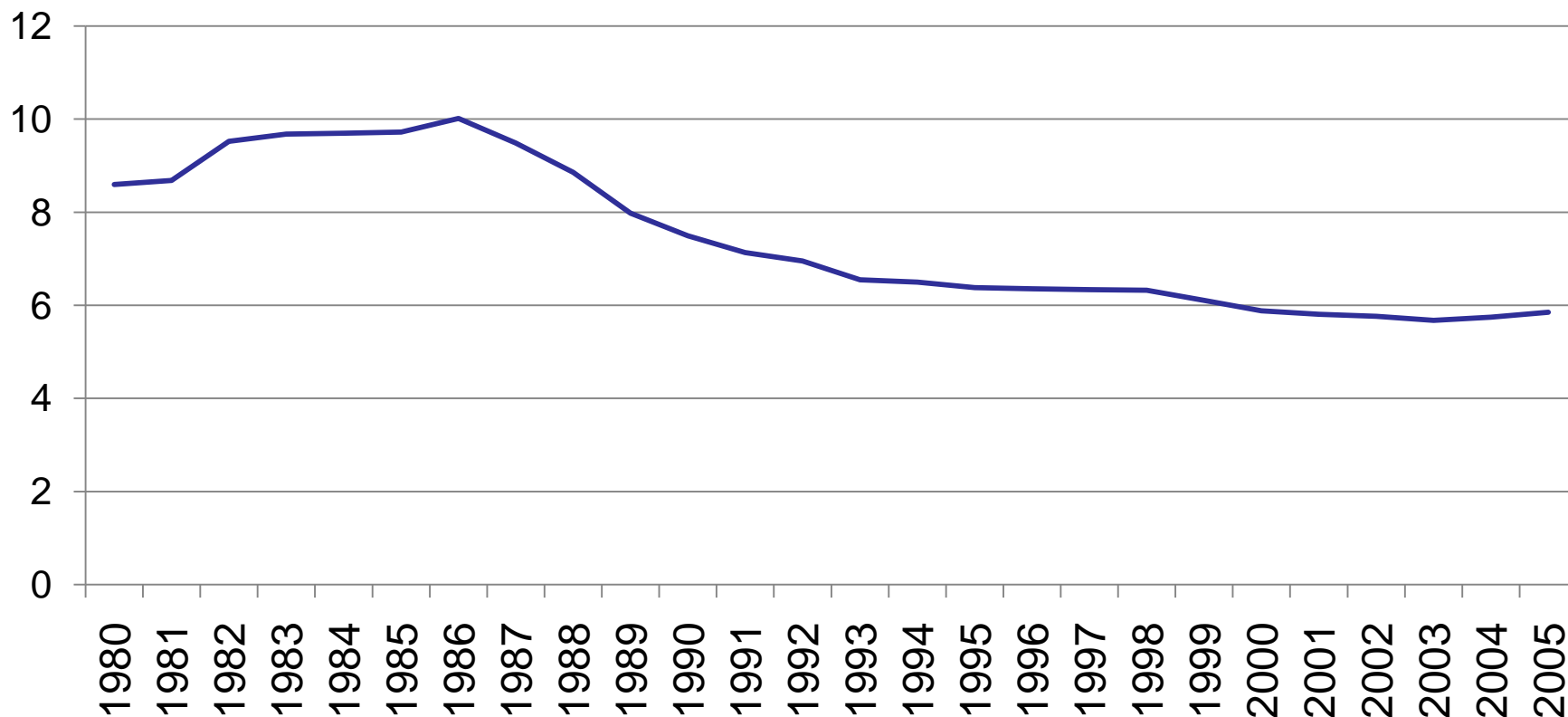


Indiana Electricity Consumers

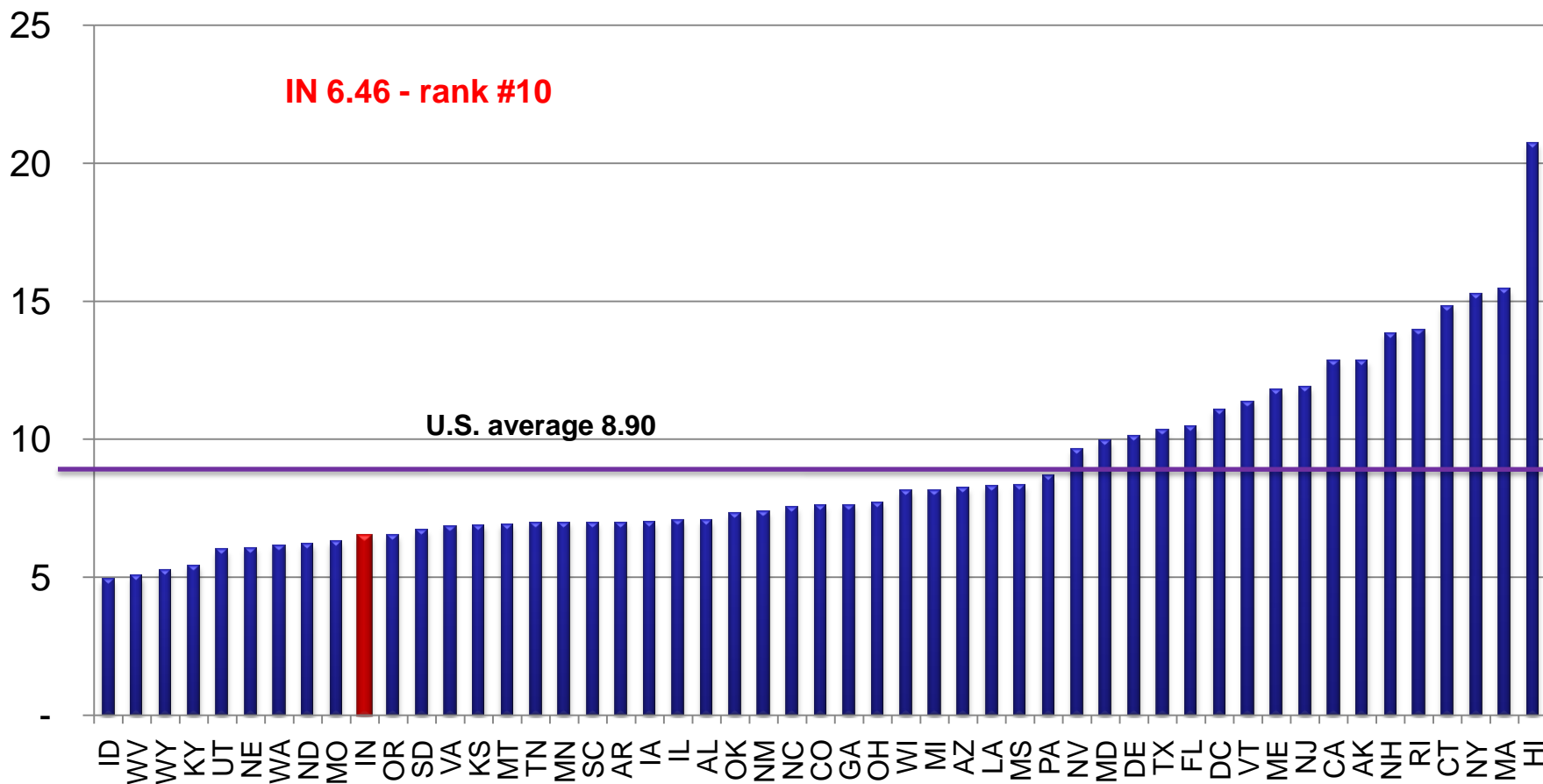
- Indiana has a large industrial base
- Indiana's industries tend to be electric intensive
 - Steel
 - Aluminum
 - Chemicals
 - Transportation equipment

Indiana Real Electricity Prices

(Investor-owned utilities, 2005 cents/kWh)



2006 All Sector Electricity Retail Price (cents/kWh)



Summary

- Coal is the dominant fuel for electricity generation
- The industrial sector is very significant
- Emissions are relatively high but falling
- Prices are relatively low but rising