Energy Efficiency & The Economy

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The Roles of the NYISO

Reliable operation of the bulk electricity grid

- ***Managing the flow of power nearly 11,000 circuit-miles of transmission lines from more than 300 generating units***

Administration of open and competitive wholesale electricity markets

- ***Bringing together buyers and sellers of energy and related products and services***

Planning for New York's energy future

- ***Assessing needs over a 10-year horizon and evaluating the feasibility of projects proposed to meet those needs***

Advancing the technological infrastructure of the electric system

- ***Developing and deploying information technology and tools to make the grid smarter***

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The NYISO's Role in EM&V

- **Observe & account for impacts on energy & peak demand due to all aspects of economic activity**
  - ***Labor productivity increases***
  - ***Replacement of older technologies with newer***
  - ***Shifts in energy usage across major sectors***
  - ***Explicit accounting for energy efficiency programs***
- **Produce accurate energy & peak demand forecasts (*with & without EE program impacts*)**

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New York Energy & Economic Data - 1990 to 2030

Year	GWh	Real GDP Millions	Employment	Population
1990	140,919	$603,730	8,395,100	18,020,780
2000	156,636	$777,160	8,787,700	18,998,430
2010	161,334	$944,810	8,684,150	19,553,820
2020	187,015	$1,222,530	9,609,460	19,757,520
2030	208,945	$1,530,260	9,869,940	19,844,390

Growth since 1990

Change from '90	GWh	Real GDP	Employment	Population
2000	11%	29%	5%	5.4%
2010	14%	56%	3%	8.5%
2020	33%	102%	14%	9.6%
2030	48%	153%	18%	10.1%

Energy forecast is from the NYISO 2010 econometric forecast before reductions for statewide energy efficiency programs
Economic data from Moody's Analytics

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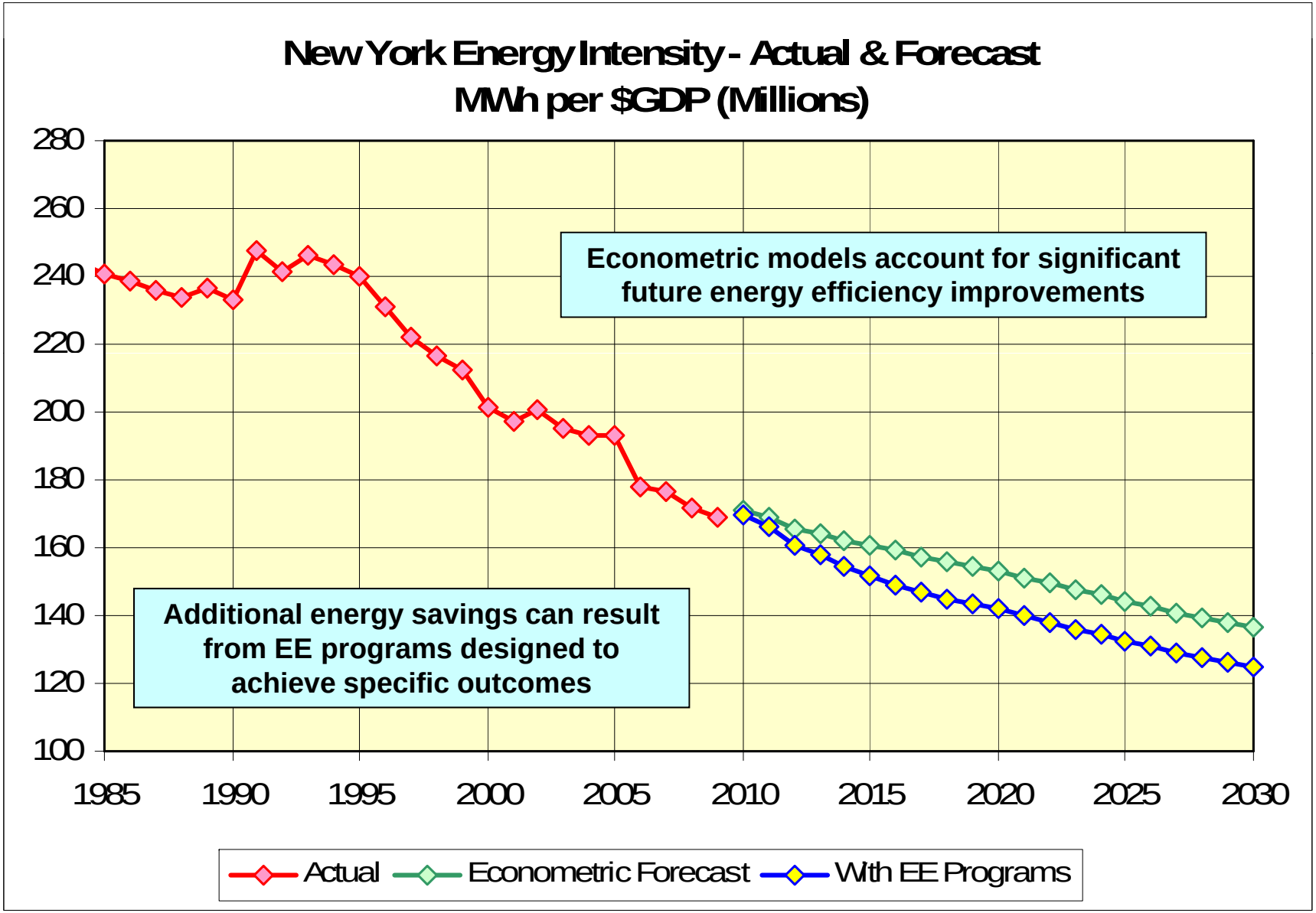

Economic data from Moody's Analytics / Intensity trend based on NYISO 2010 long term forecast

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Key Points

- **Energy intensity per real dollar of GDP continues to decrease**
  - ***Economy is moving away from manufacturing & heavy industry, toward service & information sectors***
  - ***All aspects of the economy are moving toward electronic processes and away from fossil-based processes***
  - ***Pervasive in all US states & sectors (and even globally)***
- **Information economy implicitly moves in direction of lower cost, higher economic value, and lower energy usage, compared to industrial economy**
  - ***Cell phones, laptops, and teleconferences are pervasive – society as a whole is more productive – business, home, school & industry all benefit***
  - ***Econometric models implicitly account for these large-scale improvements in energy efficiency***

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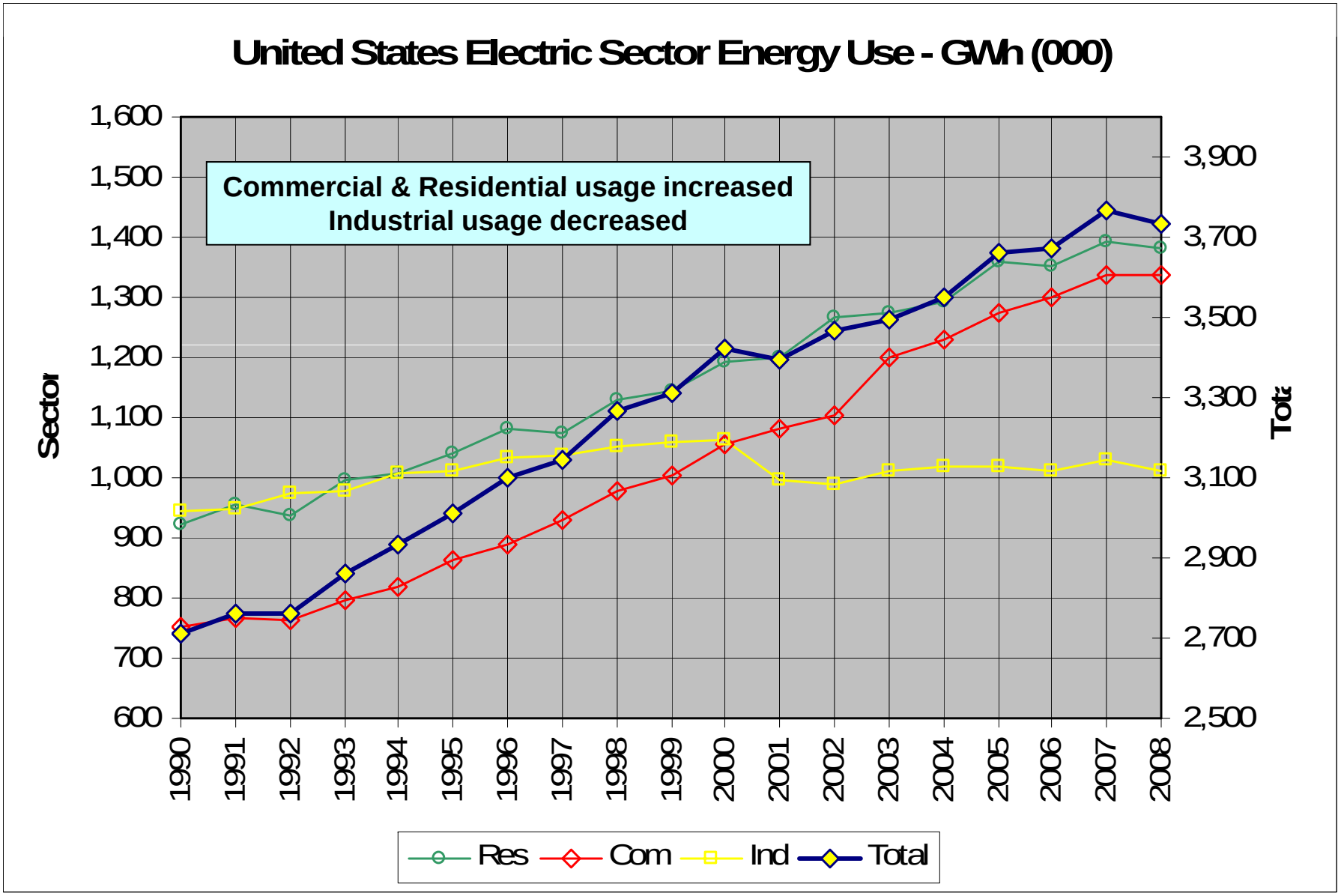

Electric energy data from US Energy Information Administration

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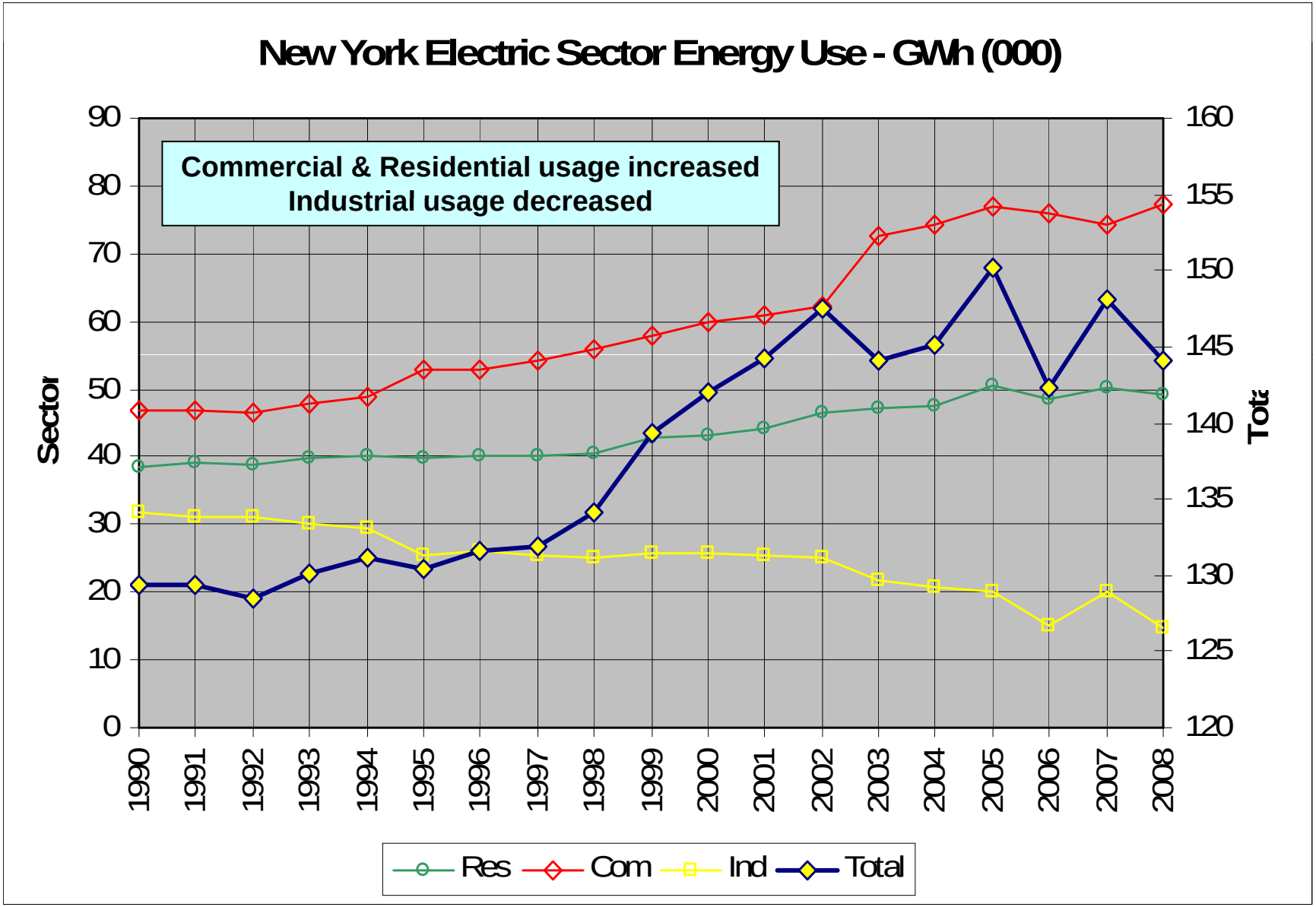

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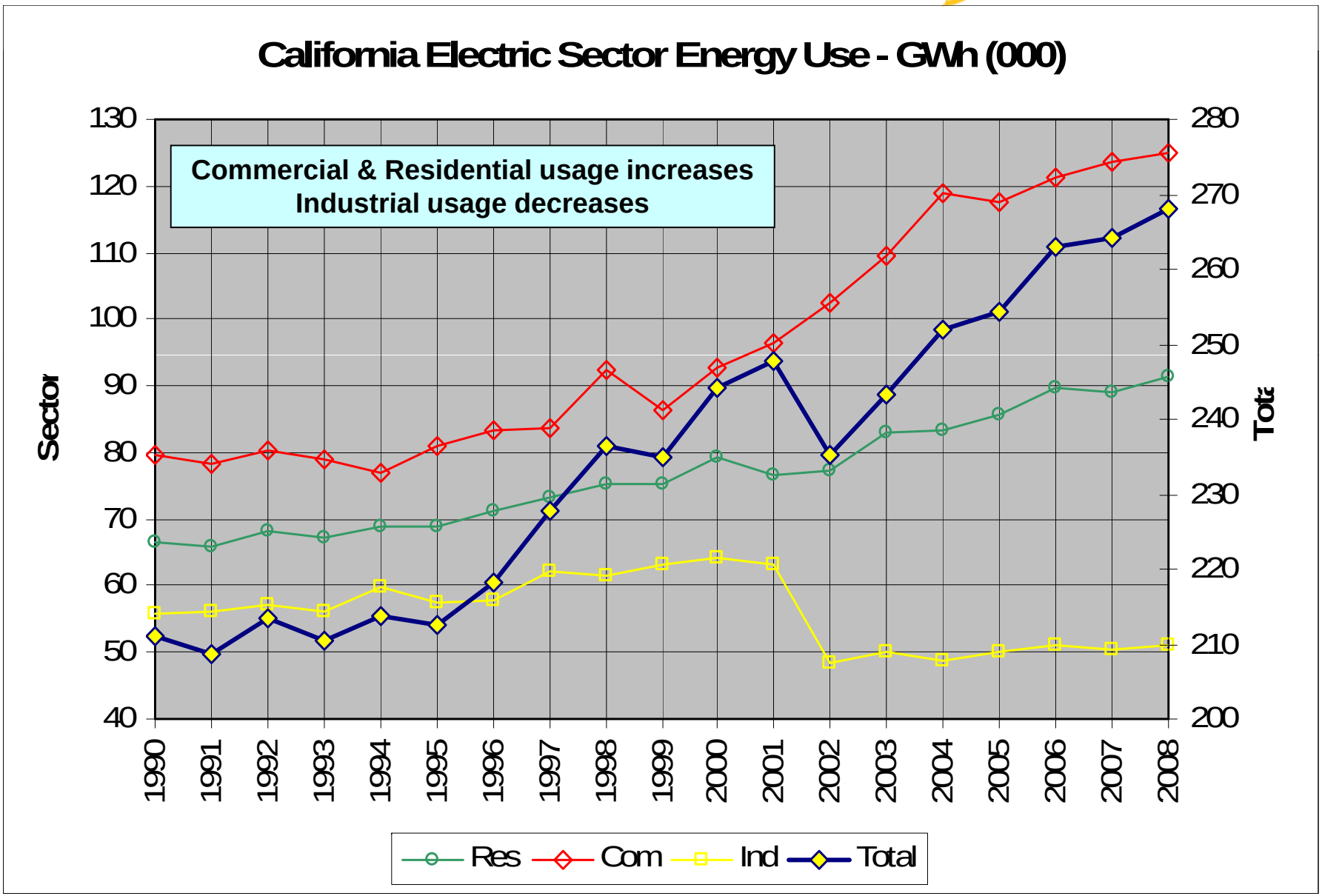

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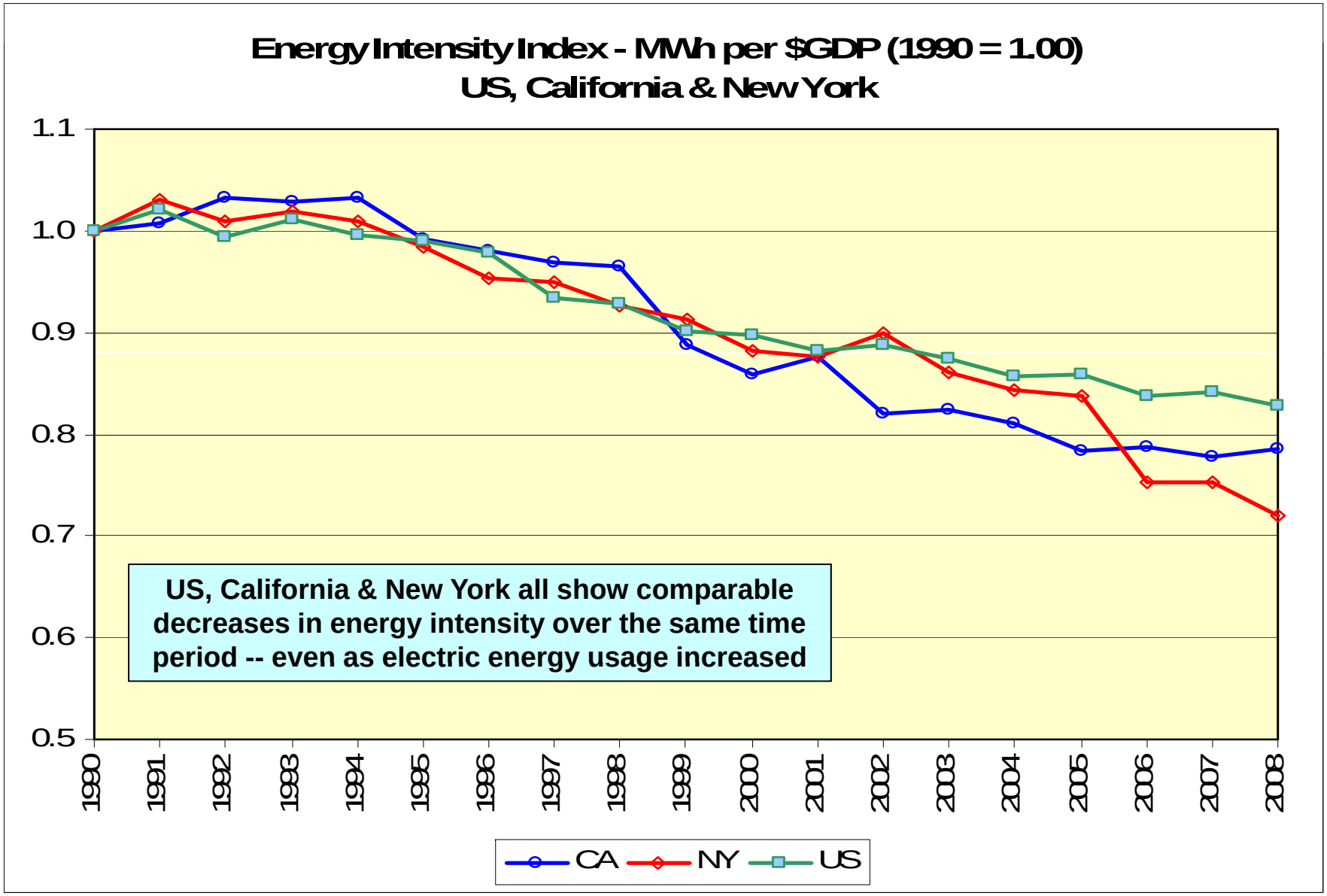

Real GDP data from US Bureau of Economic Analysis / Electric energy data from US Energy Information Administration

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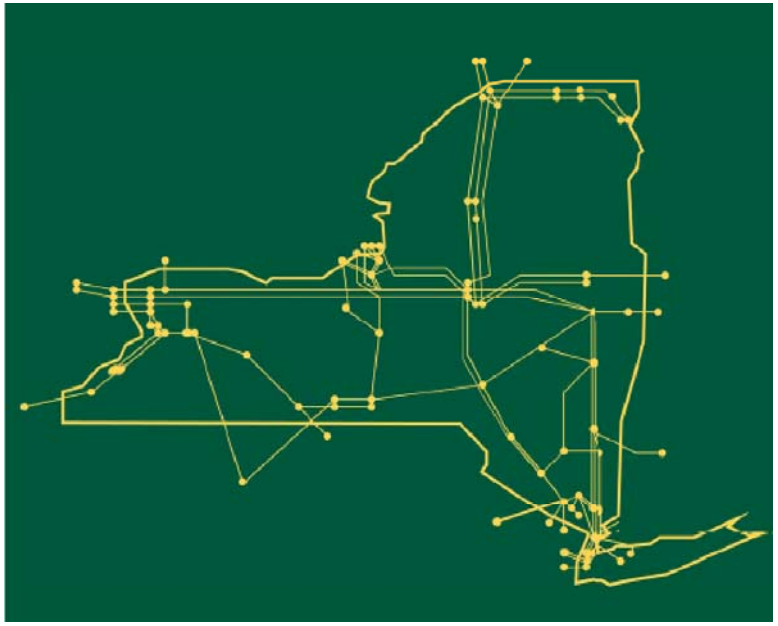
The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.



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