



# Foundation to the Future

## *Infrastructure, Innovation, Investment*



Opening Remarks

Stephen G. Whitley

*President & CEO*

*New York Independent System Operator*

# Welcome

- **Foundation to the Future**
  - ***Infrastructure***
  - ***Innovation***
  - ***Investment***

# Symposium Exhibitors



# The Roles of the NYISO

## ■ Reliability

- *Managing the efficient flow of power on over 10,775 miles of high-voltage transmission lines -- from more than 335 generating units -- on a minute-to-minute basis, 24 hours-a-day, seven days-a-week*

## ■ Markets

- *Administering and monitoring competitive wholesale electricity markets totaling \$11 Billion annually -- running auctions that match the buyers and sellers of power*

## ■ Planning

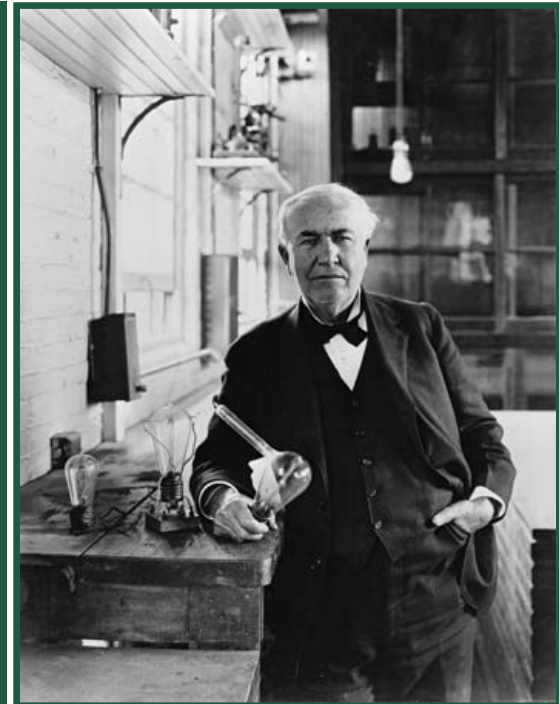
- *Conducting long-term assessments of the Empire State's electricity resources and needs*

# The Role of Competition

*“I can only invent under  
powerful incentive.*

***No competition  
means no invention.”***

Thomas A. Edison

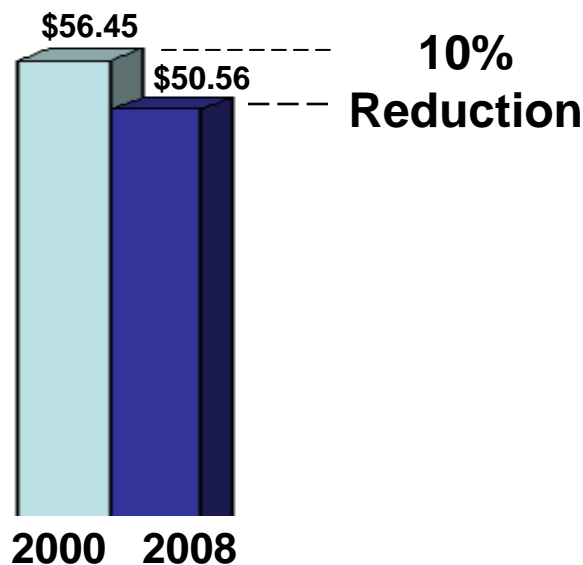


# Competition at Work in NY

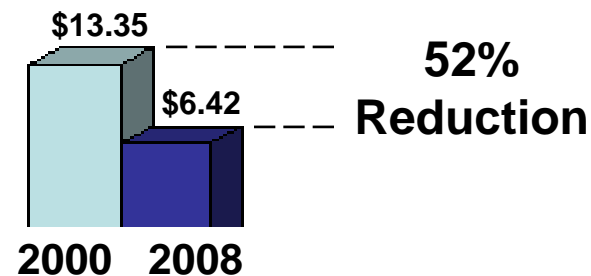
- **Wholesale electricity prices - adjusted for fuel costs – declined**
  - *If the cost of fuel used to generate electricity were the same today as it was in 2000, wholesale electricity costs would have dropped by 18% -- \$2.23 billion in savings on a current annual basis*
- **New generation and interstate transmission added**
  - *More than 7,600 MW of new generation built by public power and private suppliers, with 80% sited where demand is greatest (New York City, Long Island, and the Hudson Valley)*
  - *Nearly 1,000 MW of transmission added to bring more power from out-of-state*
- **Power plant efficiency and availability improved**
  - *System-wide heat rate of fossil-fueled generation improved 21%*
  - *Average plant availability increased from 87.5% (1992–1999) to 94.7% (2001–2007), adding 2,400 MW -- the equivalent of four medium-sized power plants*
- **Reliability strengthened**
  - *Surplus capacity to cover summer peak has increased. In 2000, there was a deficit of 1200 MW. In 2009, there is a surplus of 916 MW*
- **Renewable “green power” resources increasing**
  - *There are over 1,200 MW of wind generation in operation and more than 8,000 MW proposed for grid connection*
- **Demand-side innovations fostered**
  - *More than 2,100 MW now available from Demand Response programs that provide incentives for electricity customers to reduce their power use during times of peak demand*

# Wholesale Electricity Prices

**Fuel Adjusted Energy & Ancillary Services Costs**



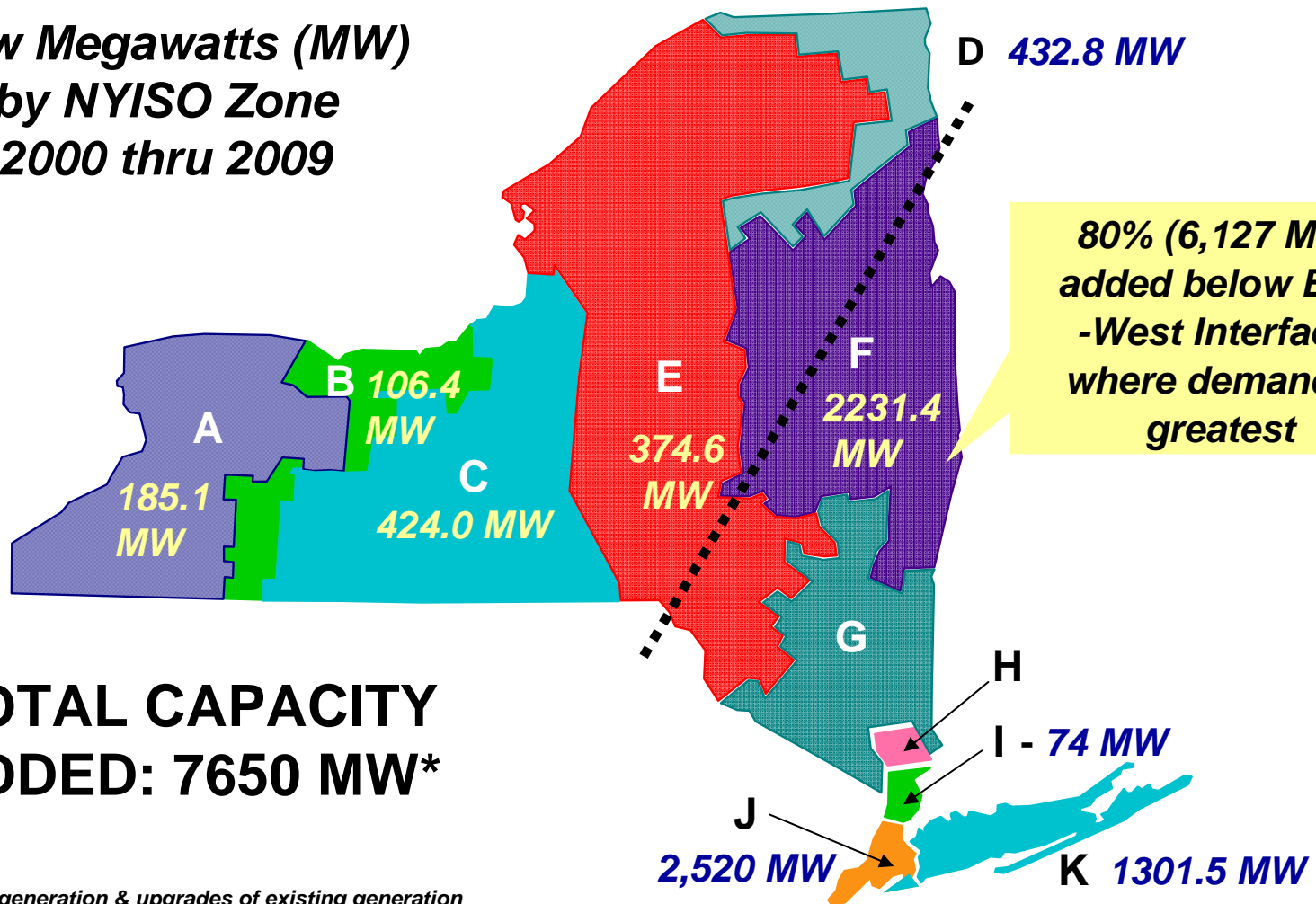
**Capacity Costs**



Statewide Reduction in Energy & Ancillary Services Costs	=	\$1.2 billion
Statewide Reduction in Capacity Costs	=	\$1.0 billion
Reduction in Electricity Costs on a Fuel Adjusted Basis	→	<b>\$2.2 billion</b>

# New Generation

**New Megawatts (MW)  
by NYISO Zone  
2000 thru 2009**

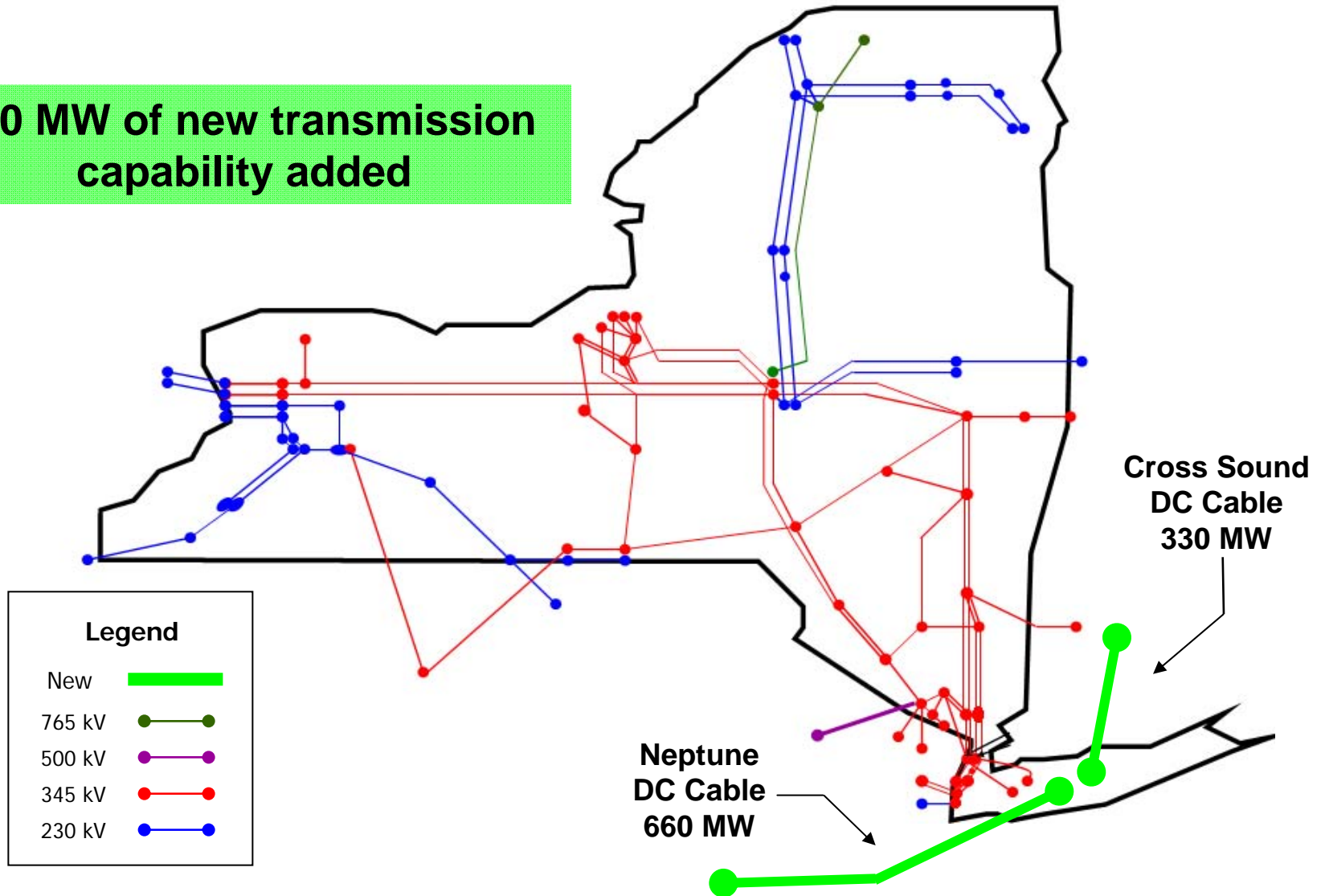


**TOTAL CAPACITY  
ADDED: 7650 MW\***

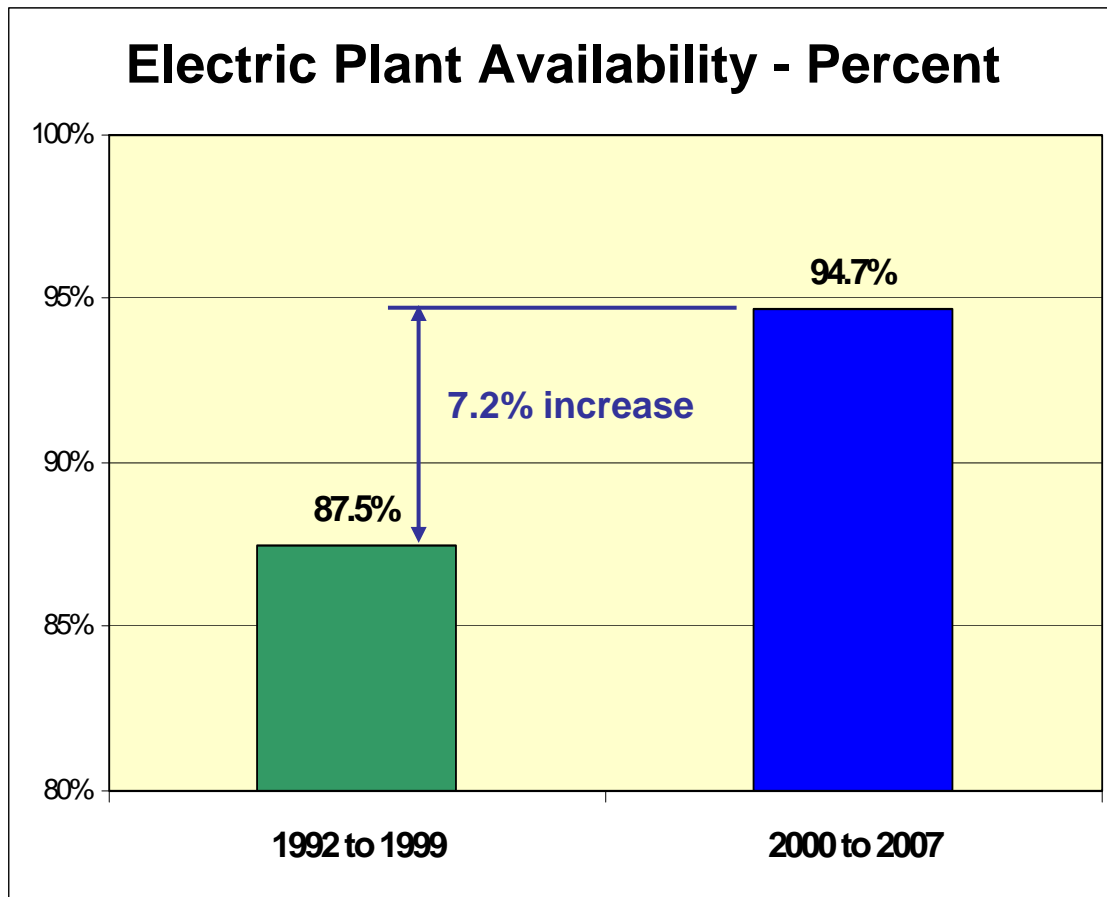
\* Includes new generation & upgrades of existing generation developed by both public power and private companies

# New Transmission

990 MW of new transmission capability added



# Improved Availability

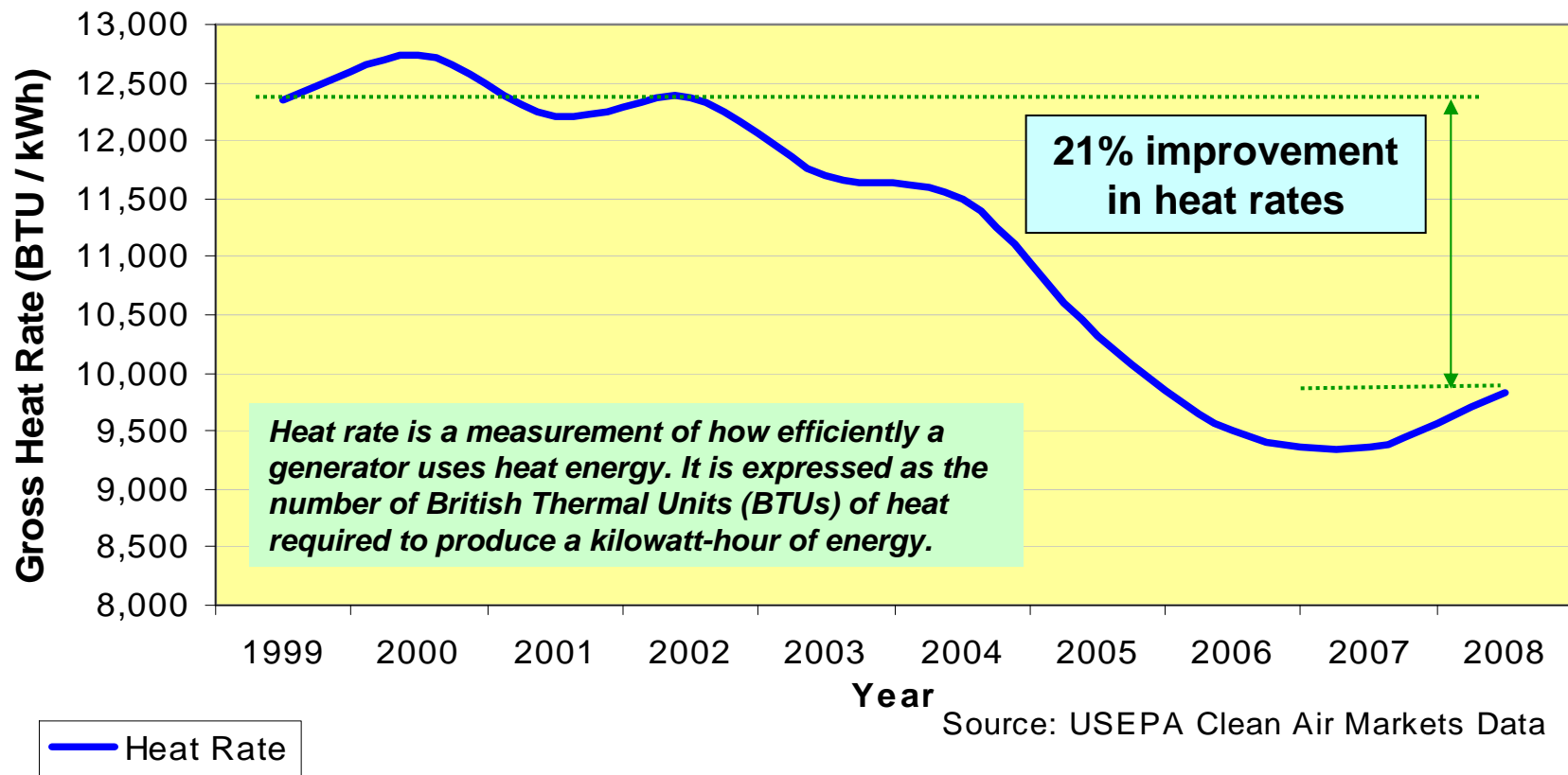


**Reduced outages and increased availability equivalent to 2,400 MW additional capacity**

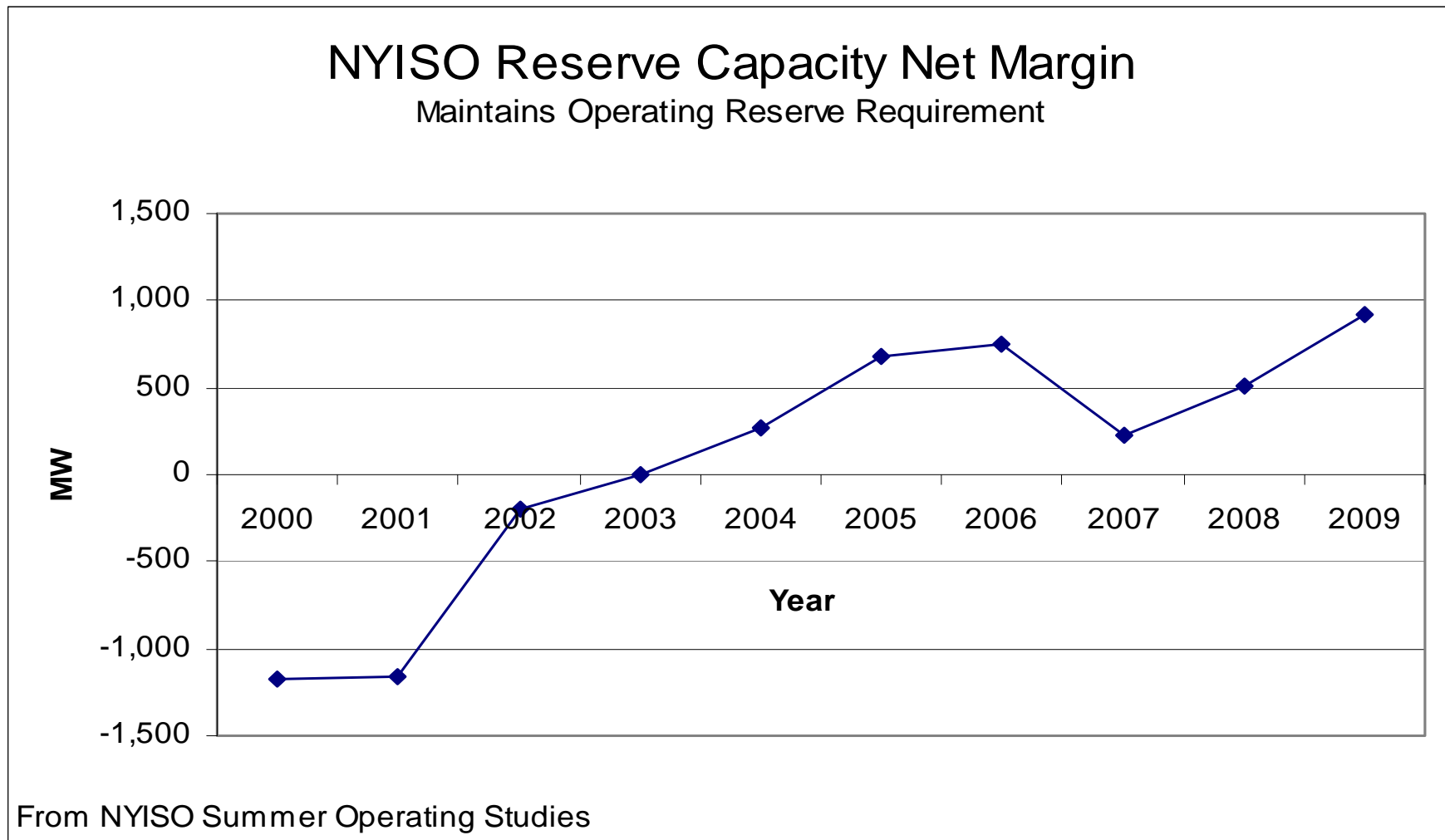
• BASED ON NERC-GADS DATA FROM 1992 to 2007

# Increased Efficiency

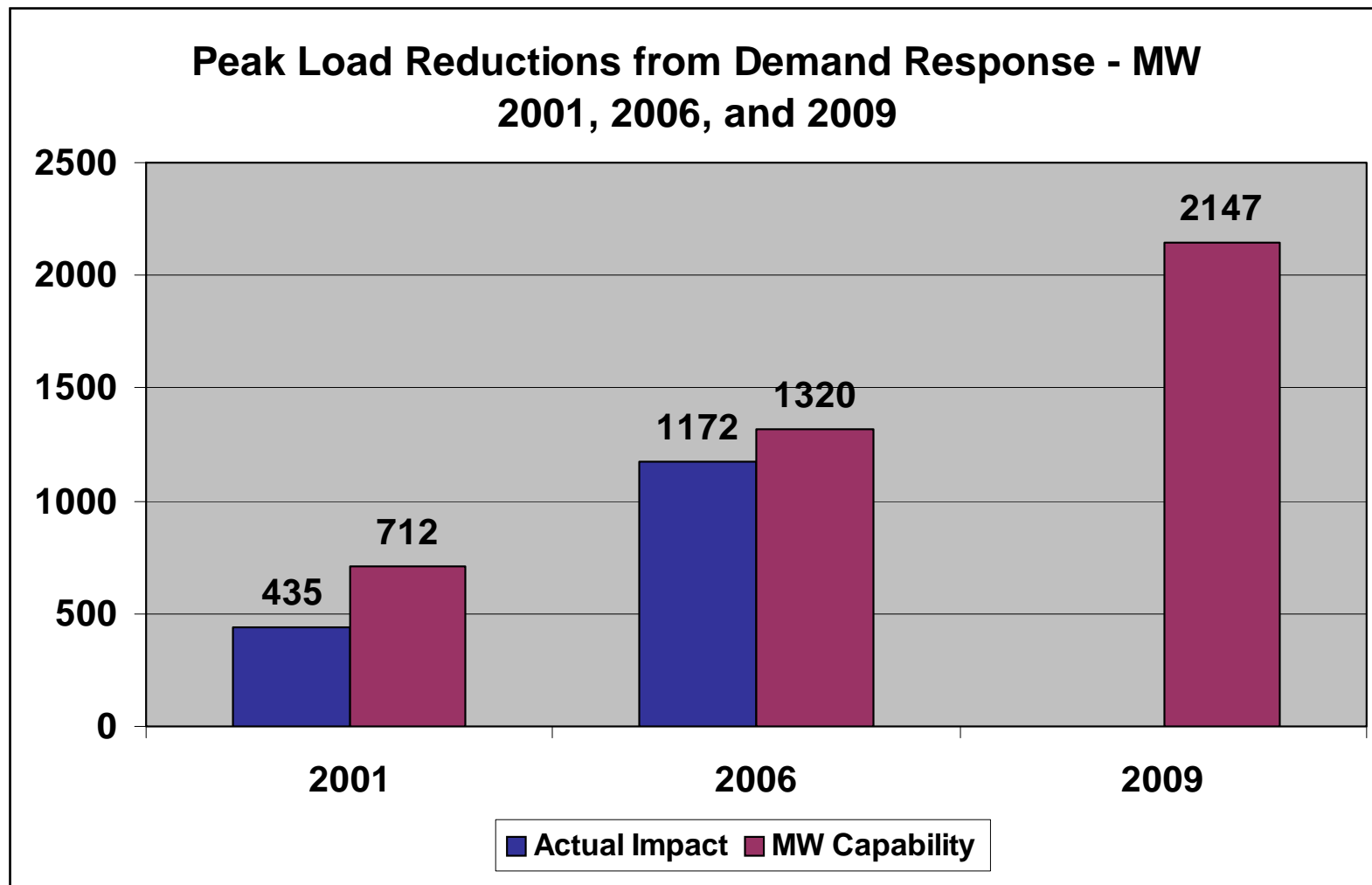
## New York System Heat Rate Improvement



# Reliability Strengthened



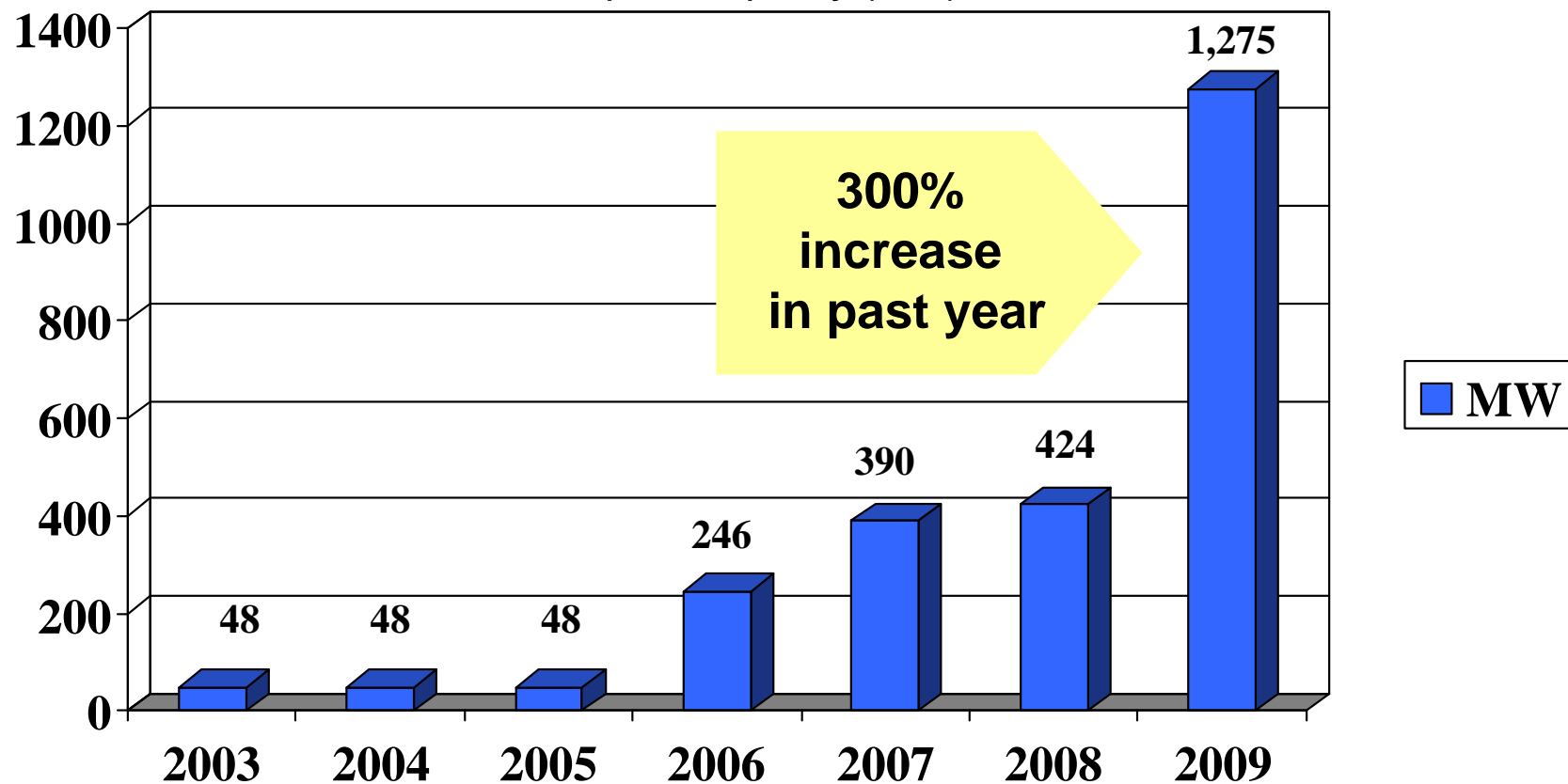
# Demand Response



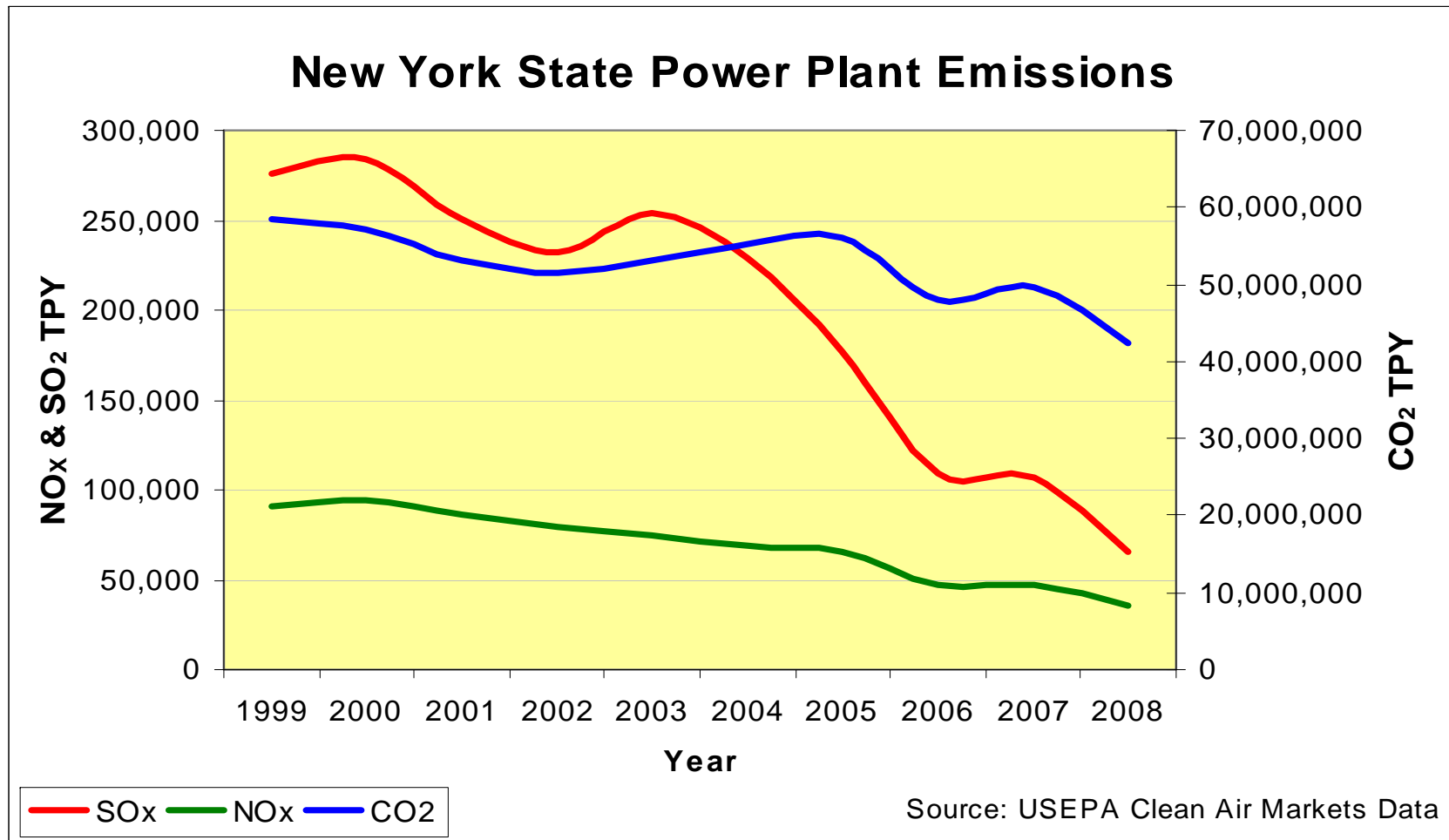
# Growing Wind

## Wind Power Capacity in New York State

*Nameplate capacity (MW)*

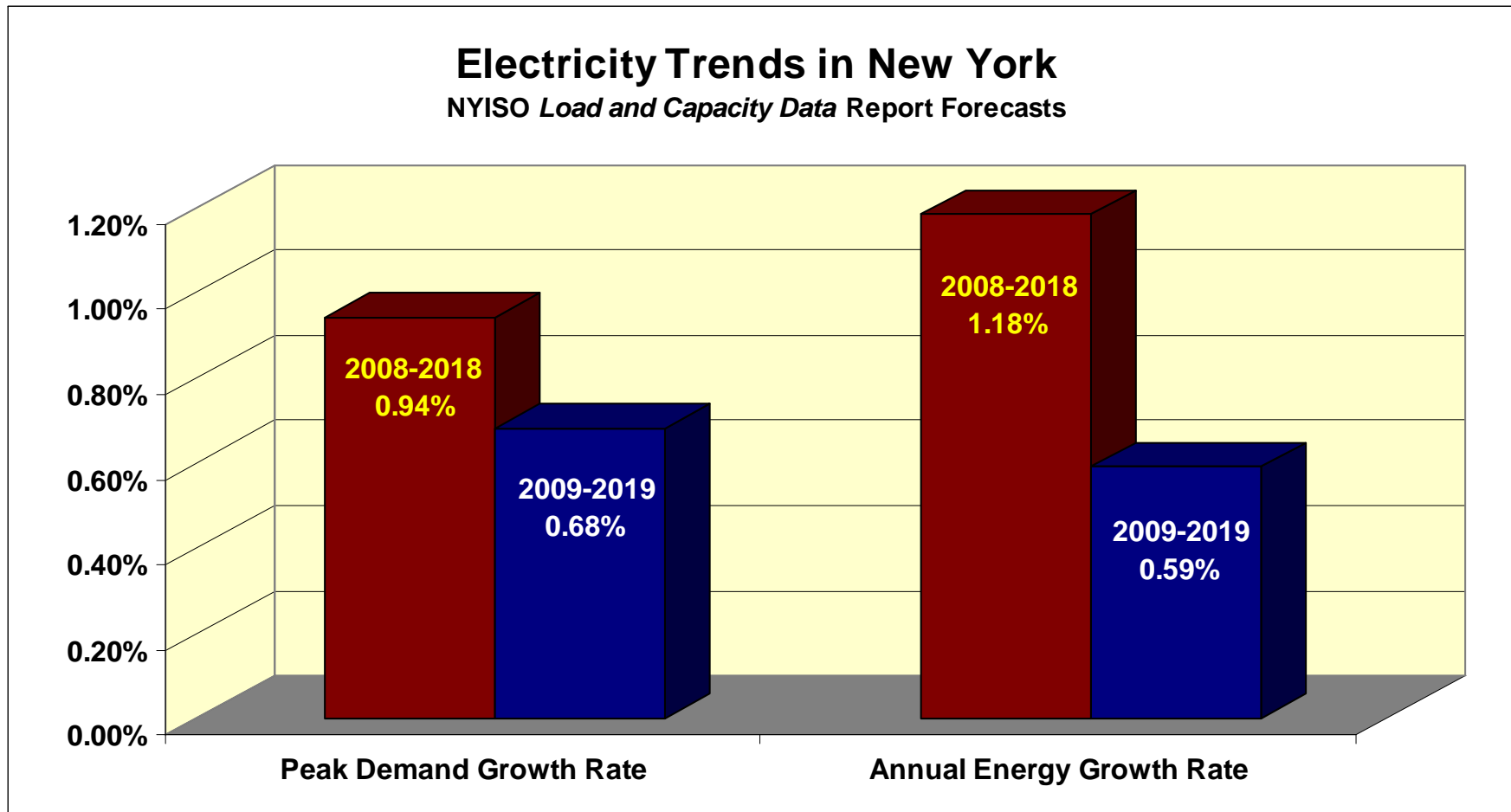


# Emission Rate Reductions



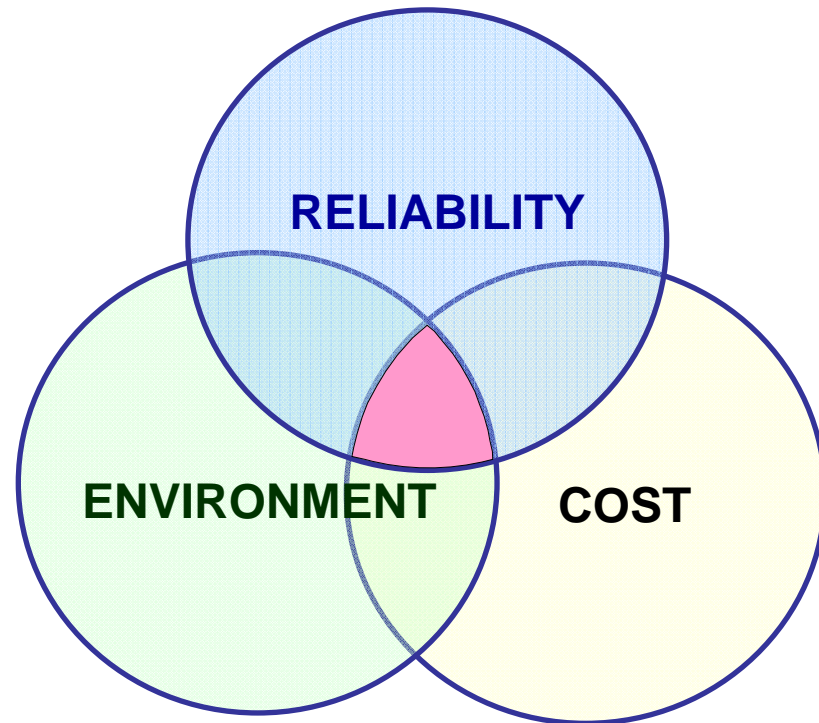
# Growth Outlook

*Current outlook for next ten years is well below last year's forecasts*



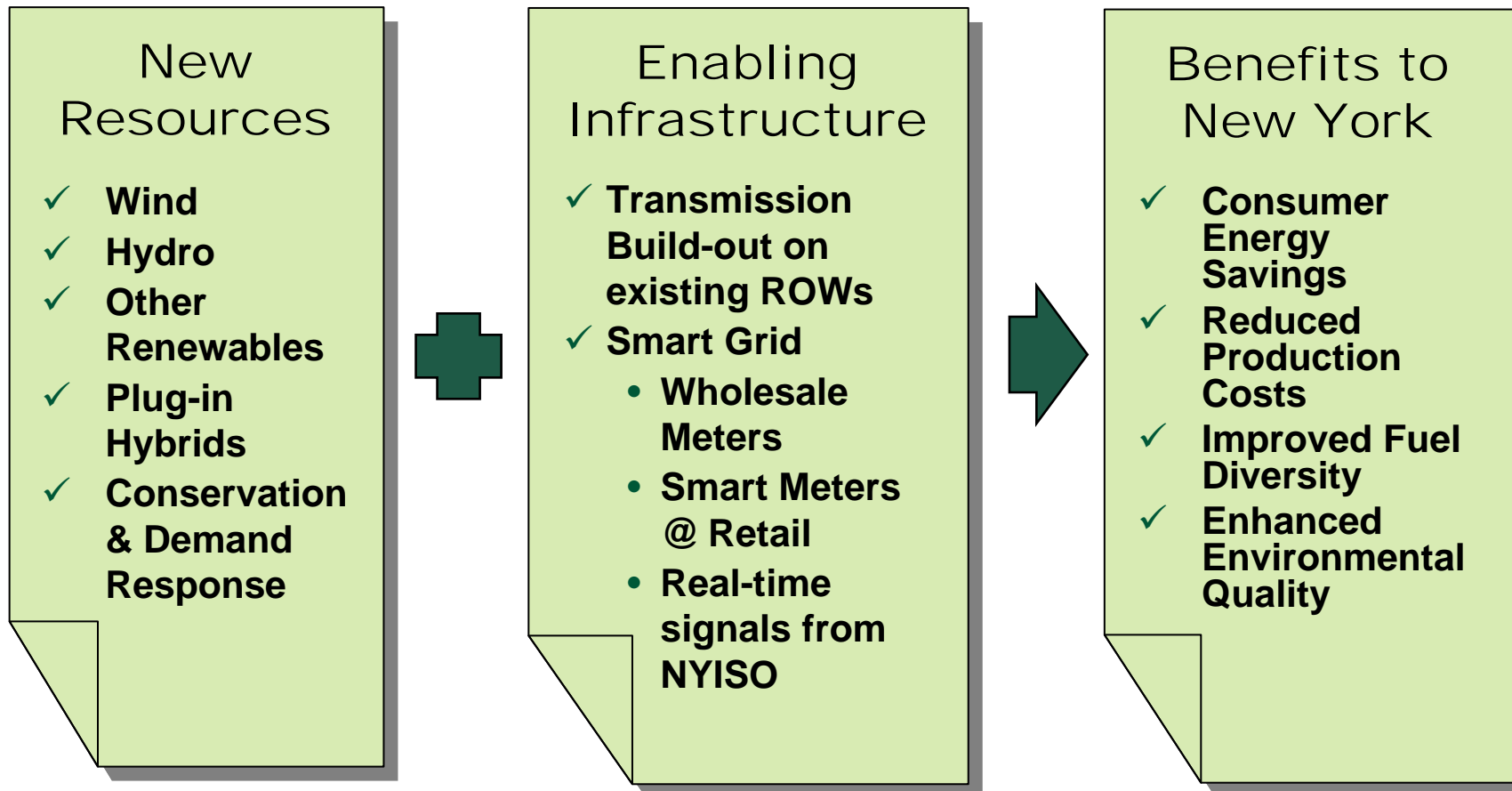
# Summary

- **Competitive markets are providing environmental, economic and energy benefits**
- **Going forward**



*What else needs to be done to find the “sweet spot” of solutions that address crucial infrastructure, innovation and investment challenges?*

# Portfolio of Solutions



# Today's Agenda

- ***Panel 1: Renewables & RPS Requirements***
  - ***Panel 2: Transmission Infrastructure***
  - ***Luncheon: Keynote Address***
  - ***Panel 3: Dynamic Retail Pricing***
  - ***Panel 4: Infrastructure Investment Challenges***
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The New York Independent System Operator (NYISO) is a not-for-profit corporation that began operations in 1999. The NYISO operates New York's bulk electricity grid, administers the state's wholesale electricity markets, and conducts system and resource planning for the state's bulk electricity system.

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***[www.nyiso.com](http://www.nyiso.com)***