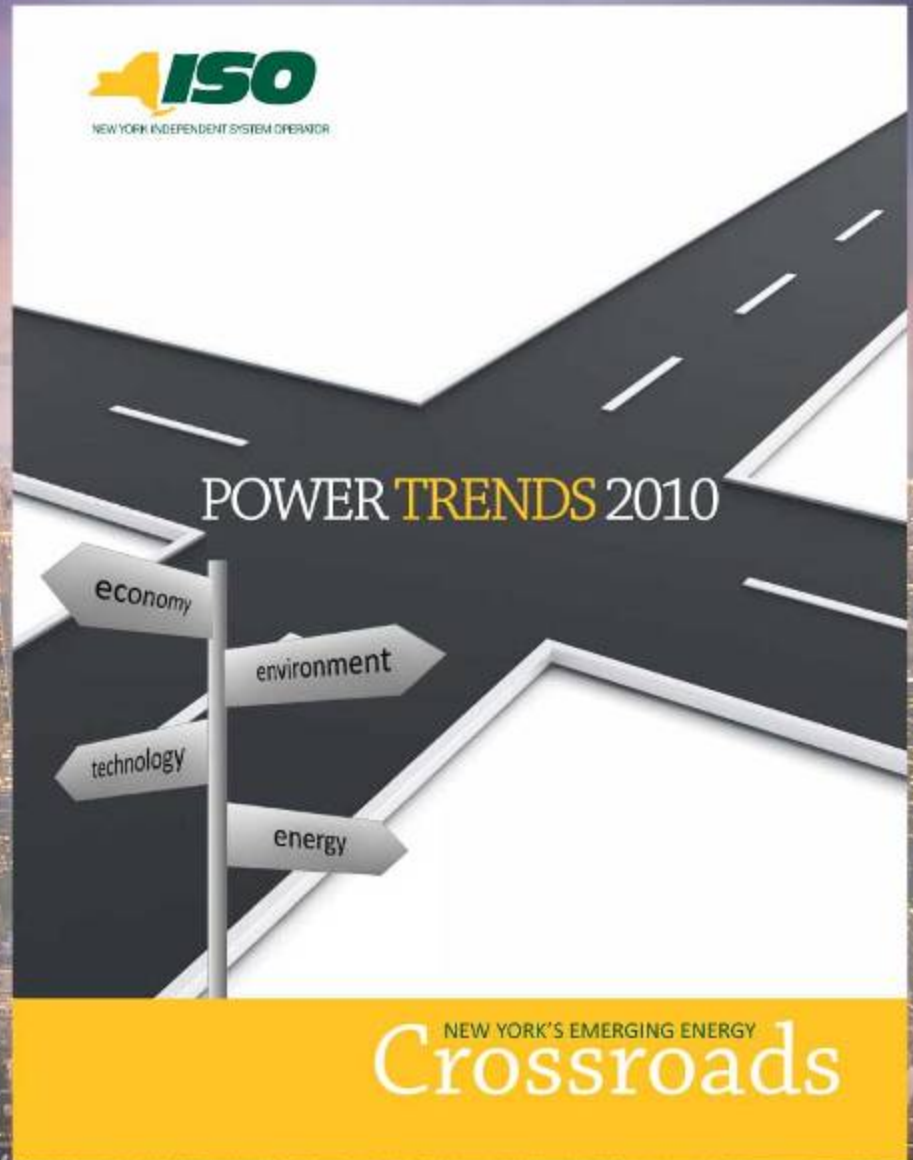


Stephen G. Whitley
President & CEO
New York Independent System Operator

**New York Association
of Public Power
Annual Meeting**
Saratoga, NY
April 20, 2010



Power Trends

- Among the factors expected to influence New York's energy outlook:
 - *Pace of economic recovery*
 - *Fuel diversity of generating resources*
 - *Energy efficiency policies and programs*
 - *Advent of smart grid technologies*
 - *Continued development of renewable resources*

Power Trends 2010

NEW YORK'S EMERGING ENERGY
Crossroads



NEW YORK INDEPENDENT SYSTEM OPERATOR

Challenges Met

- In 2001, the NYISO issued *Power Alert*, which warned:
 - *“New York faces a growing disparity between electricity demand and in-State supply... With no major new generating plants in downstate New York fully approved for construction at this juncture, this gap will continue to widen...”*
- Today, resources available to meet the electricity needs of New York State are expected to continue to exceed demand through the next decade.

Positive Trends

- **Since 2000, New York added**
 - *Over 7,800 MW of new generation*
 - *Nearly 1,300 MW of new transmission*
 - *Nearly 2,400 MW of demand response*
- **In 2010, New York has**
 - *Over 43,000 MW of total resources*
 - 38,970 MW resource requirement
 - 33,025 MW forecasted peak

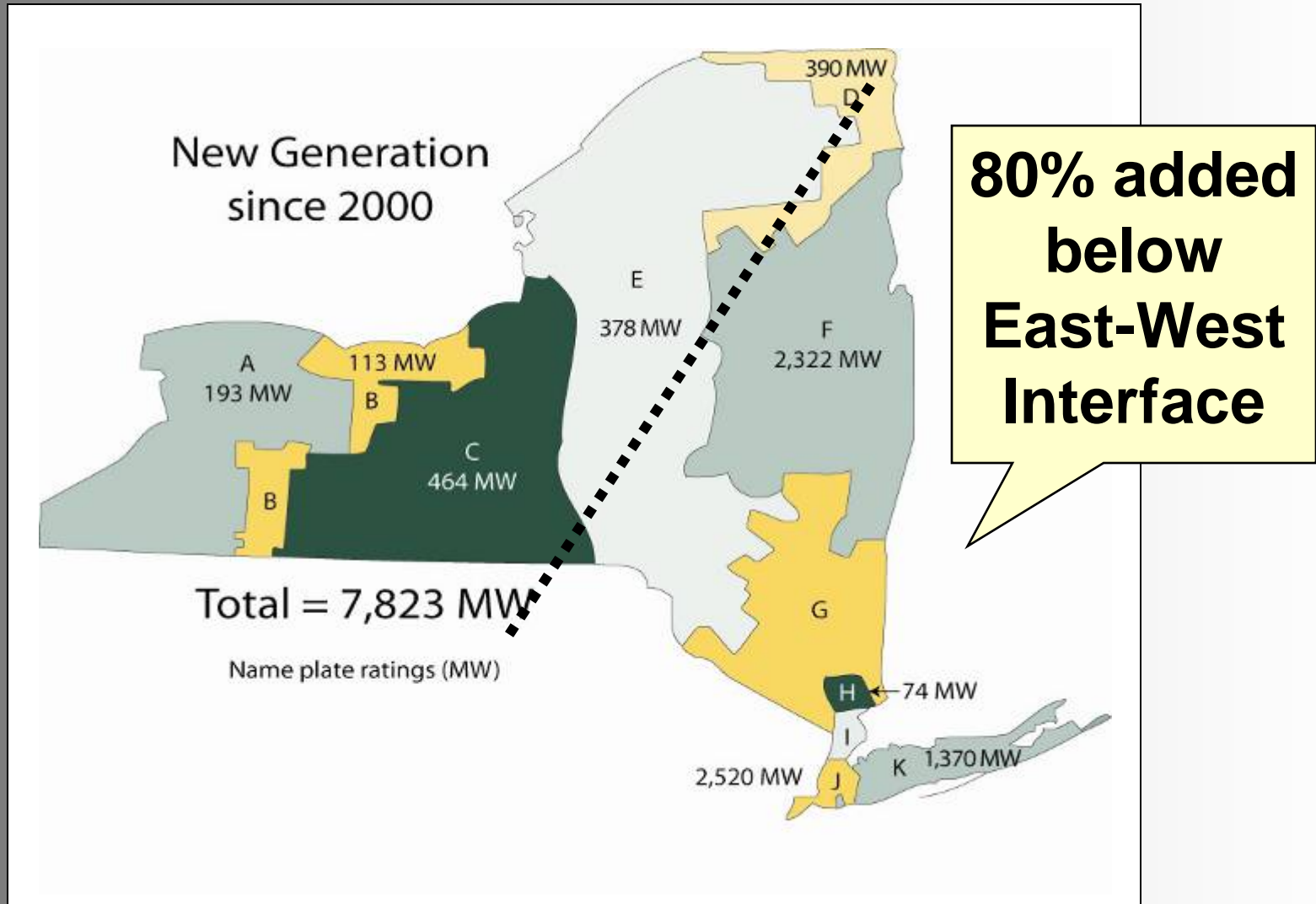
Power Trends 2010

NEW YORK'S EMERGING ENERGY
Crossroads



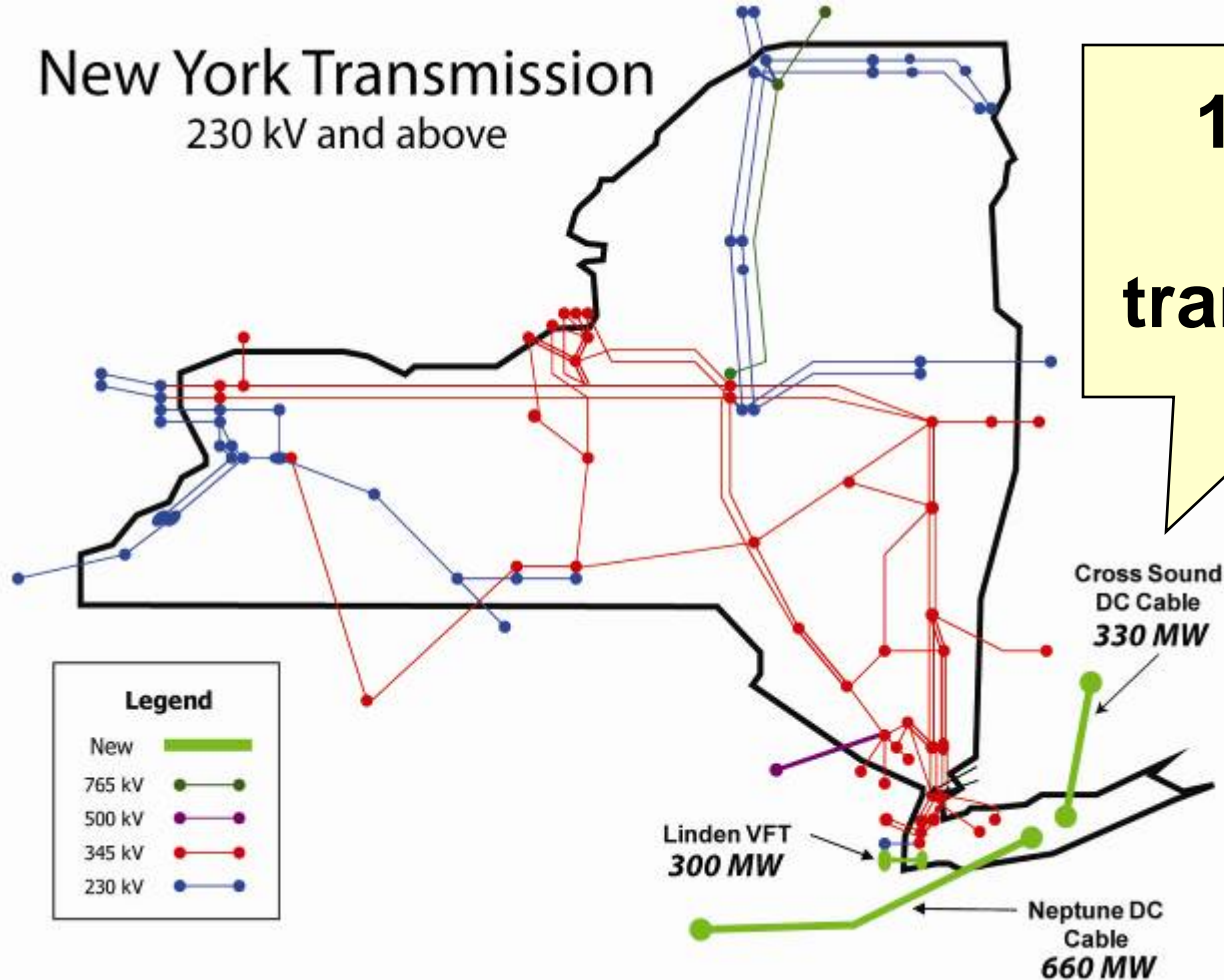
NEW YORK INDEPENDENT SYSTEM OPERATOR

Generation



Transmission

New York Transmission 230 kV and above

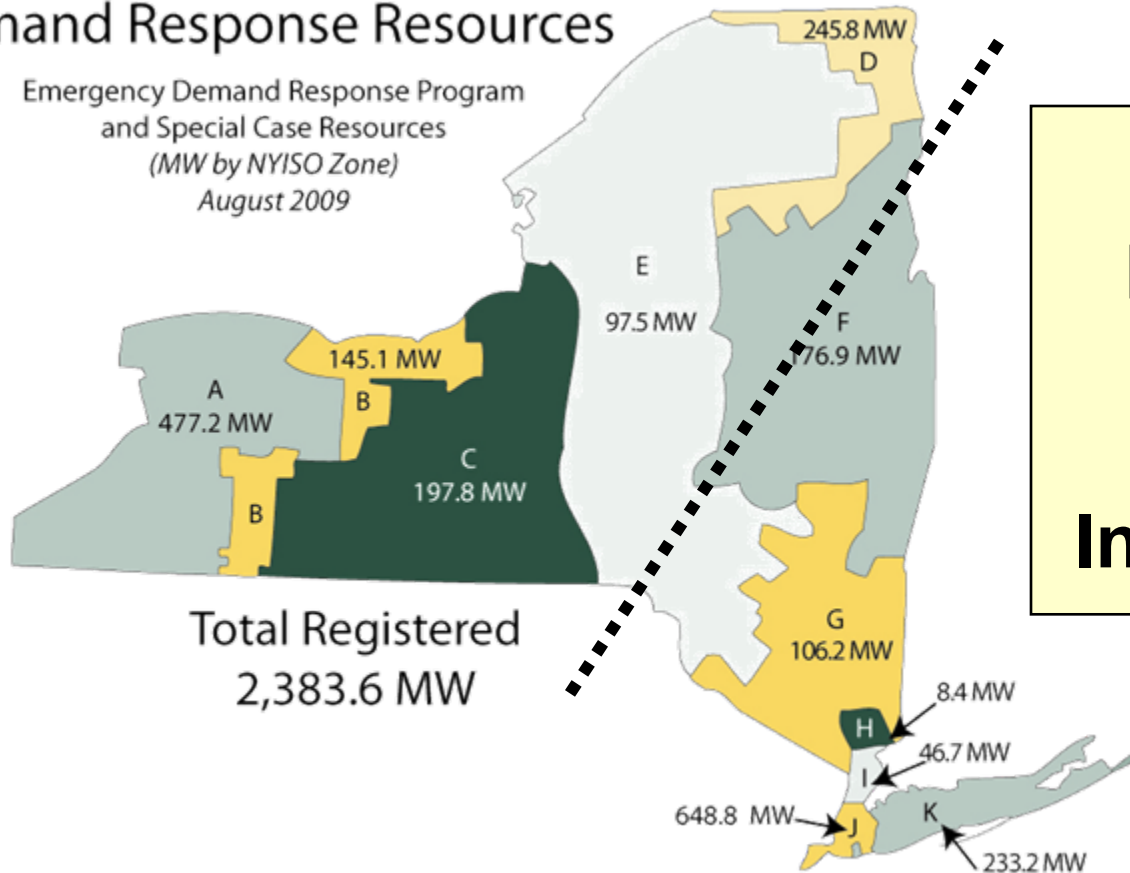


**1290 MW
of new
transmission**

Demand Response

Demand Response Resources

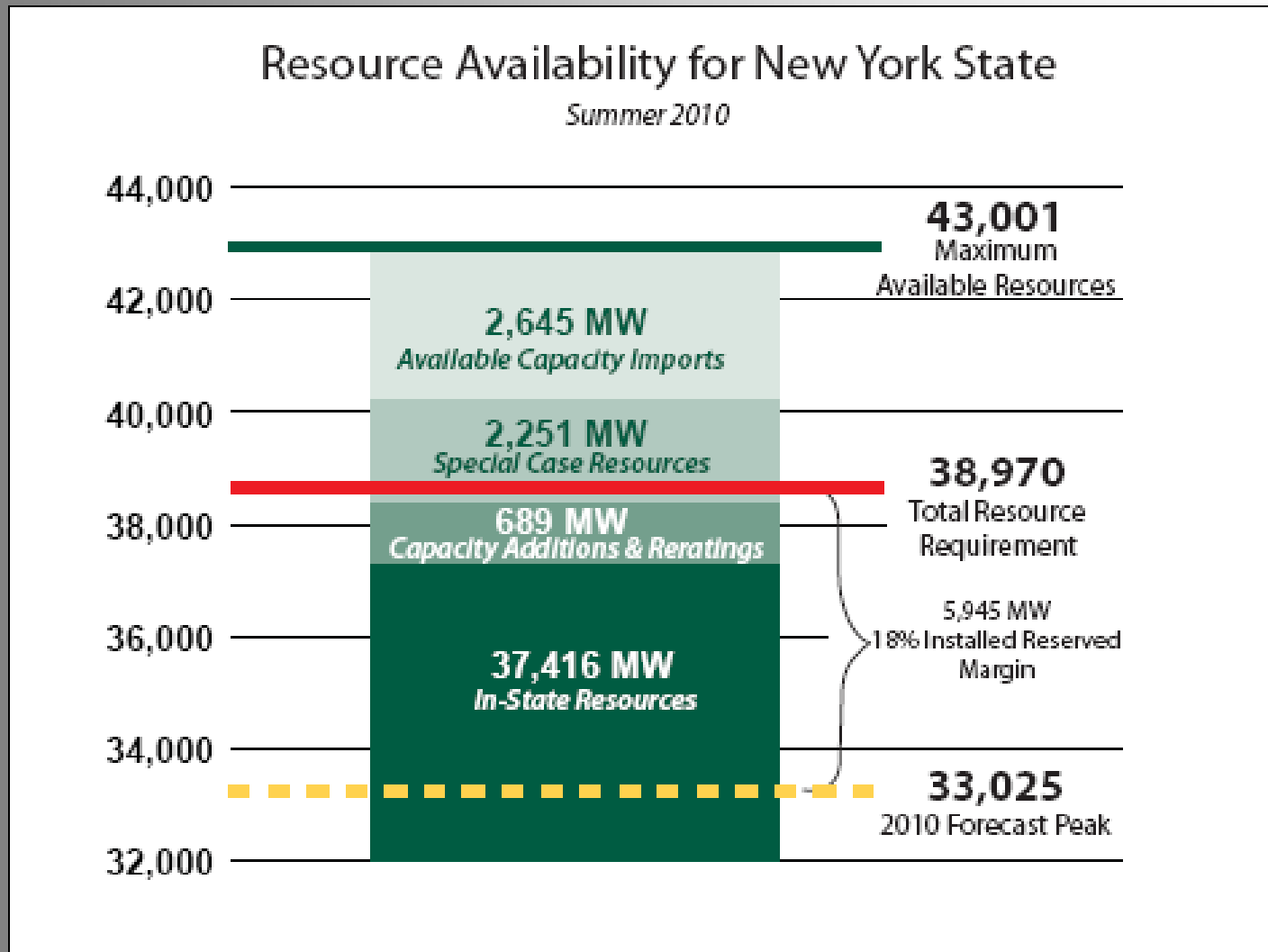
Emergency Demand Response Program
and Special Case Resources
(MW by NYISO Zone)
August 2009



Total Registered
2,383.6 MW

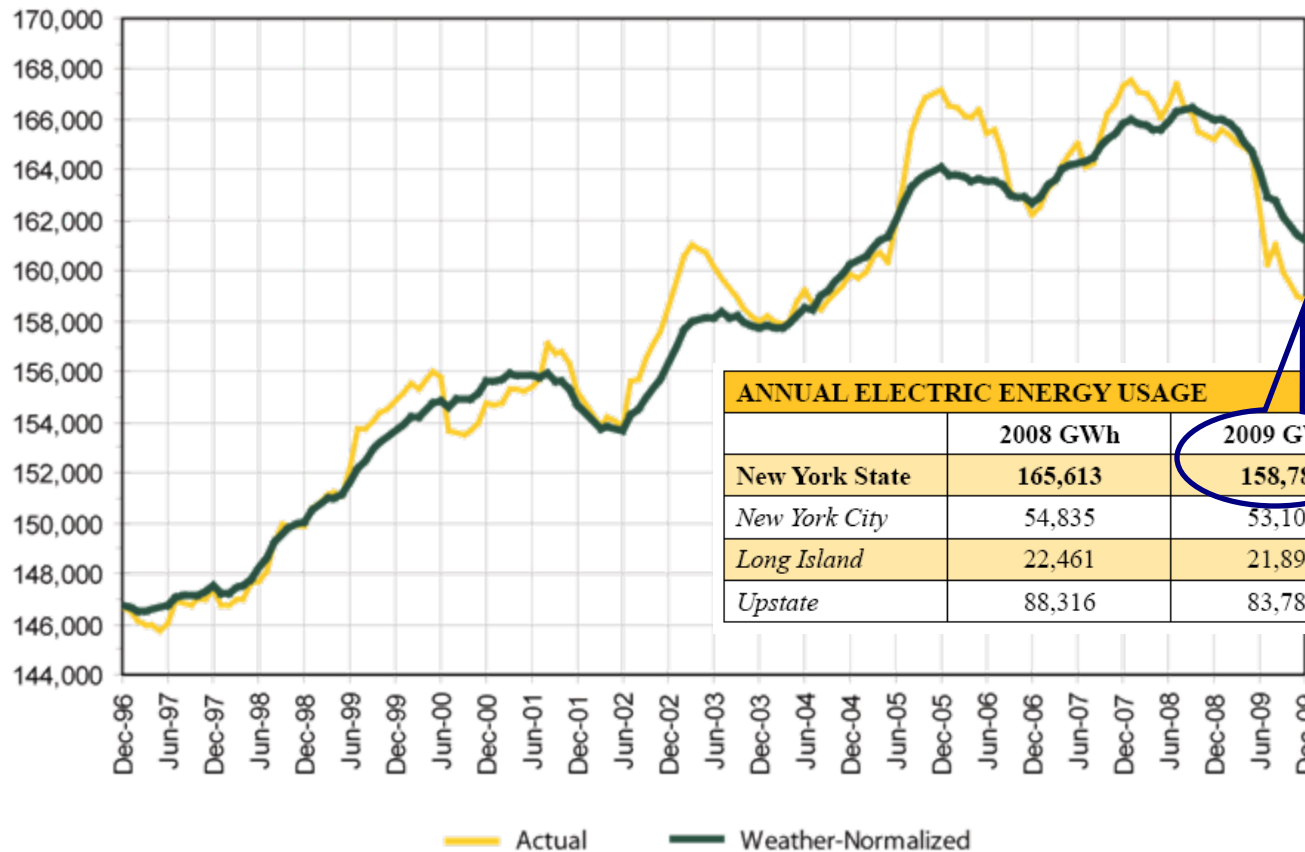
**50%
below
East-
West
Interface**

Resource Outlook



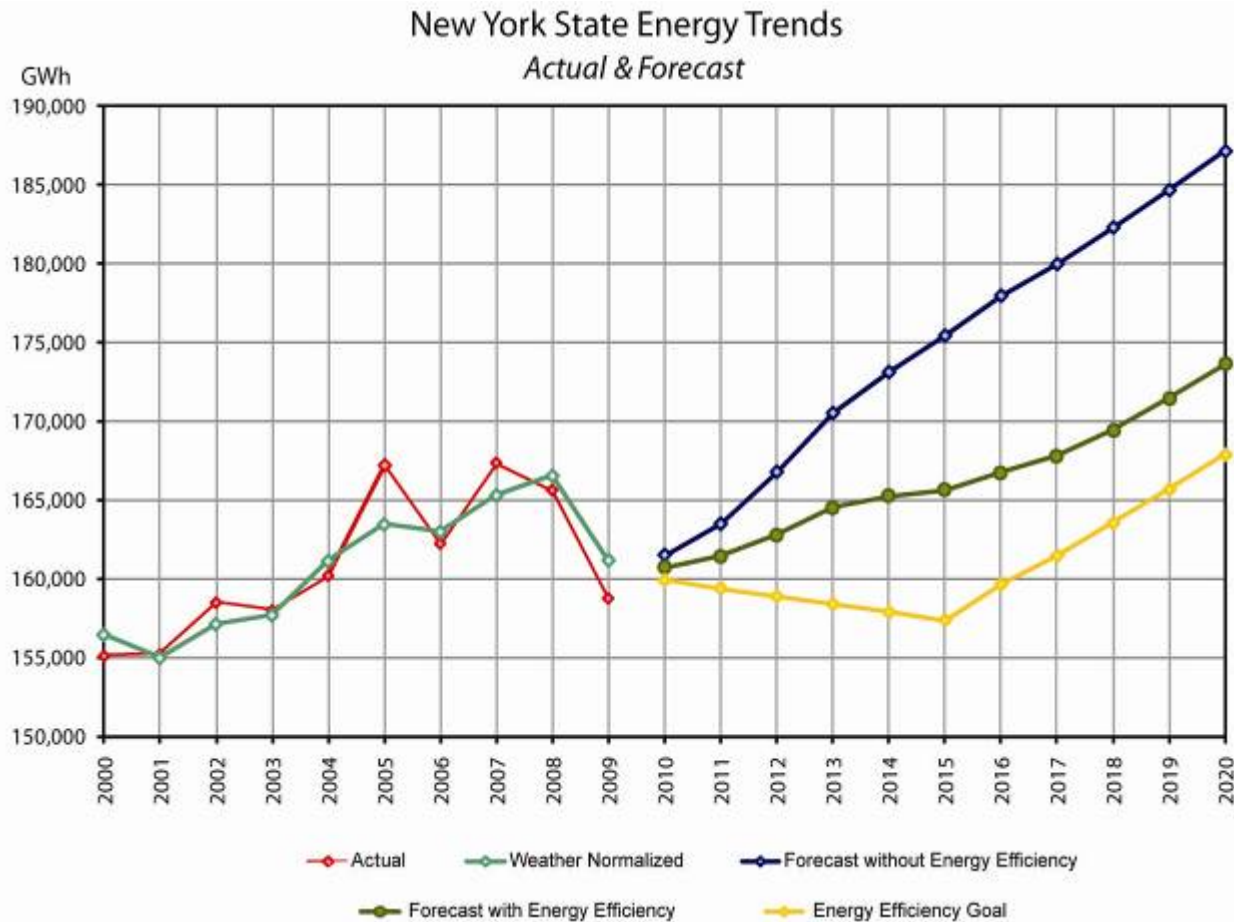
Past Trends

New York State Electric Energy Trends
1996 to 2009 - 12 Month Moving Sum of Electricity Consumption



ANNUAL ELECTRIC ENERGY USAGE			
	2008 GWh	2009 GWh	Change percent
New York State	165,613	158,780	-4.1
<i>New York City</i>	54,835	53,100	-3.2
<i>Long Island</i>	22,461	21,892	-2.5
<i>Upstate</i>	88,316	83,788	-5.1

Looking Ahead



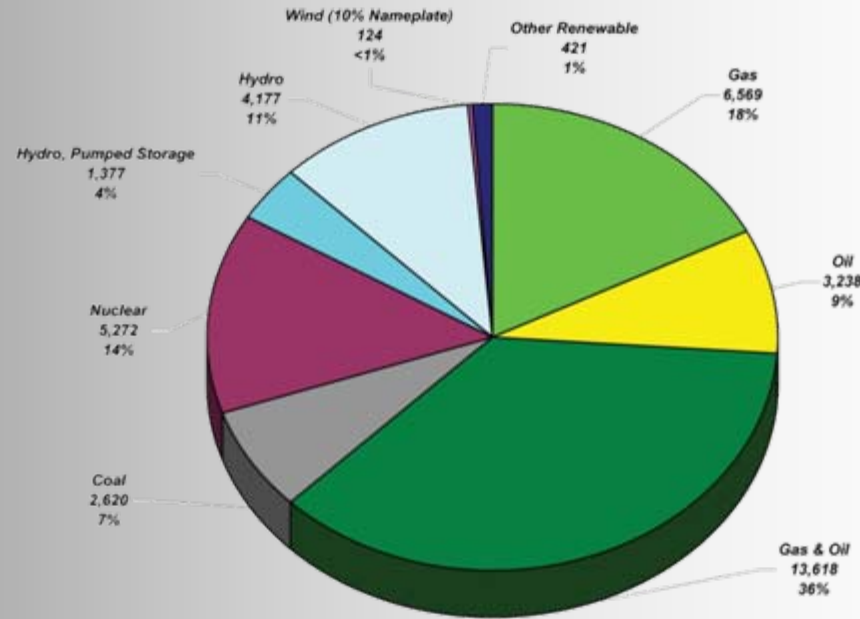
- **Reduce Growth in Electricity Use**
- **Implement New York State's "45 x15" strategy**
- **Continue development of demand response**

New York Fuel Mix

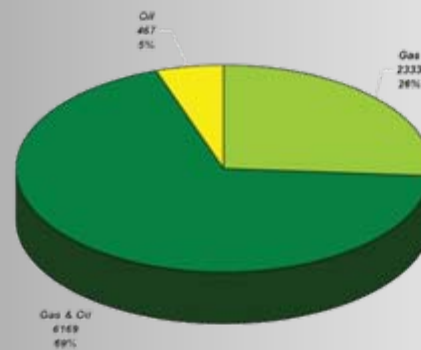
- **Fossil-Fueled Generating Capacity**

- **Statewide – 70%**
- **Long Island – 98%**
- **NY City – 100%**

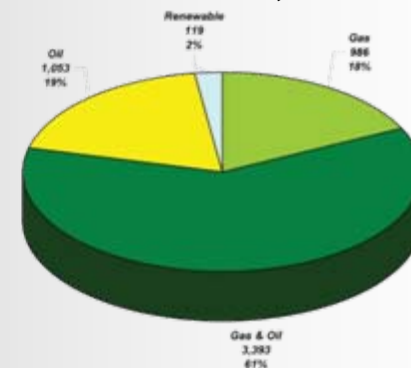
**Statewide
37,416 MW**



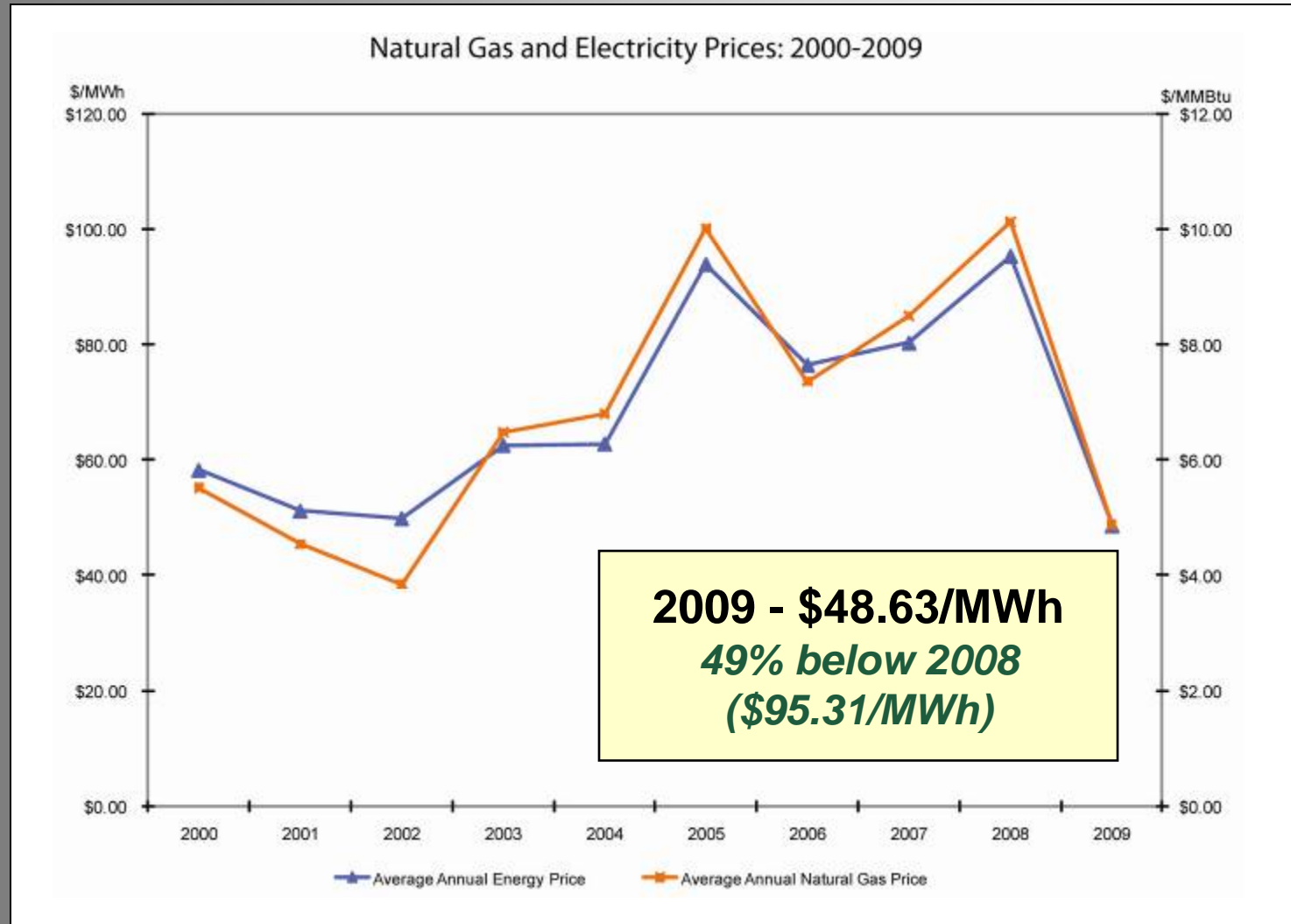
**New York City
8,969 MW**



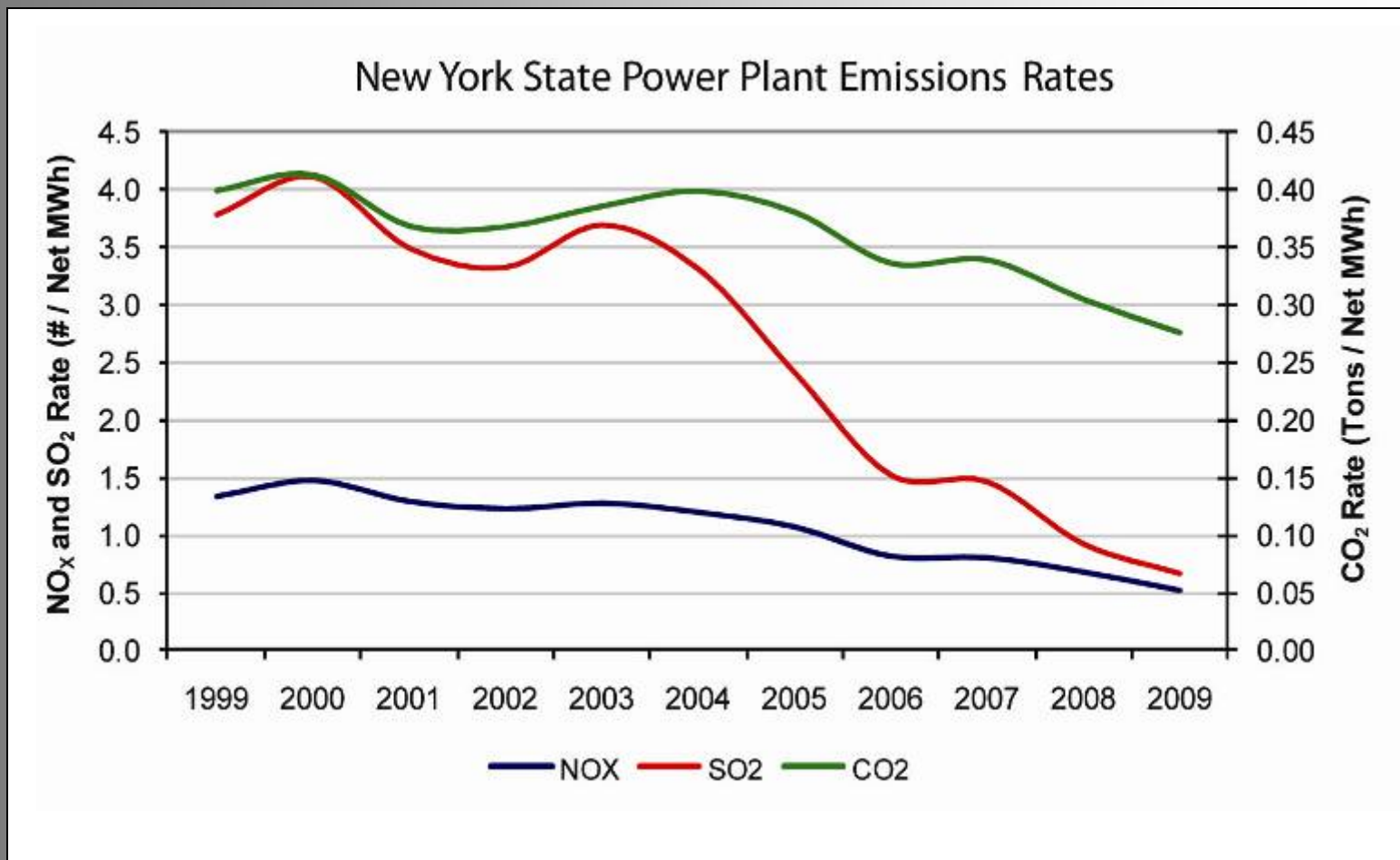
**Long Island
5,551 MW**



Gas & Energy Prices



Emissions



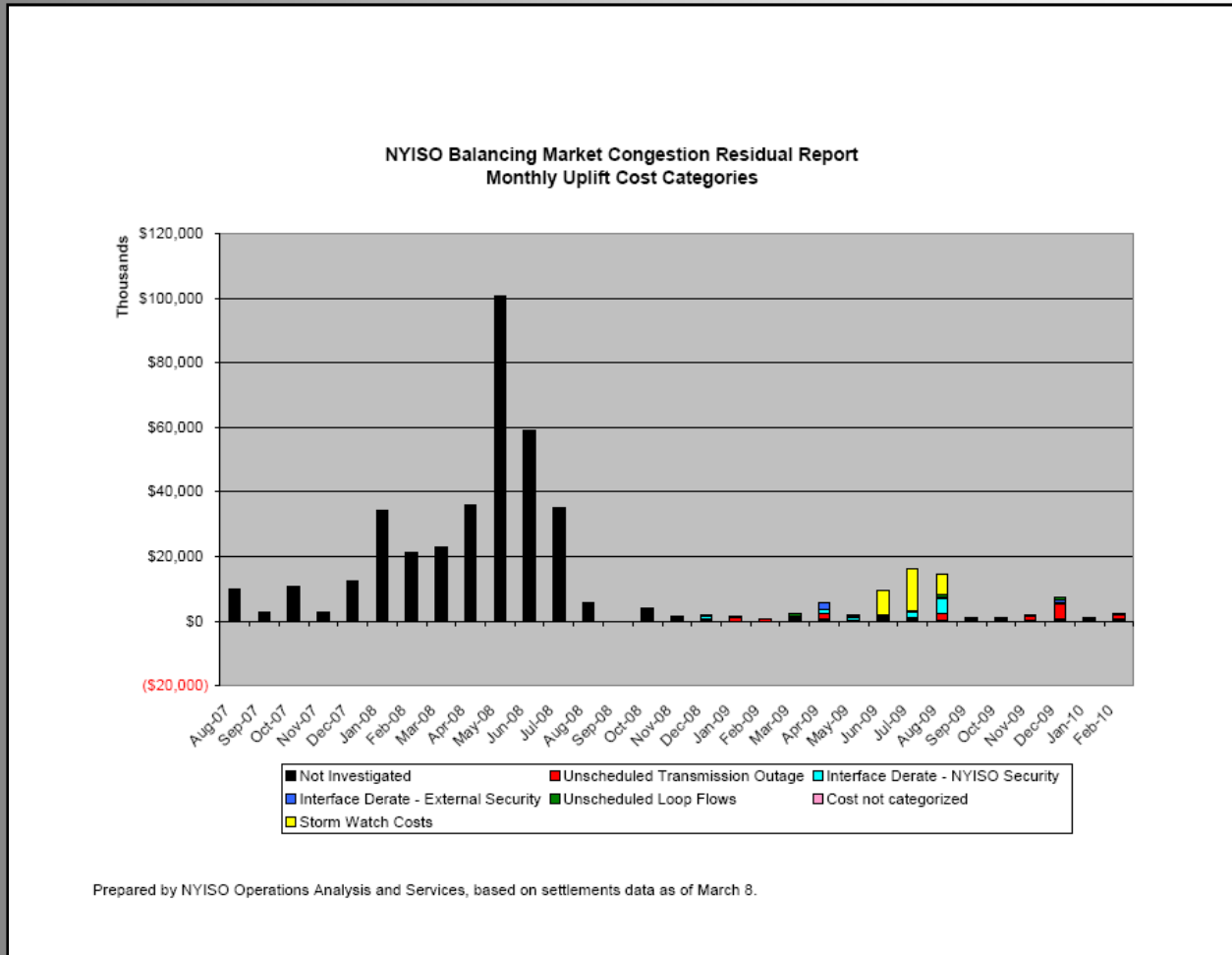
Transmission Congestion



Addressing Issues to Improve the Markets

- **NYISO action on “Lake Erie Loop Flow” led to:**
 - *Enhanced monitoring and analysis to reduce uplift and congestion costs by an estimated \$44 million annually*
 - *Development of Broader Regional Markets initiatives that offer savings estimated at over \$200 million annually to New York*

Reduced Uplift Costs



Transparent Reporting

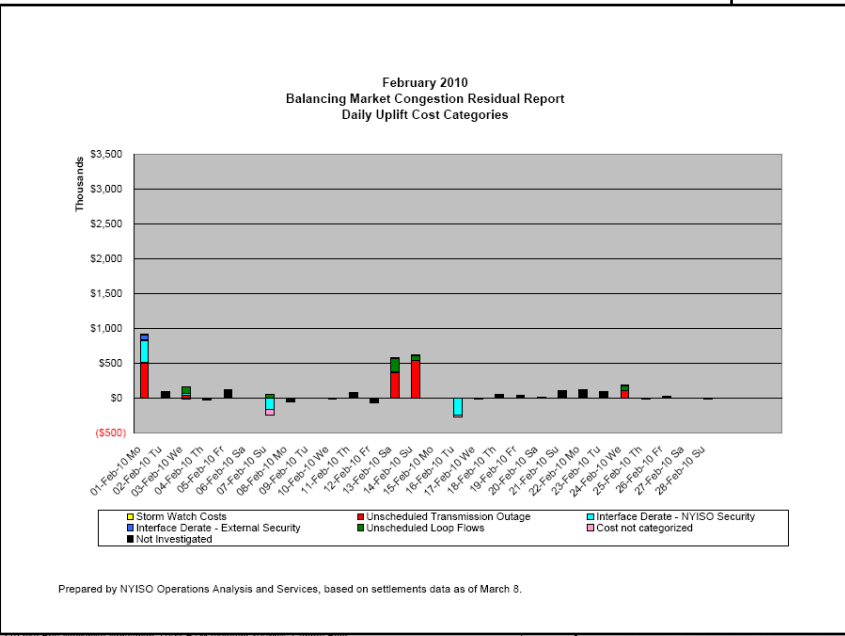
Real-Time Balancing Market Congestion Residual (Uplift Cost) Categories

Category	Cost Assignment	Events Types	Event Examples
Storm Watch	Zone J	Thunderstorm Alert (TSA)	TSA Activations

- Unscheduled
- Interface Deratings
- Interface Deratings
- Unscheduled

- Monthly Breakdown
- 1) Storm Watch
 - 2) At a minimum
 - 3) Uplift costs
 - 4) Investigated

Day's Invest Event Date	Category
20100203	10, 15, 20
20100203	17
20100207	12, 13, 16
20100207	0
20100213	5-10, 12
20100213	6-10, 17
20100213	0-3, 5
20100214	13, 16
20100214	7-11 Lake Erie clockwise circulation, DAM-RTM exceeds 300MW, Central East
20100216	10, 13-14, 17-19 Uprate Central East
20100216	0 HQ-NY Scheduling Limit
20100216	20 NINE DNI Ramp Limit
20100224	6-8 Forced outage Marcy-Coopers Corners 345KV (#UCC2-41)
20100224	6-8 Forced outage Leeds SVC 345KV
20100224	6 Lake Erie clockwise circulation, DAM-RTM exceeds 300MW, Central East

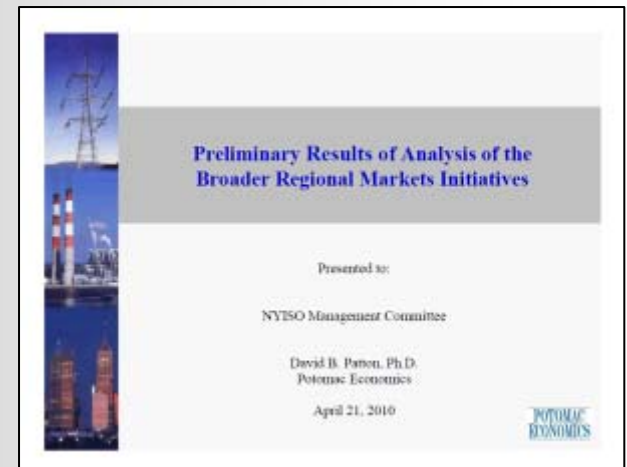


Granular breakdown of cost components

- *Unscheduled Transmission Outages*
- *Interface Deratings (NYCA & External)*
- *Unscheduled Loop Flows*
- *Storm Watch (TSAs)*

Broader Regional Markets

- ***“Significant potential economic efficiencies”*** – Dr. David Patton
- **At normal natural gas prices, estimated annual production cost savings of:**
 - ***\$217 million – NYISO***
 - ***\$368 million – Total***



Policy Trends

- **“45 x 15”**

- *30% renewable electricity supply*
- *15% reduction of demand from forecast levels by the year 2015*

- **Environmental**

- *Carbon controls*
- *Nitrogen oxide emissions limitations*
- *Ozone standards*
- *Water quality protections*

Greener Grid

- **Variable nature of renewable resources requires:**
 - ***Innovative technology***
 - Smart grid
 - Energy storage
 - Plug-in electric vehicles
 - ***Progressive collaboration***
 - Mending seams - Broader Regional Markets
 - Enhanced interregional planning - Eastern Interconnection Planning Collaborative



NEW YORK INDEPENDENT SYSTEM OPERATOR

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.

www.nyiso.com