# NYISO Market & Performance Metrics

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## A Look at the NYISO

- Serving 19 million NY residents
- 10,892 circuit-miles of highvoltage transmission lines
- ~ 400 market participants
- Over \$75 billion in market transactions (1999-2009)
- 38,190 MW of installed generation
- Record peak load -- 33,939 MW

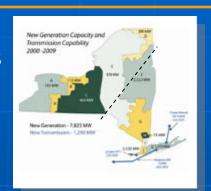


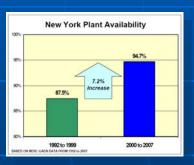


## Reliability

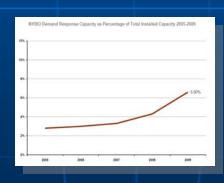
#### Investments Driven by Competition

- Investment in Right Places
  - 80% of new generation
  - 100% new transmission

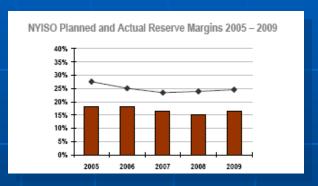


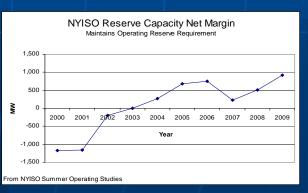


- Improved availability
  - 87.5 % (1992–1999)
  - 94.27% (2001–2007)
- Demand Response
  - > **4,000** enrolled
  - > **2,380 MW** capability



Reliability NeedsMet through 2020







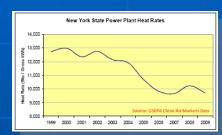
## **Energy Prices**

### Driven by Competition

#### Fundamental changes

#### Increased efficiency

Heat rate improved25% from 1999 to 2009



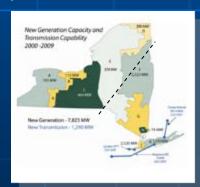
## New York Plant Availability 90% 91.7% 92% 92.7% 93% 94.7% 95% 100% 10

#### Improved availability

 Adds 2,400 MW without new capital costs

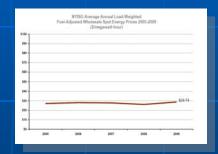
### Investment in Right Places

 \$500 M saving associated with new generation & DR near demand

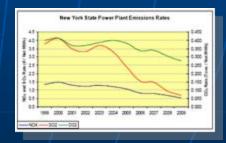


#### Positive outcomes

- \$2.2 Billion in annual energy and capacity savings
- Levelized annual average fueladjusted wholesale energy prices



Double-digit power plant emission reductions



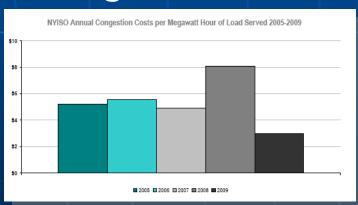


## Congestion Reduction

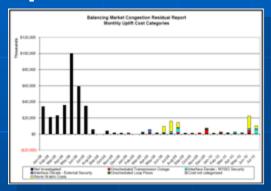
#### Lake Erie Loop Flow



#### Congestion



#### "Uplift" Reduction



\$44 Million annual savings

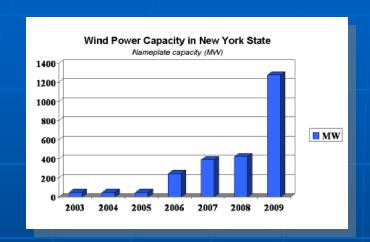
#### **Broader Regional Markets Initiative**

- Enhanced Interregional Transaction Coordination
- Interface Pricing
- Market-to-Market Coordination
- Buy-Through of Congestion

\$362 million in estimated annual savings throughout region



## Renewable Energy & New Technologies



#### Growing Wind Capacity

- Nearly 1,300 MW installed
- > 6,000 MW in queue
- Increasing need for better load forecasting, regulation service, transmission and balancing technologies

## NYISO market design, grid operations & technology

- Centralized wind forecasting system
- Integrated wind into economic dispatch system
- Created regulation-only energy storage product

#### Ramping & Storage

- Hydro Quebec 15-min. scheduling
- 20 MW AES Battery project
- 20 MW Beacon Power Flywheel project



## **Transmission**

NEW CAPACITY 1290 MW





#### **STARS**





#### Reliability

- Low load growth
- Reliability needs met through 2020
- New capacity serving NYC/LI region
- Some retirements anticipated

#### **Economics/Renewables**

- Order 890 economic planning/CARIS
- FERC-approved beneficiary pays methodology
- STARS process
- EIPC



## Summary

- FERC metrics initiative is assisting us to:
  - Sustain and enhance transparency
  - Identify strengths and gaps in order to address challenges
  - Maintain and bolster collaborative efforts with stakeholders, regulators and policy makers

