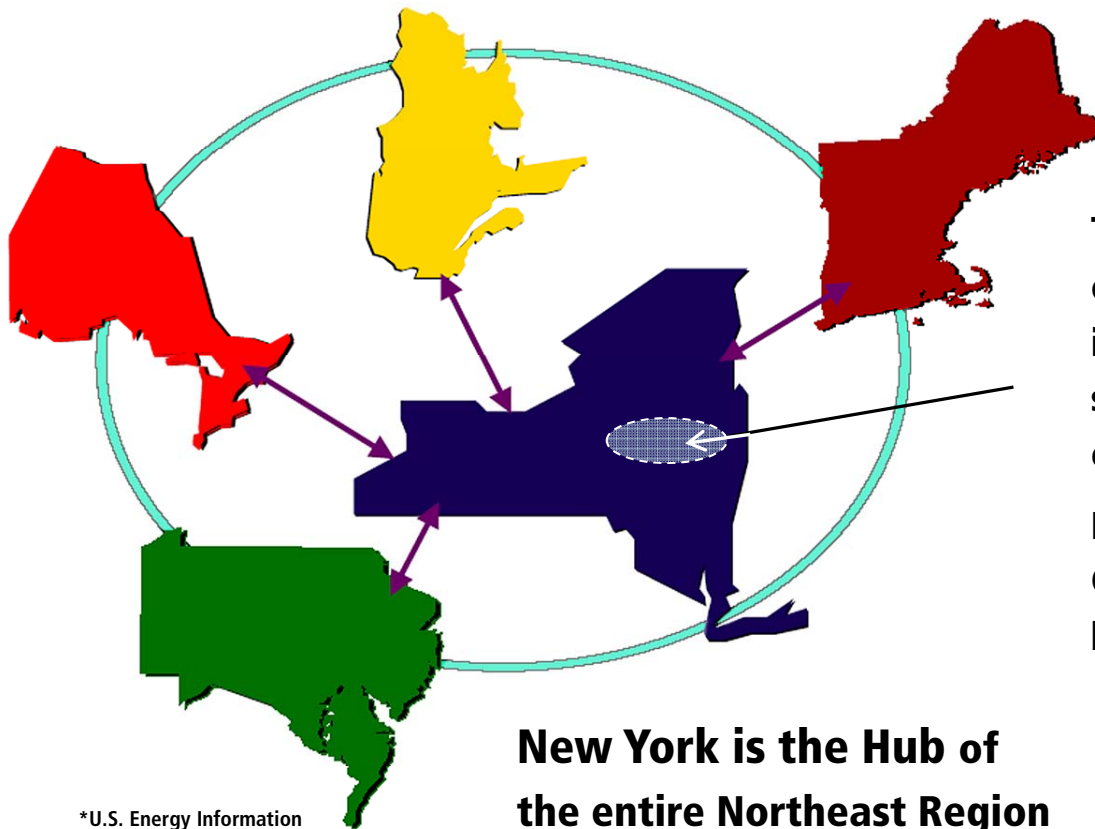


# **An Introduction to New York Regional Interconnection**

**Planned for Service 2016**

# the New York Market

The New York control area is the hub of the entire northeast region standing between New England, PJM, Ontario and Quebec.



**New York is the Hub of the entire Northeast Region**

- New York is the World's 15th largest economy with total retail electricity sales of 148,000,000 MWh valued at more than \$22.5 Billion/year\*.
- NYC and Long Island have the Highest Average Retail Prices for electricity compared with any other large US City\*.

The Central-East Interface is one of the most congested interfaces in the entire Mid-Atlantic NIETC, separating >50,000 MW renewable energy from high density load.

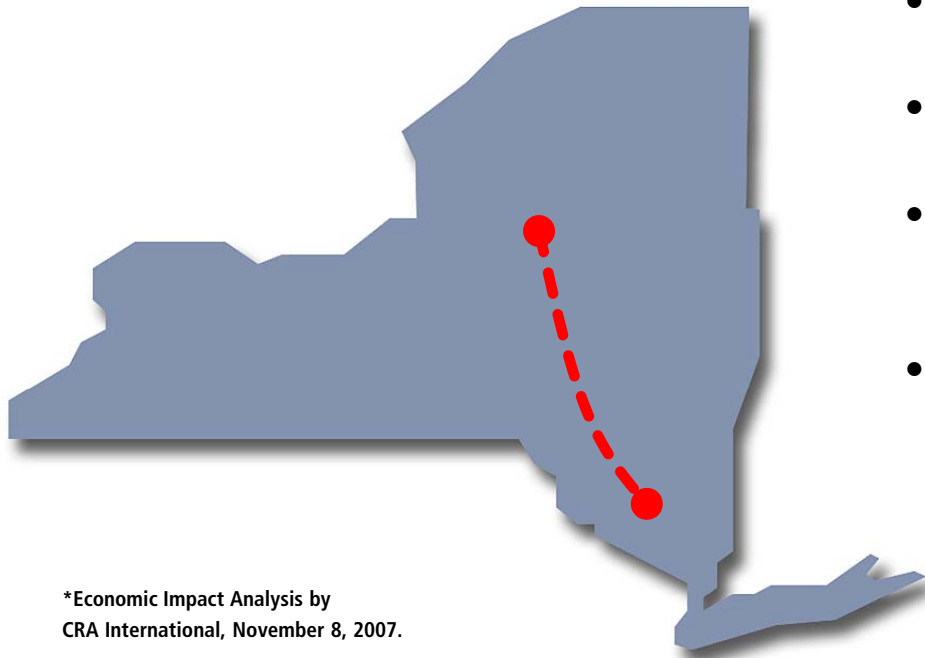
Removing chronic congestion on Central-East will provide significant benefits for NY and the region.

\*U.S. Energy Information Administration for 2007.

# the NYRI Project

**The New York Regional Interconnection (NYRI) proposes to take the first major step in over 20 years towards expanding and modernizing the back-bone high-voltage bulk transmission system.**

**The NYRI Project is a timely response to a high priority public need.**



\*Economic Impact Analysis by  
CRA International, November 8, 2007.

## **BENEFITS**

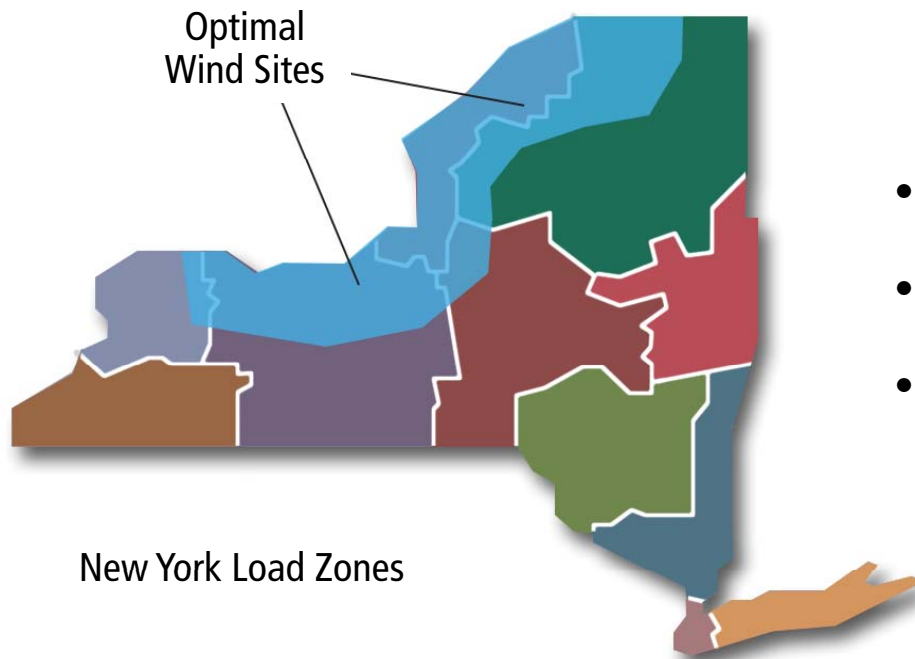
- **\$2 Billion investment in Upstate New York.**
- **Total Statewide Savings of \$570 Million / yr or 4.7% (2012) \$684 Million / yr or 5.7% (2018)\*.**
- **Provides Union Employment, increases the local Tax Base, Improves Reliability.**
- **Reduces Gas Consumption in NYC by 13 billion BTU (+/-10%)\*.**
- **Diversifies Sources of Supply (less reliance on fossil fuels).**
- **Allows Wind, Hydro and Nuclear necessary access to high density load centers.**
- **Privately funded (no burden on tax payers or public agencies).**



# New York Wind Energy

**NYSERDA's procurement of renewable resources (which are predominantly wind) is projected to exceed \$750 Million/year by 2015.**

- **The New York Power Authority ("NYPA") currently has an RFP for 500 MW additional wind capacity that will be located on Lake Erie and Lake Ontario.**
- **Wind is critical to achieving New York's RPS.**

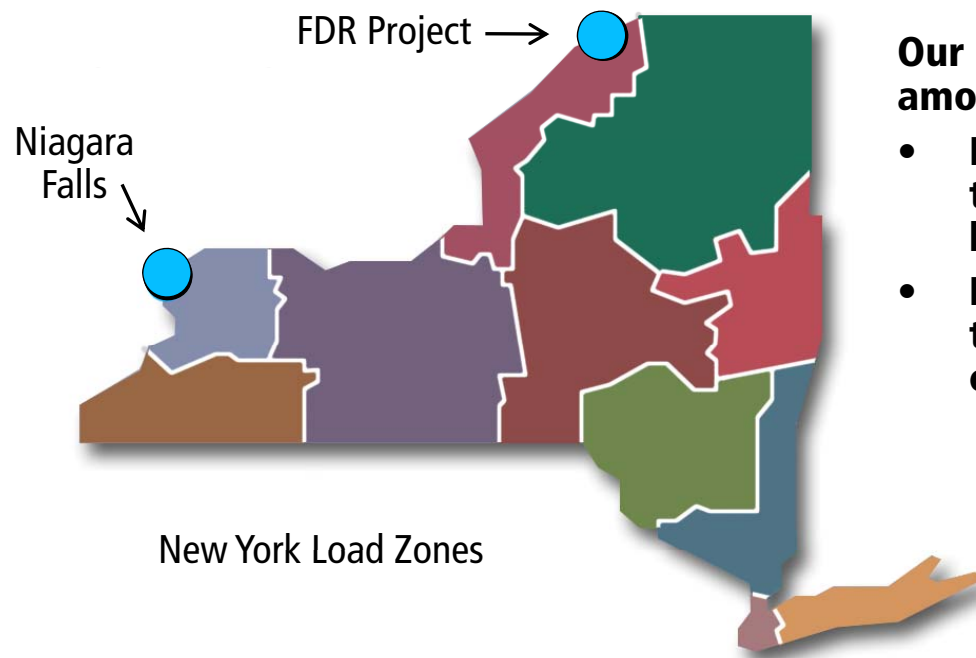


- **Wind resources are bottlenecked in Upstate New York.**
- **Without new transmission, NYC has only limited access to renewables.**
- **NYRI provides Wind, Hydro & Nuclear access to high-density load centers.**

# New York Hydro Energy

**The New York Power Authority owns and operates New York's two principal hydro facilities located at Niagara Falls (2440 MW) and FDR Project (800 MW), both Upstate.**

- **These assets are fully developed;**
- **NYPA retains "grandfathered rights" (TCCs) to use the Central-East Interface.**



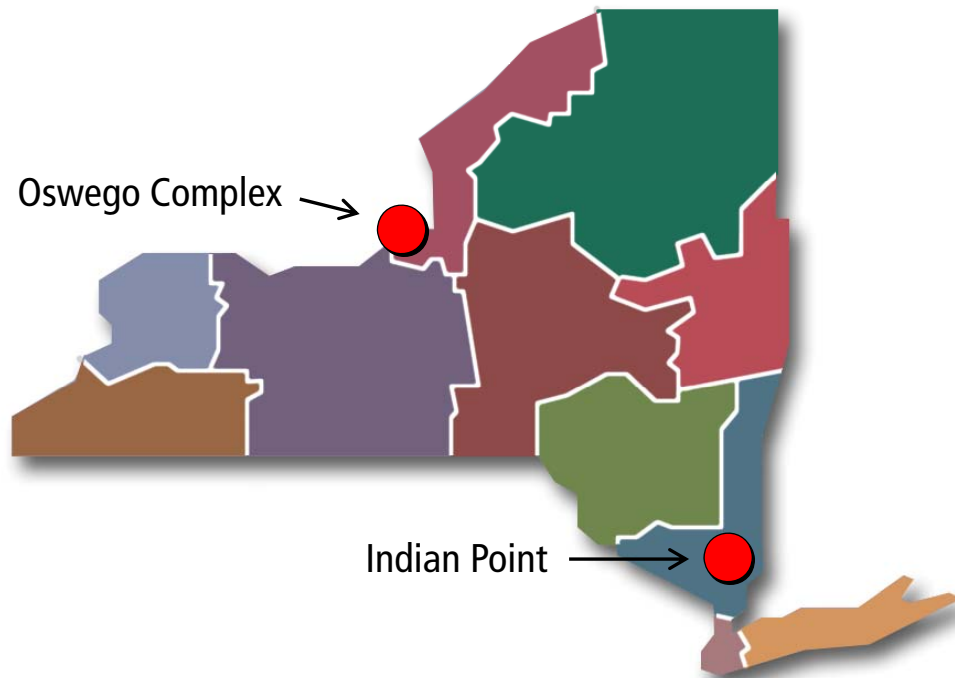
**Our northern neighbors are building large amounts of hydro and wind capacity:**

- **Hydro Quebec is investing \$5 Billion/yr. to add 4000 MW additional (base-load) hydro capacity to its network.**
- **Newfoundland & Labrador are seeking to develop 3000 MW additional hydro capacity on the lower Churchill River.**



# New York Nuclear Energy

**The White House has been supportive of nuclear, despite the freeze in discretionary spending. President Obama, who stressed his support for nuclear power during his campaign, wants to boost loan guarantee authority for new nuclear facilities by \$36 Billion, for a total of \$54 Billion.**



- **Indian Point is under constant political attack - operating license extensions are at risk.**
- **Loss of Indian Point would eliminate over 2000 MW on the congested side of Central-East and UPNY/SENY interfaces.**
- **Constellation is proposing a new \$6 Billion Nuclear Facility (1600 MW) for Oswego, NY.**

**Additional transmission is needed to relieve congestion on the Central-East Interface for additional nuclear capacity to be built.**

**NYRI is the only Project designed specifically to relieve congestion on both the Central-East and UPNY/SENY interfaces.**

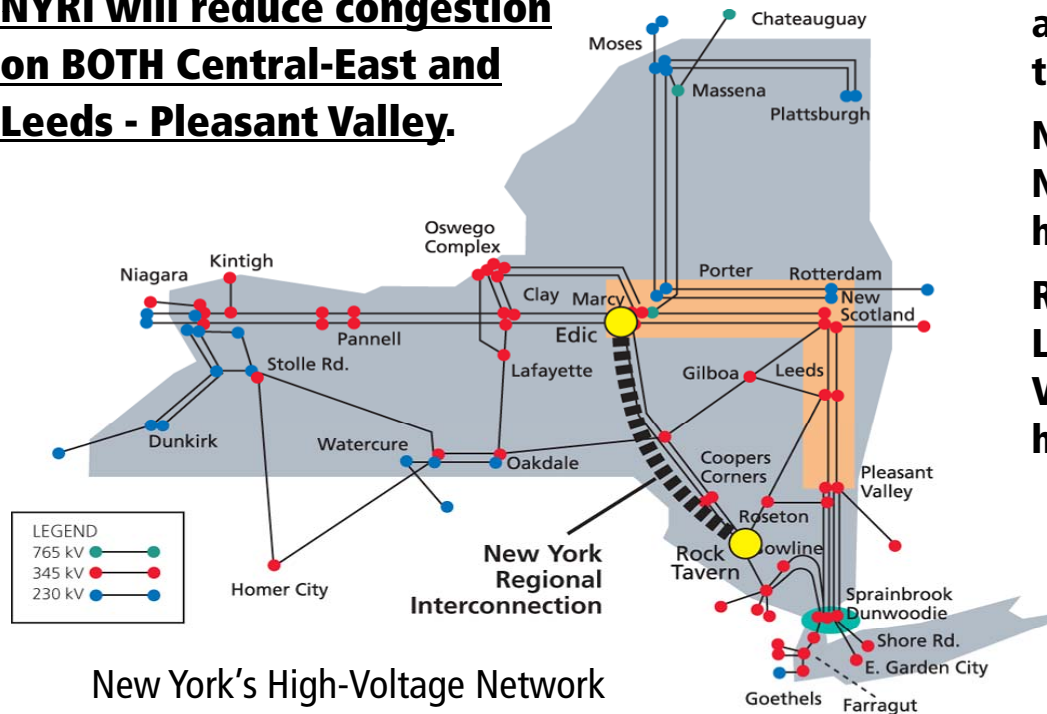


# New York Congestion

**Congestion in the New York transmission system is concentrated across three major interfaces:**

- a. the Central-East Interface (between Utica and Albany);
- b. the Leeds-Pleasant Valley Interface;
- c. the NYC Cable Interface.

**NYRI will reduce congestion on BOTH Central-East and Leeds - Pleasant Valley.**



New York's High-Voltage Network

The DOE has included most of New York in the Mid-Atlantic National Interest Electric Transmission Corridor ("NIETC") by determining that alleviating congestion is economically vital to the national interest.

The cost of congestion varies widely depending on critical assumptions and the "metrics" that are used in the studies.

No substantial addition to New York's high-voltage system has occurred since 1988.

Residential Retail Prices for NYC, Long Island and the lower Hudson Valley always rank among the highest in the nation.



# New York Ratepayers



**The Average Retail Price for Electricity in New York State is consistently among the highest for any State (excluding Hawaii).**

**Residential Retail Prices in New York City and Long Island are approximately 33% higher than the State average!\***

- **No new sites are available in NYC to site additional in-city generation.**
- **The Lower Hudson Valley, Long Island and New York City (zones G, H, I J and K) have only limited access to renewables.**

## RESULTS MATTER:

**Many stakeholders prefer to ignore high RETAIL prices and strongly resist any initiative that would lower prices and provide greater access to lower cost, renewable energy from Upstate.**

**Long suffering ratepayers are held hostage in a captive market.**

### New Yorkers Pay the Most

High Prices Hobble the New York State Economy

cents / kWh Average Residential Retail Price for Electricity

NYC and LI	20.00 *			
New York	15.22			
Pennsylvania	9.08			
Illinois	8.46			
North Carolina	7.83			
Virginia	7.12			

Source: U.S. Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report" (2007)

\*The Manhattan Institute Special Report, "New York Unplugged", March 2008.





# New York's Transmission Owners

New York's Bulk Transmission System is owned by six (6) publicly traded companies and two authorities, who are responsible to provide reliable electricity at the lowest possible cost:

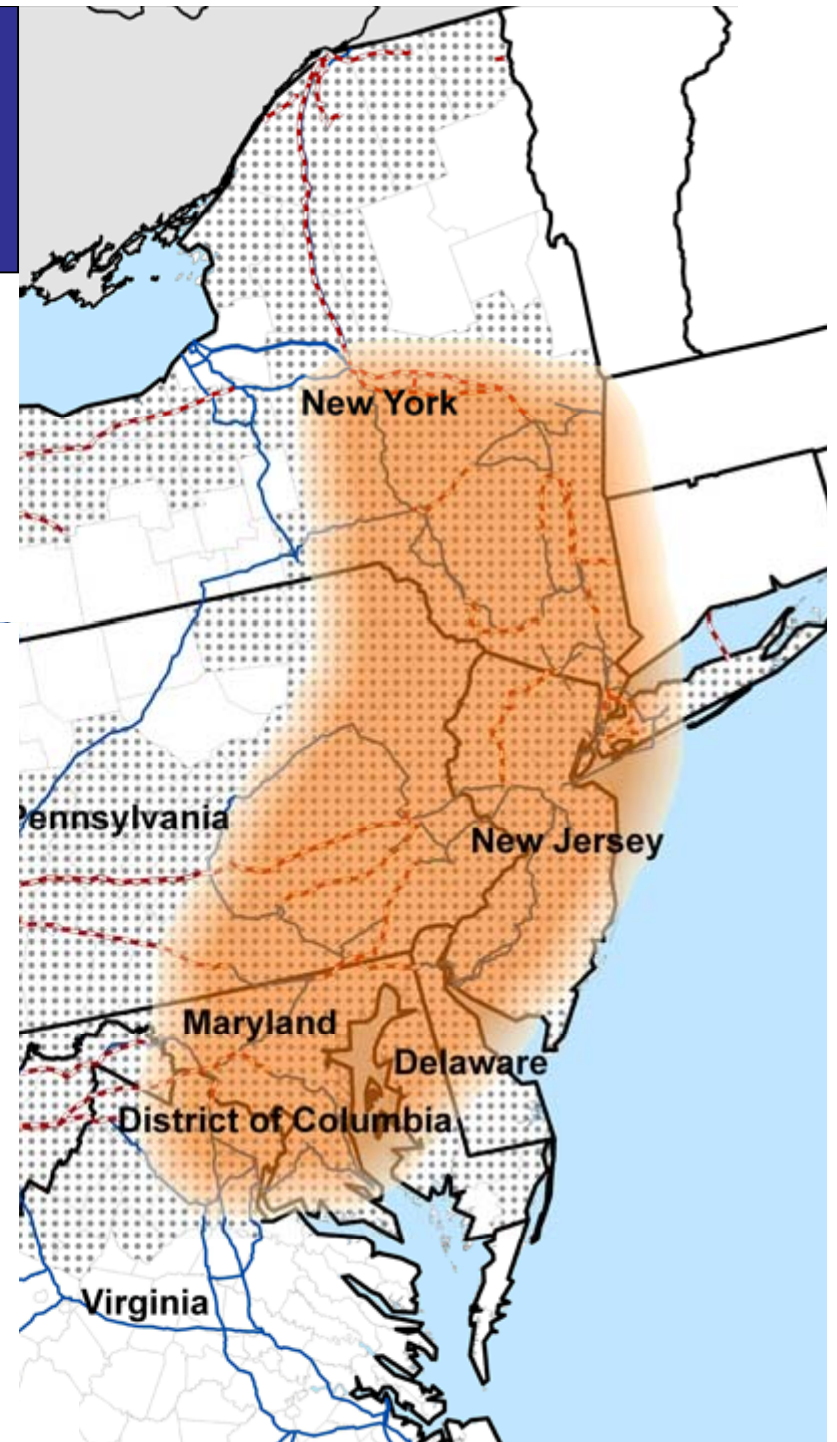
- Reinforcing the high-voltage system often highlights weaknesses in the lower voltage distribution networks. Therefore, TOs have a vested interest in who pays ancillary costs.
- None of New York's Transmission Owners are currently proposing major Transmission Projects outside their service territories that would address chronic congestion that was responsible for NY being included in the National Interest Transmission Corridor ("NIETC").
- The NYPSC is not currently welcoming rate increases for utilities. As a result, TOs are not inclined to undertake large capital intensive Projects (outside their service territories) *because of the difficulty recovering their capital investment without a rate increase.*



# National Interest Electric Transmission Corridor

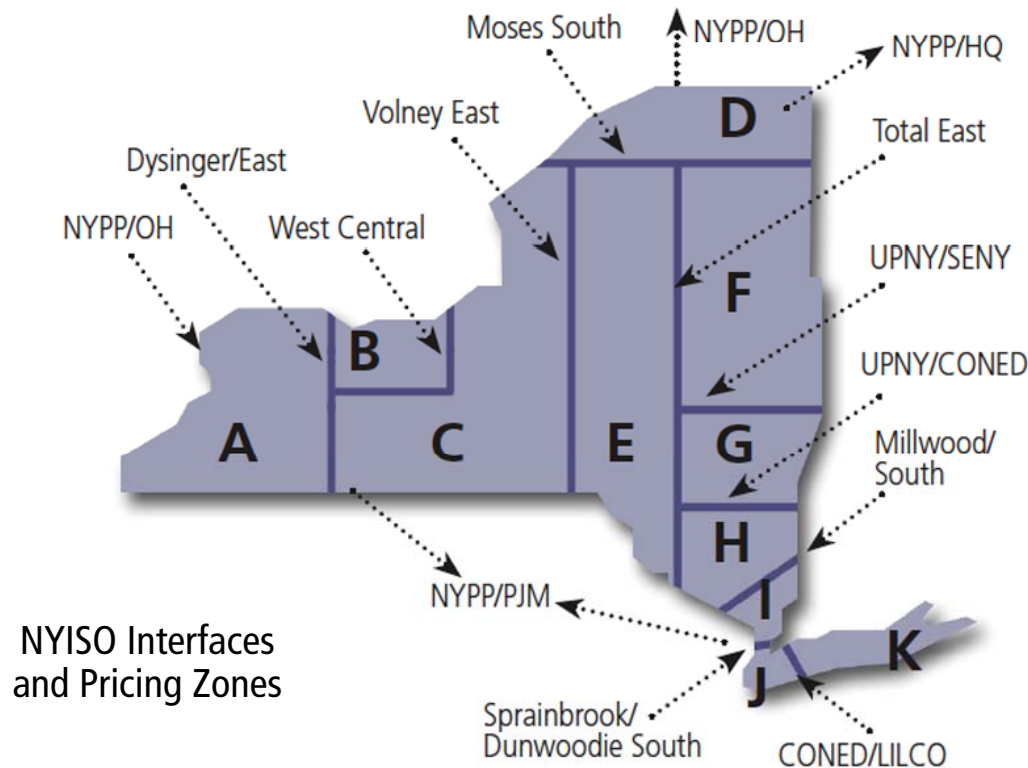
**EPACT 2005 directed the DOE to identify areas with critically high congestion costs.**

- **DOE designated only two NIETC sites including the Mid-Atlantic NIETC.**
- **NYRI Project is 100% in the NIETC.**
- **Reduction of congestion in an NIETC is a Federal mandate and national imperative.**
- **The New York control area is the only control area in Mid-Atlantic NIETC not proceeding with large high-voltage Projects that address chronic congestion:**
  - a. **New England - \$6 Billion.**
  - b. **PJM - \$6 Billion.**
  - c. **Quebec- \$5 Billion each year in generation and transmission!**



# New York's Renewable Portfolio Standard

In December 2009, the Public Service Commission (PSC) expanded the RPS goal to increase the proportion of renewable electricity consumed by New Yorkers from 25 percent to 30 percent by 2015, a goal set by Governor Paterson.



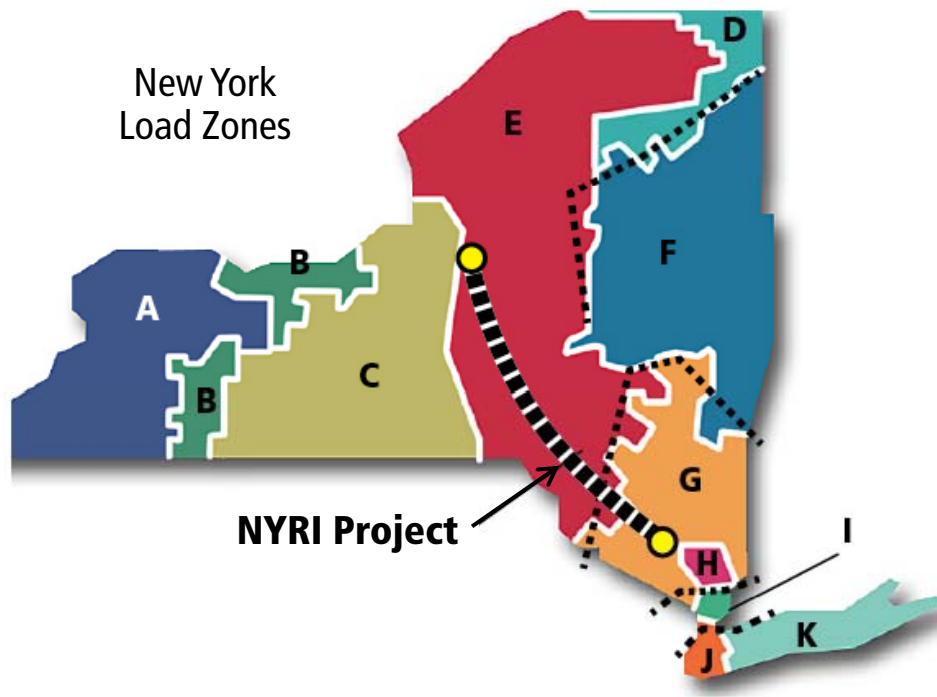
NYISO Interfaces  
and Pricing Zones

- The bulk of New York's Renewable Resources are located Upstate.
- NYSERDA's procurement of 1400 MW wind will cost \$750 Million / yr. by 2015.
- NYPA has 500 MW RFP for additional Wind Capacity on the Great Lakes.
- Wind provides tax revenue for local governments, clean, renewable energy for the State and rental income for local landowners.
- New York and New England Governors have opposed new transmission projects from the mid-west in favour of developing local/regional renewable resources.



# NYRI Project Description

The NYRI Project will greatly reduce congestion on two severely constrained interfaces, namely: Central-East (between upstate New York and the capital region) and; UPNY-SENY (between the capital region and the Lower Hudson Valley).



## TECHNICAL DESCRIPTION:

- Approx. 190-mile 2-way, controllable, state-of-the-art HVDC transmission line.
- \$2 Billion Investment.
- Northern converter station connects to Edic substation, Oneida County.
- Southern converter station connects to Rock Tavern substation, Orange County.
- Rated power flow of 1200 MW at  $\pm 400\text{kV DC}$ .
- 90% of Project will run parallel to existing utility corridors.
- Capable of providing reactive power to stabilize voltages and improve system reliability.

# NYRI Economic Benefits



## Total Statewide Savings of \$570 Million/year (2012) to \$684 Million/year (2018)\* or \$14.2 Billion to \$17.1 Billion for 25 years:

Zone	Change in Consumer Cost (2006\$, Millions)			Percent Change		
	2012	2015	2018	2012	2015	2018
Zone A: West	\$ (3)	\$ (20)	\$ (35)	-0.3%	-2.4%	-3.8%
Zone B: Genesee	\$ 4	\$ (7)	\$ (18)	0.6%	-1.2%	-2.9%
Zone C: Central	\$ 9	\$ (5)	\$ (22)	1.0%	-0.6%	-2.5%
Zone D: North	\$ 7	\$ (1)	\$ (16)	1.7%	-0.4%	-4.6%
Zone E: Mohawk Valley	\$ 11	\$ 3	\$ (4)	3.0%	0.9%	-1.0%
Zone F: Capital	\$ (14)	\$ 3	\$ 37	-2.1%	0.5%	6.8%
Zone G: Hudson Valley	\$ (114)	\$ (121)	\$ (136)	-13.1%	-15.0%	-15.7%
Zone H: Millwood	\$ (26)	\$ (26)	\$ (27)	-11.9%	-13.4%	-13.3%
Zone I: Dunwoodie	\$ (72)	\$ (73)	\$ (75)	-12.8%	-14.3%	-13.8%
Zone J: New York City	\$ (257)	\$ (252)	\$ (270)	-5.3%	-5.6%	-5.6%
Zone K: Long Island	\$ (107)	\$ (127)	\$ (127)	-5.5%	-7.1%	-6.6%
<b>NYISO Total</b>	<b>\$ (570)</b>	<b>\$ (628)</b>	<b>\$ (684)</b>	<b>-4.7%</b>	<b>-5.5%</b>	<b>-5.7%</b>



# Summary of Benefits

**Go to:** [www.nyri.us](http://www.nyri.us)

## **The NYRI Project is:**

- **good for the entire New York economy (increased tax revenue, reduced energy costs, greater reliability, improved air quality for NYC);**
- **good for the job market (construction jobs, maintenance jobs, potential for additional \$8 Billion investment Upstate);**
- **good for the environment (reduces use of dirty in-city generators, promote development and use of nuclear, allow greater access to hydro and wind resources from upstate New York and Quebec);**
- **good for ratepayers (lower prices, greater reliability, allows the market to function more efficiently by enabling a more competitive marketplace with greater choice of suppliers for consumers).**
- **good for taxpayers (the NYRI Project does not rely on ARRA money, tax increases or participation from taxpayer-funded state agencies).**

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