

How Capacity Markets Address Resource Adequacy

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Outline

- ◆ **The Roles of the NYISO**
- ◆ **NYISO Capacity Market**
- ◆ **Planning Outcomes**
- ◆ **Forward Capacity Market (FCM) Consideration**
- ◆ **Current Status**

The Roles of the NYISO

Reliability

Managing the efficient flow of power on nearly 10,900 miles of high-voltage transmission lines -- from more than 500 generating units -- on a minute-to-minute basis, 24 hours-a-day, 7 days-a-week.

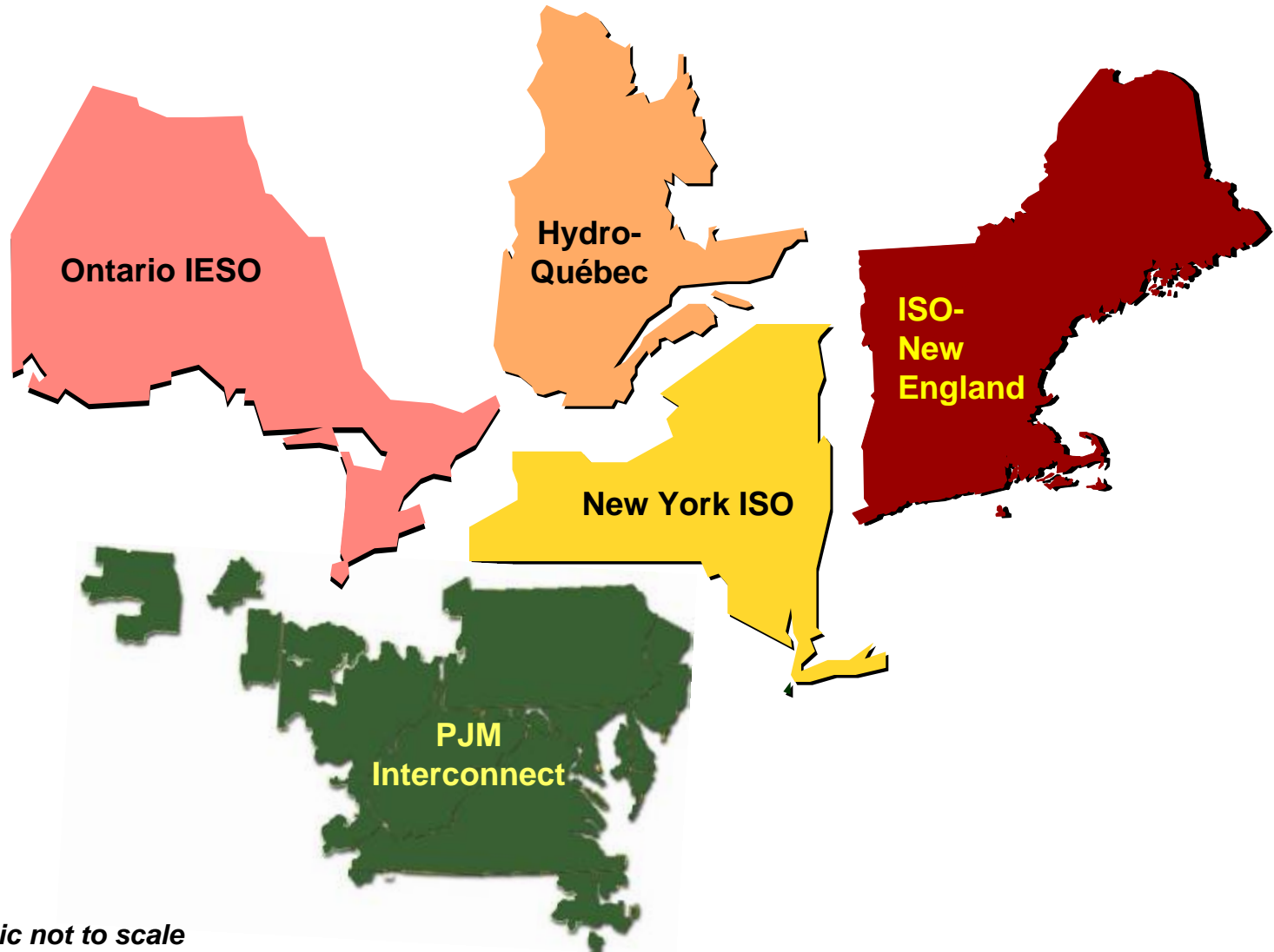
Markets

Administering & monitoring New York's wholesale electricity markets -- totaling \$11 Billion annually -- running auctions that match the buyers and sellers of power.

Planning

Conducting long-term assessments of New York State's electricity resources and needs and evaluating the feasibility of proposed projects to meet those needs.

NYISO at the Crossroads



Graphic not to scale

NYISO Capacity Market

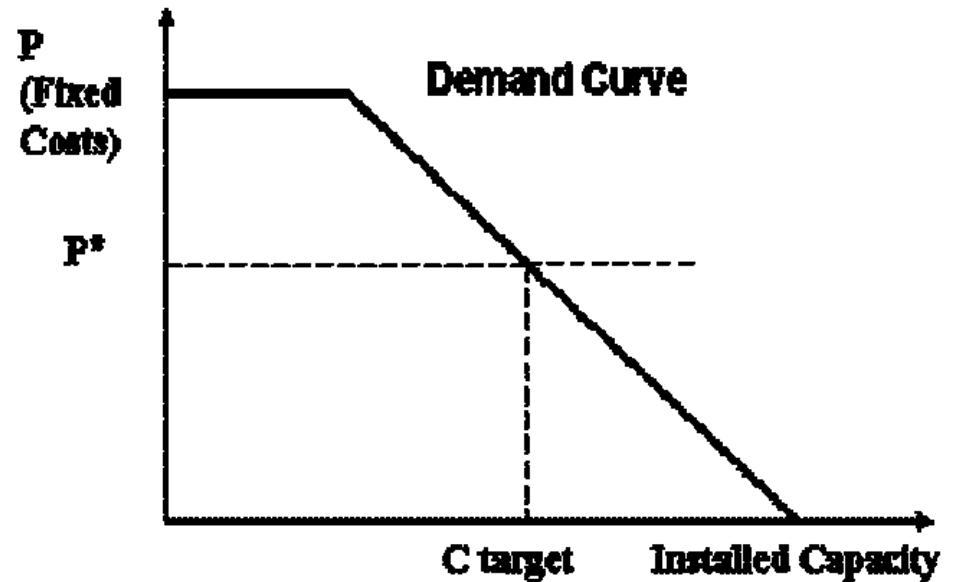
- ◆ **Install Capacity (ICAP) Requirements are set for the upcoming capability year**
- ◆ **Load Serving Entities (LSEs) can meet their ICAP requirements by:**
 - ***Self-Supply***
 - ***Bilateral Transactions with Suppliers***
 - ***Forward Auctions (6-month strip and monthly)***
 - ***Deficiency/Spot Market Auctions***

Locational ICAP

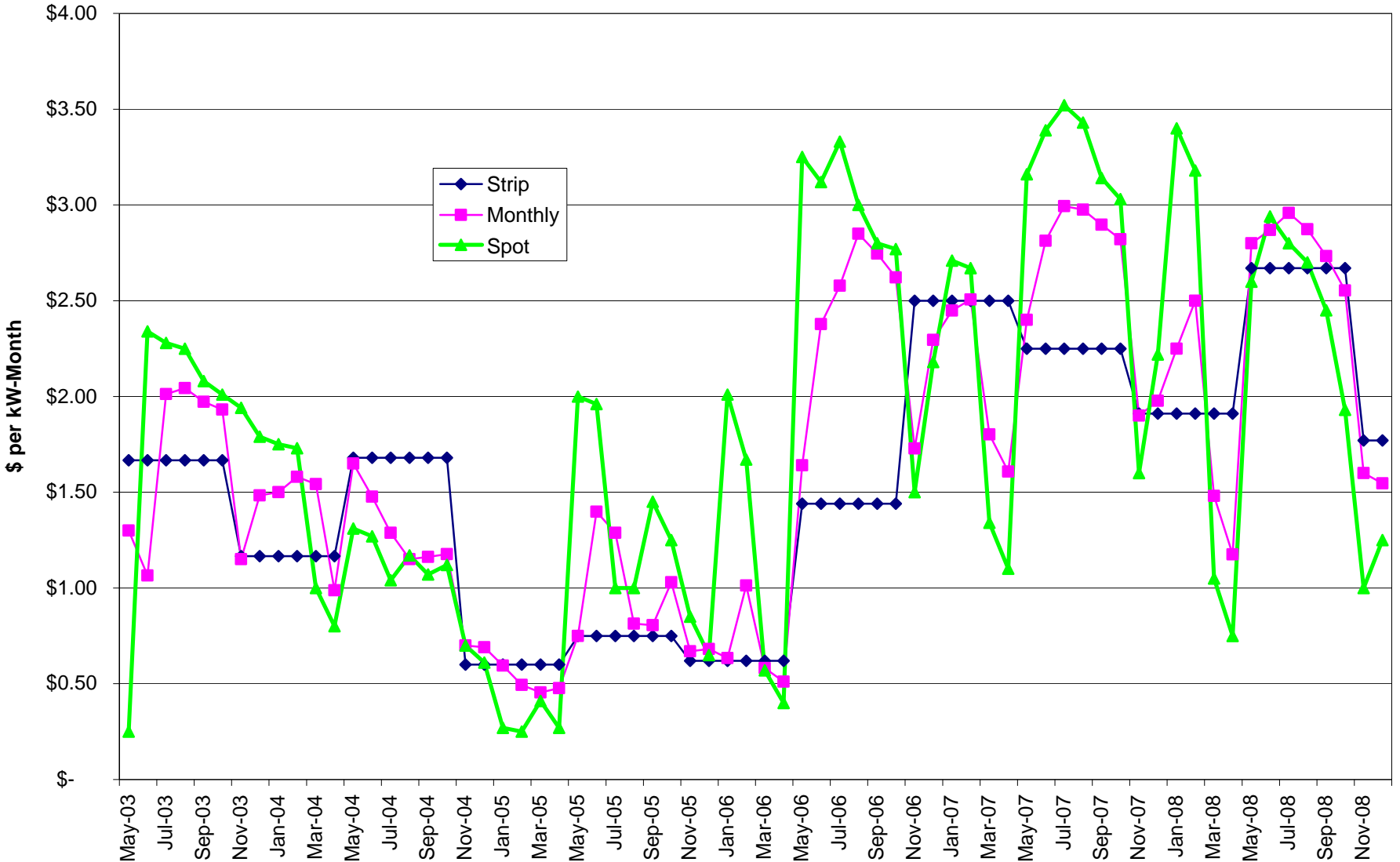
- ◆ **Due to transmission constraints into certain localities, areas or zones, some LSEs must procure at least some of their ICAP requirements from resources electrically located within that locality**
 - *New York has locational requirements -- for two transmission constrained zones:*
 - New York City and
 - Long Island

Demand Curve

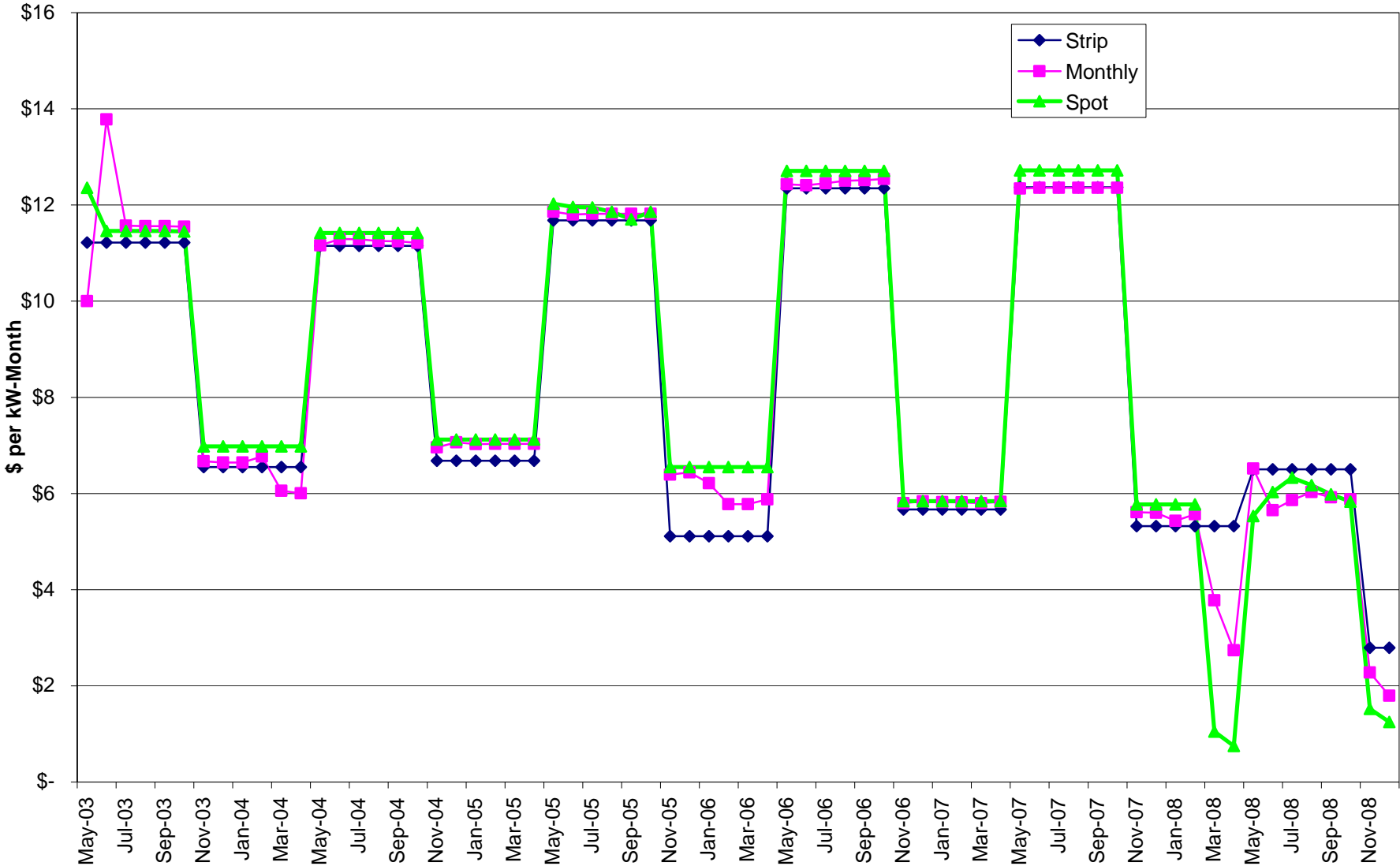
- ◆ Demand Curve used as proxy for LSE Bids
- ◆ Improves traditional ICAP market
- ◆ Increases system reliability by valuing additional ICAP above the requirements
- ◆ Reduces price volatility & sends more stable revenue signal for new resources
- ◆ Continues to ensure a competitive, fair, and non-discriminatory market for capacity
- ◆ Replaced previous Deficiency Auctions



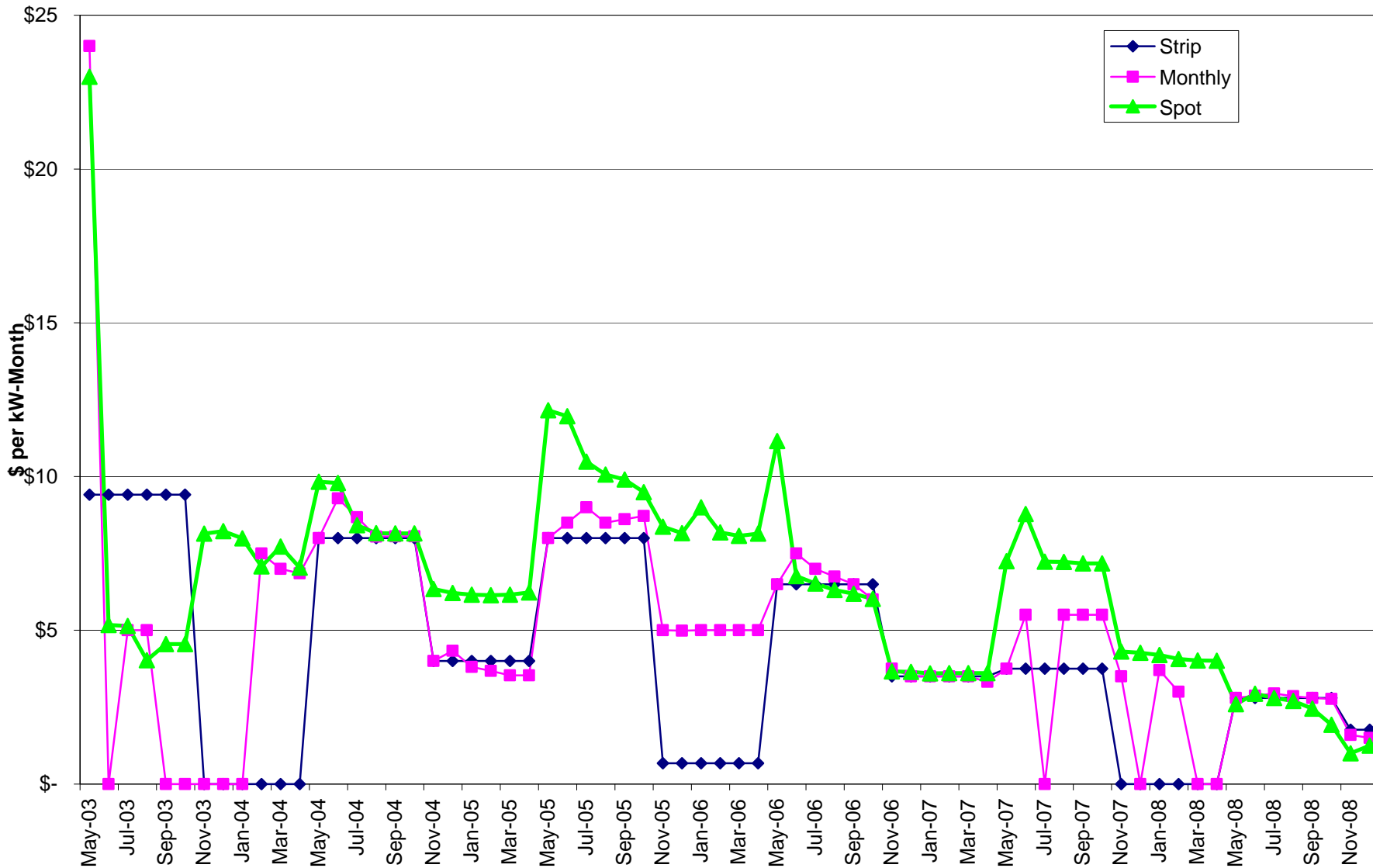
NYCA-wide (with Imports) Market Clearing Prices May 2003-Dec 2008



New York City Market Clearing Prices May 2003- Dec 2008



Long Island Market Clearing Prices May 2003- Dec 2008



Planning Outcomes

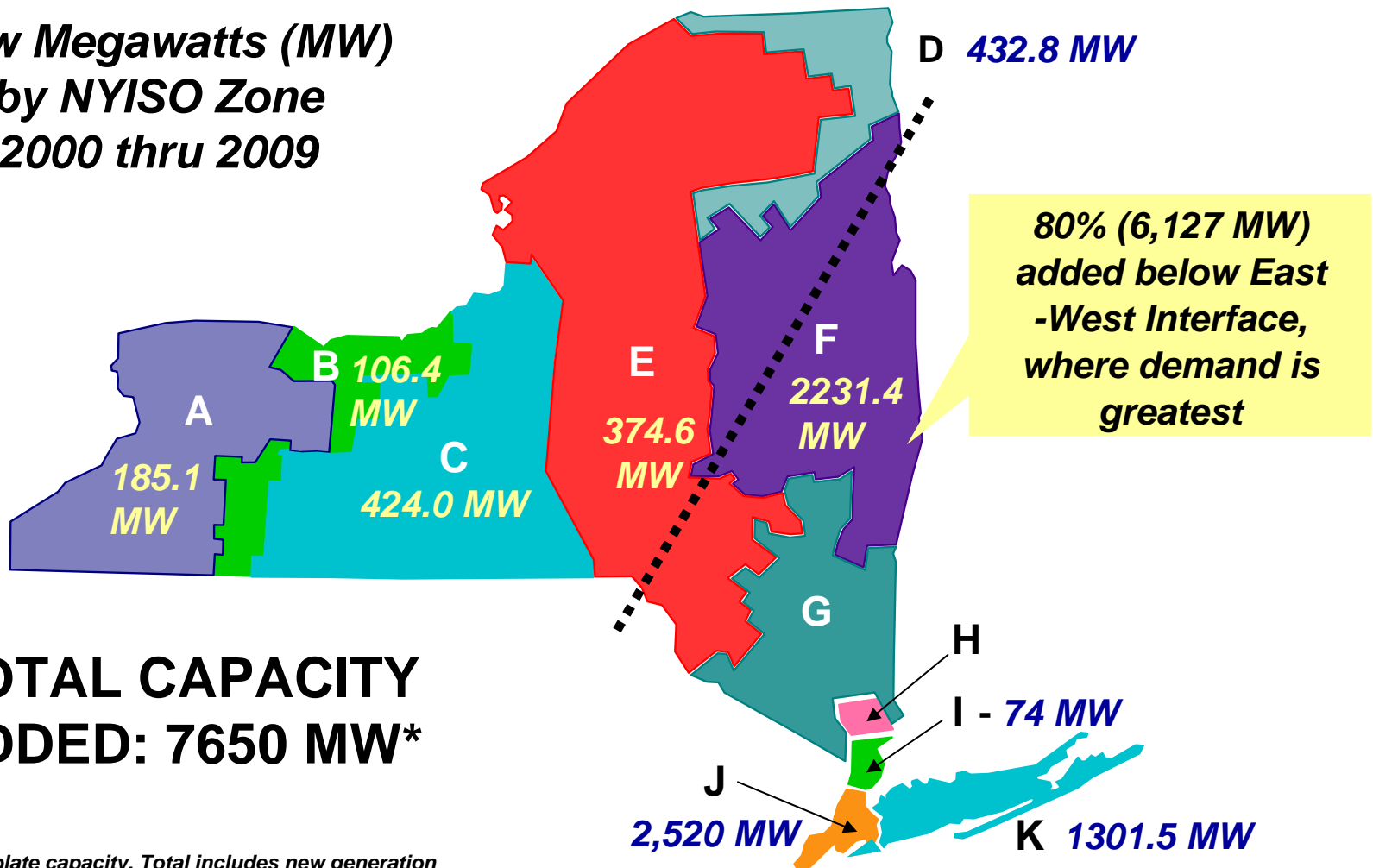
◆ **Market-based Solutions**

■ *2000-2009*

- **New Generation**
- **New Transmission**

New Generation

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

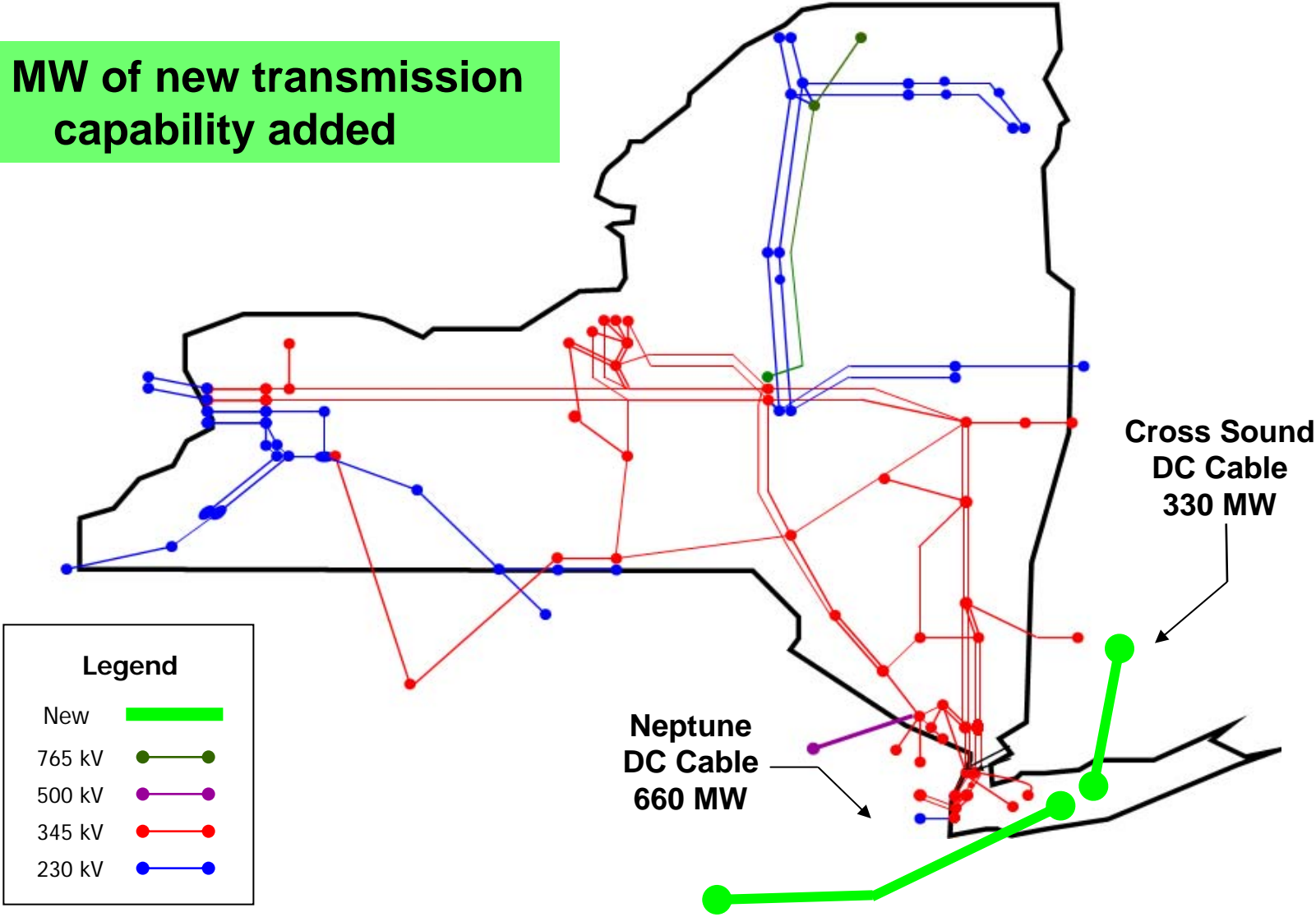


**TOTAL CAPACITY
ADDED: 7650 MW***

** Project nameplate capacity. Total includes new generation & upgrades of existing generation developed by both public power and private companies*

New Transmission

990 MW of new transmission capability added



FCM Model Considered at NYISO

- ◆ ***Voluntary Auctions***

- *Two voluntary auctions in five and six years ahead of the commitment year (years y-6 and y-5), open to all buyers and sellers, similar to the current strip and monthly auctions in that sellers do not identify the physical capacity at the time of the auction.*

- ◆ ***Forward Procurement Auction Certification***

- *FP auction is intended to procure the total forecast unforced capacity requirement for the commitment year. Approximately six months prior to the FP auction, all players must present qualifications for identified physical capacity. All certified advance auction capacity, bilaterals, and self-supply would be netted against the NYISO forecast requirement to determine the amount of capacity to be bought by the NYISO in the FP auction.*

FCM Model Considered at NYISO

◆ ***Forward Procurement (FP) Auction***

- ***The NYISO will determine the forecast requirement for the commitment year “y” based on the current ICAP requirements, and the forecast of commitment year load.***
 - All certified advance auction capacity, bilaterals and self-supply are offered at zero
 - NYISO bids on behalf of commitment period load to purchase 100% of the forecast requirement; NYISO FP auction purchases will be allocated to LSEs just before the spot auction for the commitment year.
 - LSEs can bid to buy incremental amounts above the 100% requirement.

◆ ***Physical Reconfiguration Auctions***

- ***Three physical reconfiguration auctions are considered.***
 - The NYISO buys added capacity if the load forecast rises or sells capacity if the load forecast declines.
 - The NYISO buys replacement capacity if capacity qualified in the FP auction process fails to meet a development milestone or will be unable to perform. (This auction would be held at year y-3, y-2 and year y-1 and accelerated if there was a significant failure of qualified capacity.)

FCM Model Considered at NYISO

◆ **Voluntary Reconfiguration Auction**

- *Voluntary auction positions are tracked for purposes of the FP allocation and, while such positions can always be traded bilaterally, a voluntary auction position reconfiguration auction facilitates such trades.*
- *A voluntary reconfiguration auction could be held at year-1.5 and buyers in the voluntary auction could sell their positions and marketers and LSEs could buy voluntary positions.*
- *Virtual traders can buy capacity in voluntary reconfiguration auction to take a position on the spot auction outcomes.*

◆ **Strip Auction**

- *Capacity purchased in the strip auction can be used in spot auctions. Sellers in the strip auction will be required to deliver to spot auction physical capacity that was not qualified in connection with the FP auction or sold in a physical reconfiguration auction. Sellers in the strip auction that fail to deliver will become buyers in spot auction for the amount not delivered.*

FCM Model Considered at NYISO

◆ **Spot Market Auctions**

- *Spot market auctions will use the same structure as the current spot auctions, but may be less frequent than the current monthly auctions. A demand curve will be used to clear all offers, with LSEs assigned a pro-rata share of their spot market obligation separate from advance auction obligations.*

◆ **Credit Requirements**

- *A major aspect of any forward capacity market design centers around the credit requirements placed on participants in the various forward market auctions. The NYISO currently is working through various scenarios to determine credit rules, consistent with requirements in other NYISO markets, which recognize the risks associated with forward positions while avoiding the imposition of undue financial burdens on market participants, which ultimately translate into costs borne by all capacity purchasers.*

Current Status

- ◆ **The Brattle Group was engaged by the NYISO to evaluate the costs and benefits of moving from the NYISO's current market design to a forward capacity market design. The Brattle Group report concluded:**
“We did not find evidence that the benefits of FCM would be sufficient to justify change at this time in the face of stakeholders' doubts.”
- ◆ **The NYISO requested a vote from Market Participants on the desirability of the NYISO developing the implementation plan and details for the NYISO's forward market design as presented to the NYISO's ICAP Working Group in May.**
- ◆ **At the NYISO Business Issues Committee Meeting in June, stakeholders recommended that the NYISO suspend developing details and functional requirements of a forward capacity market.**
- ◆ **NYISO will continue to monitor the Forward Capacity Markets of ISO-NE and PJM to determine the design, if necessary, for a Forward Capacity Market in New York.**

Questions?

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 reliability and resource planning for the state's bulk electricity system.



www.nyiso.com