

New York State Department of Public Service



Staff Report on the State of Competitive Energy Markets: Progress To Date and Future Opportunities

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EXECUTIVE SUMMARY

The restructuring of the energy industry from regulated vertically-integrated monopolies to competitive markets has been described as "one of the largest single industrial reorganizations in the history of the world."¹ With 9.4 million residential and 1.2 million business electric and natural gas accounts able to choose among a number of energy providers, New York State is recognized as a leader in this area. New York has adopted a flexible approach which has allowed policies to be guided and shaped by the successes and challenges experienced in this and other states, and by continuously evolving market conditions.²

This approach has required an ongoing appraisal of the status of New York's markets and the identification of further steps to be taken to promote the long-range vision adopted by the New York State Public Service Commission (NYPSC or the Commission).³ As a part of that ongoing effort, this report assesses the current state of New York's wholesale electric markets and retail electric and gas markets, describes progress that has been made over the past several years in creating such markets, and identifies opportunities for continued progress toward robust competition in New York State's energy industry.⁴

New York's wholesale electricity markets are operated by the New York Independent System Operator (NYISO). An evaluation of New York's wholesale electricity markets under several metrics (i.e., price, robustness of spot and forward markets, generation and transmission infrastructure, demand side response programs, and

¹ Electricity Restructuring – Action Needed to Address Emerging Gaps in Federal Information Collection, U.S. General Accounting Office, at 1 (June, 2003).

² Case 00-M-0504, Proceeding on Motion of the Commission Regarding Provider of Last Resort Responsibilities, the Role of Utilities in Competitive Energy Markets and Fostering Development of Retail Competitive Opportunities, Statement of Policy on Further Steps Toward Competition in Retail Energy Markets, 1-2 (issued August 25, 2004) ("August 25, 2004, Policy Statement").

³ The Commission noted that the transition to competitive markets had "been in many ways highly successful," citing the creation of a workably competitive wholesale market, significant retail market progress, and infrastructure development. The Commission also "reaffirm[ed] our commitment to fostering competition whenever possible... conclud[ing] that competitive markets are in the public interest," and adopted additional steps to promote further progress. (August 25, 2004, Policy Statement, at 2-3.)

⁴ This report does not an assessment of the Long Island Power Authority or wholesale natural gas markets.

generator performance) indicates that New York's wholesale markets are among the most advanced in the nation and that wholesale competition has led to significant efficiencies. The total real (i.e., inflation-adjusted) electric price for a typical residential retail customer in New York, including supply and delivery charges, has dropped by an average of approximately 16% between 1996 and 2004. Most commercial and industrial customers have seen decreases in their real energy bills as well. While nominal wholesale commodity prices have gone up, reflecting increases in natural gas prices, on a fuel-price-adjusted basis, wholesale commodity prices generally stayed flat during the period 2000-2005. The overall cost of supply embedded in retail rates in upstate New York was \$50/MWh in 1996, prior to restructuring, and the all-in cost of supply in the upstate wholesale market was also \$50/Mwh during 2002-2004, post-restructuring.

At the same time, new generation is being proposed and constructed in load areas where electric energy and capacity prices indicate a need for additional supply. Since the inception of the NYISO, over 4,000 MW of new generation has been put into service while slightly more than 600 MW has been retired. Also, over 1,000 MW of additional capacity is being imported into the New York market. Nearly 1,000 MW of transmission capacity into the state has been added or is in the process of being added between New York and other control areas. Material progress has also been made in promoting greater demand elasticity with over 1,000 MW participating in the NYISO Special Case Resource programs, and increased implementation of mandatory hourly pricing for large electric utility customers. Generator availability has increased since the inception of the NYISO, and capacity factors of nuclear units have increased. Most importantly, the safety and reliability of the bulk power system has been preserved.

On the retail side, there has also been significant progress toward effective competition in New York's gas and electricity markets. Progress has also been made in educating customers about retail competition and retail access programs are in place for each of the major utilities. ESCO participation has increased significantly within New York State, with nearly a third more ESCOs providing service to New York consumers by the end of 2005, compared to 2003. There are currently at least seven ESCOs providing residential customers with electric and natural gas service and at least 12 ESCOs providing non-residential customers with electric and natural gas service within

each utility's service territory. More ESCOs are offering a variety of services. Some of the value-added services include various pricing structures (e.g.: fixed, capped, and indexed), green power, load control, energy efficiency assistance, and appliance maintenance contracts.

Large numbers of retail customers have switched to competitive providers for their energy commodity. Over 75% of the large electric TOU customer load and over 40% of other business customer load now takes commodity service from competitive energy service companies. The number of residential customer accounts taking electric supply from ESCOs has grown 29.4% in 2005. Fully 100% of large volume natural gas customers are no longer taking their commodity supply from the utility and 18.5% of all other non-residential natural gas customers are now served by ESCOs. The amount of residential natural gas customer load served by ESCOs has reached 16%, which is an increase of 20% from 2004.

While much has been accomplished in developing the framework for competitive markets, additional improvements are needed. With respect to the wholesale market, in order to attract the investments necessary to meet New York State's future energy needs (arising from factors such as load growth and generator retirements), New York needs an effective and efficient siting process which will provide developers and the financial community with regulatory certainty, while also protecting our environment and the health of our citizens. To this end, Article X of the Public Service Law should be renewed. To deliver price relief and reliability to customers, new generation must be sited, including generation that does not rely on natural gas. More refined market mechanisms are needed to provide the revenue assurances necessary for encouraging timely and appropriate investment, without unnecessarily impeding the continued growth and evolution of competitive markets. For example, procedures for allocating long-term transmission rights in new transmission facilities are necessary to encourage investment in such facilities. More must also be done to efficiently utilize already-existing resources through even greater demand-side response. This requires a number of steps, including further implementation of enhanced metering infrastructure and more dynamic pricing structures, and more evolved market mechanisms for demand-side resource participation in the wholesale markets. New York State must continue to monitor critical planning

issues such as availability of gas supply for electric generation, fuel diversity, and the interaction of environmental regulations with electric generation planning.

Greater operating efficiencies can also be achieved, through more refined wholesale market rules and procedures and more effective price signaling for market participants. For example, the recent implementation of new real-time market software enhanced operating efficiencies; however, there is a continuing need to ensure that price signals are fundamentally correct. As more intermittent (wind) resources enter the supply mix, there is a need to modify the current rules to accommodate them. Further, as electric wholesale markets become more regional in nature, efforts to minimize seams across borders should continue.

In relation to retail markets, more must be done to increase customer education and awareness, which will allow customers to make more informed choices. Utility bills should continue to fully and separately identify energy supply costs and energy delivery costs, to provide the level of price transparency customers need to compare offers when selecting an energy supplier. Identified best practices such as time-differentiated pricing, ESCO referral programs and purchase of receivables programs, should continue to be implemented statewide to create greater administrative efficiencies and thereby lower overall costs. Alternative energy sources, such as green power, need ongoing promotion to ensure continued fuel diversity, reduce environmental impacts, and promote energy independence. Uniform Business Practices and Electronic Data Interchange documents need to be updated to reflect current Commission policies favoring the use of ESCO consolidated billing practices. Finally, additional work needs to be done to further promote cost and price comparability in a transparent manner between utility and ESCO commodity services and encourage ESCOs to provide more value-added services primarily to residential customers.

Wholesale Electric Markets

I. Introduction

The Commission has been, and continues to be, actively involved in facilitating the transition to competitive electric markets within New York State. As a part of this effort, the Commission has worked with market participants, the NYISO, and the New York Reliability Council (NYRC).

The Commission has also worked with New York's vertically-integrated utilities to restructure their business plans. Essentially all of their generation assets were sold to unaffiliated privately-owned entities, while the utilities (Transmission Owners or TOs), retained their transmission and distribution assets. The divestiture of generation plants was designed to reduce the vertical market power of the TOs to more vigorously support competition in the wholesale generation market. The new privately-owned generation owners became wholesale competitors and bid their supply into the NYISO.

The NYISO, created in 1999, was charged with administering a competitive wholesale energy market, with the paramount responsibility of ensuring the reliability of the bulk power system while operating the system efficiently. The NYISO accomplishes these responsibilities by performing a least-cost economic dispatch of generation resources, while taking reliability criteria and transmission constraints into account.⁵ Under economic dispatch, generation suppliers bid their marginal costs of generation (primarily fuel costs). However, to ensure a level playing field, all suppliers selected for dispatch are paid the market-clearing price. This provides an opportunity for efficient baseload generation to recover its non-fuel costs.⁶

⁵ The NYISO has made many software changes to improve the accuracy of energy prices, and has introduced "co-optimization" of energy and ancillary services, which minimizes their combined cost.

⁶ For example, wind farms have high capital costs but no fuel costs. Under economic dispatch, wind farms bid \$0 but are paid the market-clearing price for energy. Similarly, coal and nuclear plants have high capital costs and low fuel costs. The net energy revenues contribute towards recovery of the capital costs.

Paying all suppliers the market-clearing price has been touted as superior to other methods of determining the spot market price.⁷ However, there are critics of this approach who prefer an alternate payment method such as "pay-as-bid." For most commodities, paying suppliers their bid price would make little difference, because suppliers would simply bid the expected market-clearing price (since any lower bid would forego profits). However, the spot market-clearing price of electricity is so volatile that suppliers would have extreme difficulty determining appropriate bids.⁸ This could lead to inefficient operations.

To ensure adequate generation resources, load serving entities are required to purchase and pay for sufficient capacity through an installed capacity (ICAP) payment, which compensates generators for their availability. This market design helps ensure sufficient supply is available in a competitive marketplace. The NYISO also utilizes an annual Comprehensive Reliability Planning Process to forecast the reliability needs of the bulk transmission system on a 10-year horizon, with a preference for market-based solutions, but with the certainty of a regulatory backstop solution implemented by TOs in the event a market-based solution does not materialize.

Demand-side programs have long been in effect in New York, as discussed below. The NYISO's demand response programs are considered to be some of the most innovative in the nation. Moreover, distributed generation has been encouraged by the State Legislature and the NYPSC. We anticipate that the use of these resources will continue to grow.

⁷ Alfred Kahn, et al, "Pricing in the California Power Exchange Electricity Market: Should California Switch from Uniform Pricing to Pay-as-Bid Pricing?" California Power Exchange Blue Ribbon Panel Report, January 2001.

⁸ Electricity is unique in that it cannot be easily stored; thus it must be generated exactly when customers demand it. U.S.-Canada Power System Outage Task Force, Final Report on the August 14, 2003 Blackout in the United States and Canada, Causes and Recommendations, p. 6 (April 2004). Higher demand (or generation outages) requires an immediate response from higher-cost supply. As a result, the market-clearing price of electricity can change dramatically from hour to hour, even minute to minute: There is no storage to buffer the price swings (i.e. the swings in marginal cost of supply).

II. Progress in Wholesale Competition

1. Electric Prices

a) Changes in Real Electric Prices

Judging the success or failure of competitive electric markets on the basis of nominal price changes alone is inappropriate because: (i) real price changes (i.e., inflation-adjusted) rather than nominal price changes are more meaningful from an economic stand point; (ii) historical regulated prices were not likely to be at the "right" level to begin with, as these prices typically reflected average historical costs rather than marginal costs; and (iii) the appropriate power price signal should reflect marginal costs and fluctuate with cost trends – not necessarily decline continuously.⁹ Nonetheless there is significant interest in examining how prices have changed as a result of the introduction of competitive markets.

Assessing the impact of competition on wholesale energy prices is difficult for a number of reasons. Competition is still relatively new and data is still limited; assumptions must be made about what wholesale prices would have been had the regulated monopoly regime been maintained; regulated prices typically reflected historical costs not marginal costs; there have been significant changes in fuel prices, energy demand, technology and environmental constraints; and natural gas prices have increased significantly. Staff attempted to examine changes in prices from different perspectives.

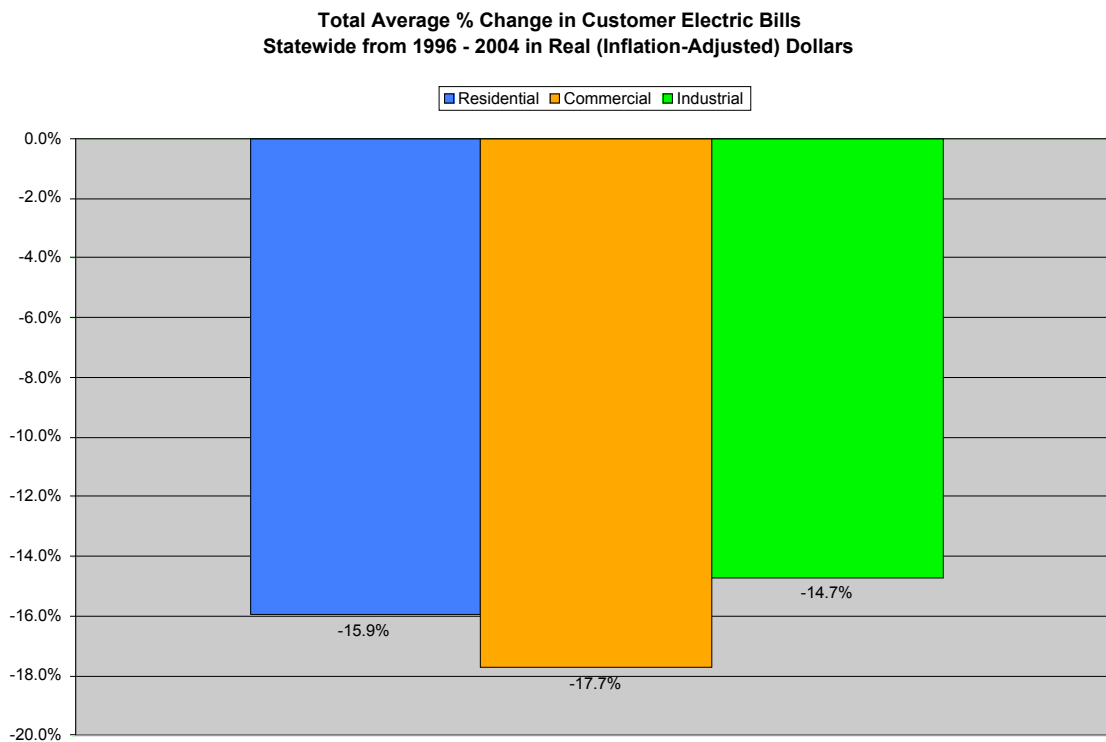
On average, energy prices in New York reasonably conform to adjacent market prices. Like New York's markets, adjacent markets experienced increased energy prices, and increased volatility during calendar year 2005. Such price conformity indicates that increases are due to factors other than market design or performance within New York State.

Changes in real (i.e., inflation-adjusted) prices to end-use customers over the years is one useful metric to evaluate how customers fared. Based on available data,

⁹ Cambridge Energy Research Associates Publication (CERA), Beyond the Cross Roads: The Future Direction of Power Industry Restructuring, Special Report, p. I-11 (2005).

between 1996 and 2004 the total real price of electricity (inclusive of supply and delivery charges) to a typical residential retail customer (700 kWh) in New York State staying with the incumbent utility has dropped an average of approximately 15.9%.¹⁰ During the same period, the total supply and delivery charges for a typical New York commercial customer (monthly demand of 50 kW and 35% load factor) dropped an average of 17.7%, while that for a typical New York industrial customer (monthly demand of 2,000 kW) dropped an average of 14.7%.

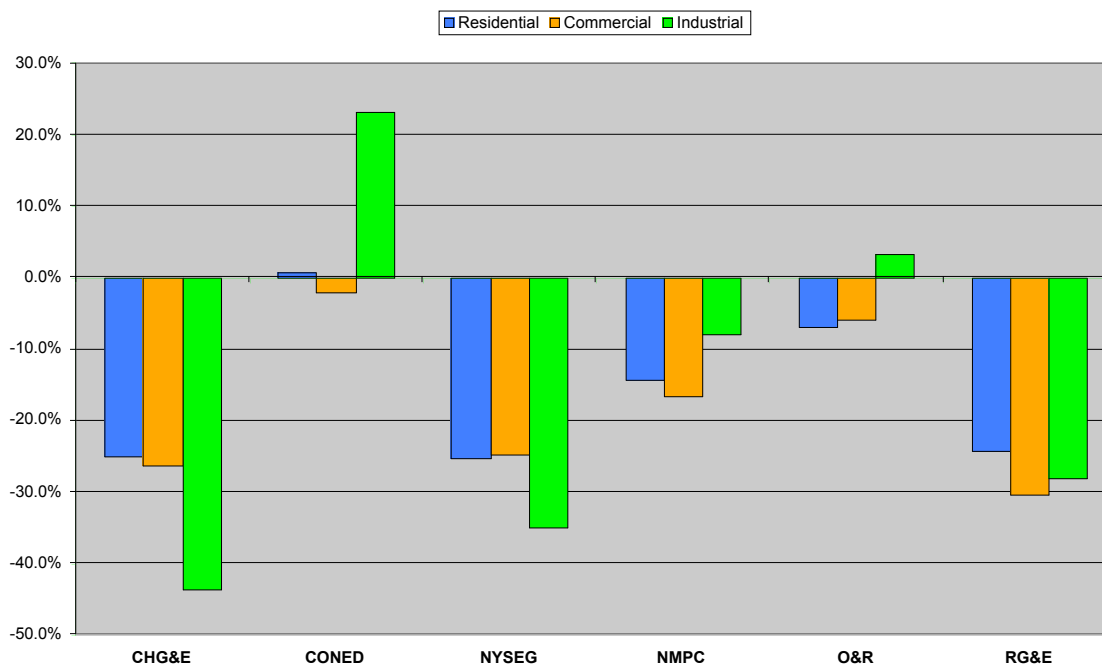
Chart 1



¹⁰ Source: DPS Staff estimates. The comparison is based on data from the typical customer bill tables that the Commission publishes for the months of January and July of each year. Month to month fluctuations in electric market prices could have an effect on the results of such a comparison depending upon which month is used for comparison. Under existing utility rate designs in New York and the utility's use of hedging instruments, these effects are muted. A recent report by Prof. Joskow reached a similar conclusion, finding that real residential prices fell more in states that have implemented retail competition than in those that did not, and that between 1996 and 2004, residential prices in New York State have dropped, on average, by about 14%. Paul L. Joskow, Markets For Power in the United States: An Interim Assessment, p.36, & Figure 6 (August 23, 2005).

Chart 2

**Total Average % Change in Customer Electric Bills
by Utility from 1996 - 2004 in Real (Inflation-Adjusted) Dollars**

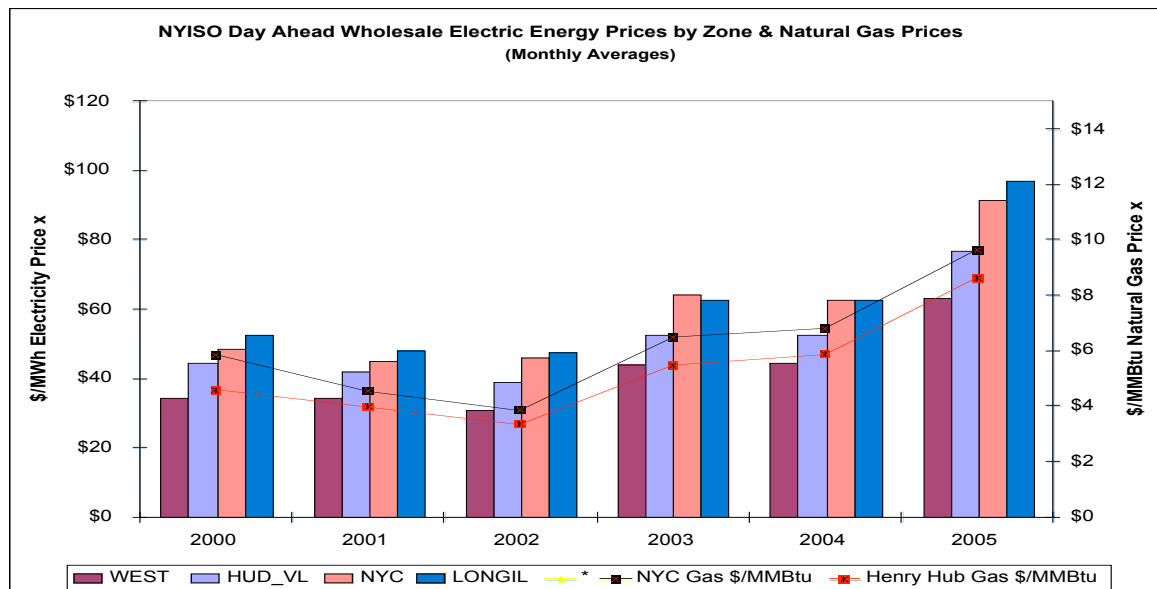


b) Wholesale Market Price Changes

Retail end-use customer prices include both delivery and supply prices. Delivery price is still regulated by the NYPSC. Supply prices are largely determined in the wholesale competitive market. The prices customers pay for supply depend on the NYISO's wholesale market prices and any hedges customers receive. Utilities in New York maintain a portfolio of supplies that include legacy hedges (e.g., long-term power supply contracts signed with generators at the time of divestiture), short-term hedges and spot purchases on the NYISO's spot markets. Large customers gradually are being placed on spot market prices with no new supply hedges. Utilities continue to provide hedges for lower usage customers. Of course, customers have the choice of receiving supplies from competitive suppliers and, through contracts, structure their risk according to their specific needs. We do not have complete information on risk management products offered by competitive suppliers. But we do have data on how the NYISO's

clearing prices have changed over the years. Generally, average wholesale energy prices have increased on a nominal basis. Much of the increase in the wholesale price can be attributed to the changes in natural gas and oil prices.

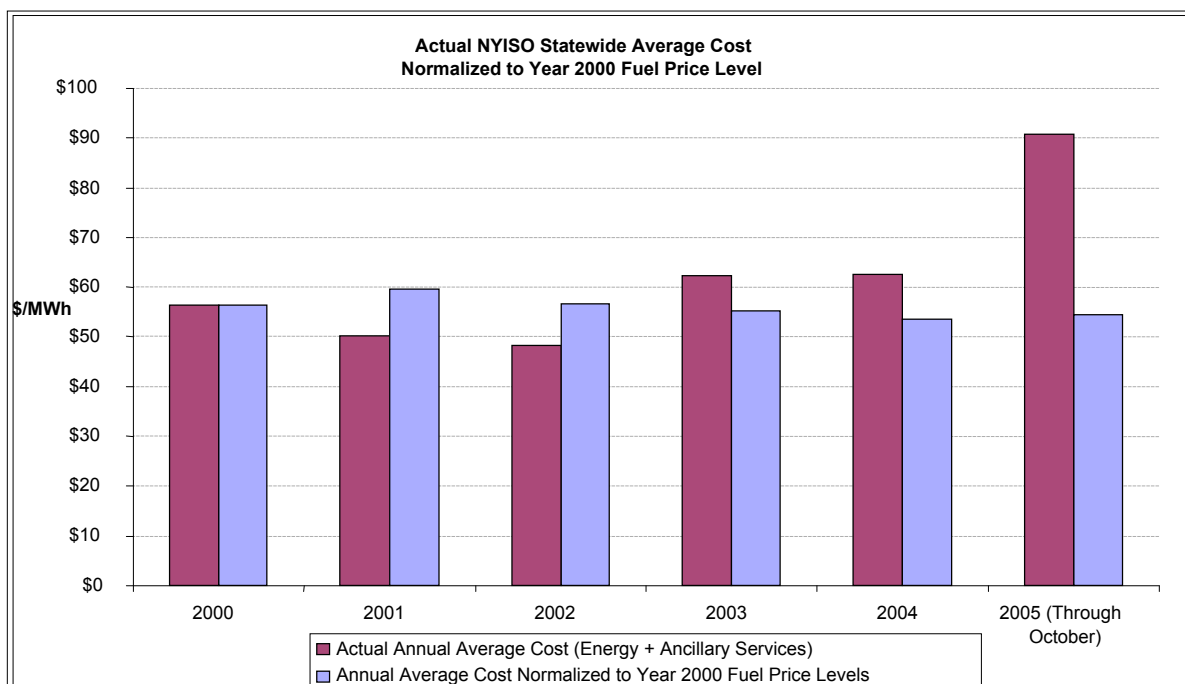
Chart 3



When normalized for fuel costs, the average wholesale prices of energy and ancillary services have been relatively flat for the last several years.¹¹

¹¹ Source: "The NYISO and Security Constrained Dispatch," presentation by NYISO President and CEO Mark Lynch at the Joint Board Meeting on Security Constrained Dispatch-Northeast Region (in Boston, MA), November 29, 2005, p. 21. This conclusion is consistent with results reported elsewhere. For example, in remarks at the ISO-NE Regional Energy Forum Connecting Wholesale and Retail Electricity Markets on October 17, 2005, ISO-New England President and CEO Gordon Van Welie reported that wholesale prices, adjusted for fuel price increases, have declined by 5.7% since 2000 (based on ISO-New England Annual Markets Report for 2004). In PJM, a June 3, 2004 study by Synapse Energy Economics reported a 5% decline in fuel cost adjusted prices from 2000-2003 ("Electricity Prices in PJM: A Comparison of Wholesale Power Costs in the PJM Market to Indexed Generation Service Costs," p. 16). Additionally, since 2000, PJM's annual State of the Market Reports have reported year-to-year declines in fuel-adjusted average wholesale energy prices, with the exception of 2001.

Chart 4



c) Wholesale Electric Supply Prices Pre and Post-restructuring

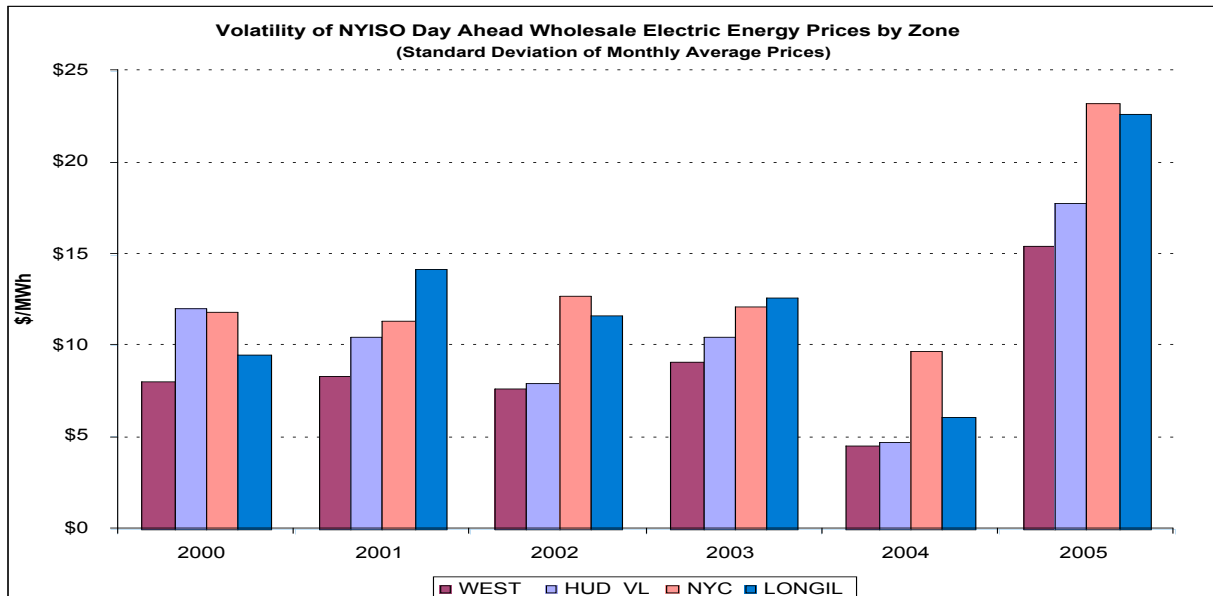
Another way to examine prices is how the wholesale prices changed from the regulated regime to the restructured regime. The embedded cost of supply in the regulated rates in 1997, prior to restructuring, is used as a proxy for the wholesale price, and is compared with the NYISO's wholesale prices during 2002-2004, post restructuring. For the period between 2002 and 2004, the all-in cost of electricity in the NYISO's wholesale market outside of the New York metropolitan area averaged about \$50/MWh. The embedded cost of supply in the regulated rates in 1997 in upstate New York was also \$50/MWh. This figure has not been adjusted for changes in costs (e.g., inflation, fuel price increases) since 1997 to compare with the 2002-04 wholesale market prices.¹²

¹² It should be noted that the NYISO's wholesale market prices do not reflect any short-term transition costs and/or benefits to customers as a result of the utilities' divestiture of their generating facilities, such as stranded costs and hedges from power purchase contracts. Such costs would be reflected, however, in retail prices. These are short-term costs associated with the restructuring of the industry, rather than costs which are systemic to a competitive regime.

d) Volatility in Prices

Electricity spot market prices are inherently volatile, due to the volatility of fuel prices, variability in load, and the lack of storage for electricity (i.e. electricity must be generated on demand, and generation must constantly adjust to meet changing loads). To the extent that customers purchase from the spot market, they face the risk of price spikes. Generally speaking, the volatility of energy prices in the NYISO's Day Ahead Energy Market decreased between 2000 and 2004, reflecting maturity in the market. However, volatility increased in 2005, primarily due to increased volatility in natural gas prices (driven in part by increased demand and supply disruptions due to Hurricane Katrina), weather, and changes in certain market rules.

Chart 5



Since the introduction of the Installed Capacity (ICAP) Demand Curve in May, 2003, the NYISO's ICAP spot market prices for capacity have become stable and

predictable. This, in turn, increased confidence in project financial projections and the ability to enter into longer-term contracts.¹³

2. **Robustness of Spot and Forward Markets and Ability to Hedge Prices**

Customers can hedge their spot market price risks by signing bilateral contracts or purchasing in forward markets. Suppliers also generally desire to hedge their spot market risks by signing contracts or selling in forward markets. Thus robust forward markets are valuable to both customers and suppliers, allowing both to avoid the risks of volatile spot markets. Forward markets can also help finance new generation by providing a known (forward) price for the plant's prospective output.

Spot markets for energy and capacity are generally liquid. About 5% of energy is traded in the NYISO's real-time markets, for which prices are posted every five minutes for every location in New York. Wholesale purchasers (i.e., load serving entities, or LSEs) pay a zonal average price in 11 internal load zones and four external load zones. Approximately 15% of capacity is purchased in the NYISO's spot auctions, which clear monthly.

Short-term forward energy and capacity markets are also generally liquid. Approximately 95% of energy clears in the NYISO's day-ahead markets, which, in effect, hedge the more-volatile real-time spot markets. About half the energy traded in the day-ahead markets is purchased through bilateral contracts, which provide further hedges against price-volatility. Market participants can further manage their risks through financial instruments.¹⁴ About 85% of capacity is outside of the spot markets, either through liquid short-term (i.e., up to six month) forward markets or through bilateral contracts.

¹³ NYISO, December 1, 2005 Report on Implementation of, and Withholding Under, the New York Installed Capacity ("ICAP") Demand Curves, p. 11 (January 3, 2006).

¹⁴ For example, the New York Mercantile Exchange provides a market for on-peak and off-peak electricity energy futures contracts for two zones within New York State (West, Hudson Valley) for up to three years into the future and in New York City for up to one year. As of January 17, 2006, the number of New York electricity futures contracts outstanding (with open interest) at NYMEX was 44,901 for February-December 2006, 21,748 for 2007, and 8,273 for 2008. As a result of the credit crisis that hit energy companies after the collapse of ENRON, the clearing of energy contracts traded over-the-counter has become an increasingly important business for the futures industry, since futures exchanges provide creditworthiness ("The Tipping Point: OTC Energy Clearing Takes Off," Will Acworth, Futures Industry Magazine, January/February 2005).

At this time, longer-term forward energy and capacity markets are not liquid. Thus longer-term hedging requires bilateral contracts between customers and suppliers. The absence of forward market activity limits the ability of customers and suppliers to hedge prices, and can also limit the ability of investors to finance new generation.

3. **Additions in Generation and Transmission Facilities, and Imports**

Investors are proposing and constructing new generation in areas where electric energy and capacity prices indicate a need for additional supply. Unlike past investments of regulated utilities, ratepayers are not at risk for cost overruns or inefficient operations. Since the NYISO's markets opened, more than 4,200 MW of new, efficient generating capacity has been put into service while slightly more than 600 MW has been retired. Some of the new capacity is "merchant" generation (i.e., primarily relying on market based revenue streams) and some is supported by long-term contracts with utilities. In addition, 500 MW of new generating capacity is expected to enter commercial operation in New York's largest load pocket, NYC, in 2006. Note that new generation (especially baseload) is the most obvious way to reduce market prices; adding a baseload unit would shift the supply curve to the right, reducing the market clearing prices.

Transmission lines such as the Cross Sound Cable and Neptune have been and are being developed. Both have long-term contracts with the Long Island Power Authority (LIPA). This will allow parties to market excess capacity and take advantage of differences in market prices in adjacent markets. The total capacity of these lines is nearly 1,000 MW.

Reduced seams between control areas have allowed greater participation in New York's markets by suppliers in adjacent control areas. For example, the level of installed capacity imports has increased by more than 1,000 MW since the inception of the NYISO.

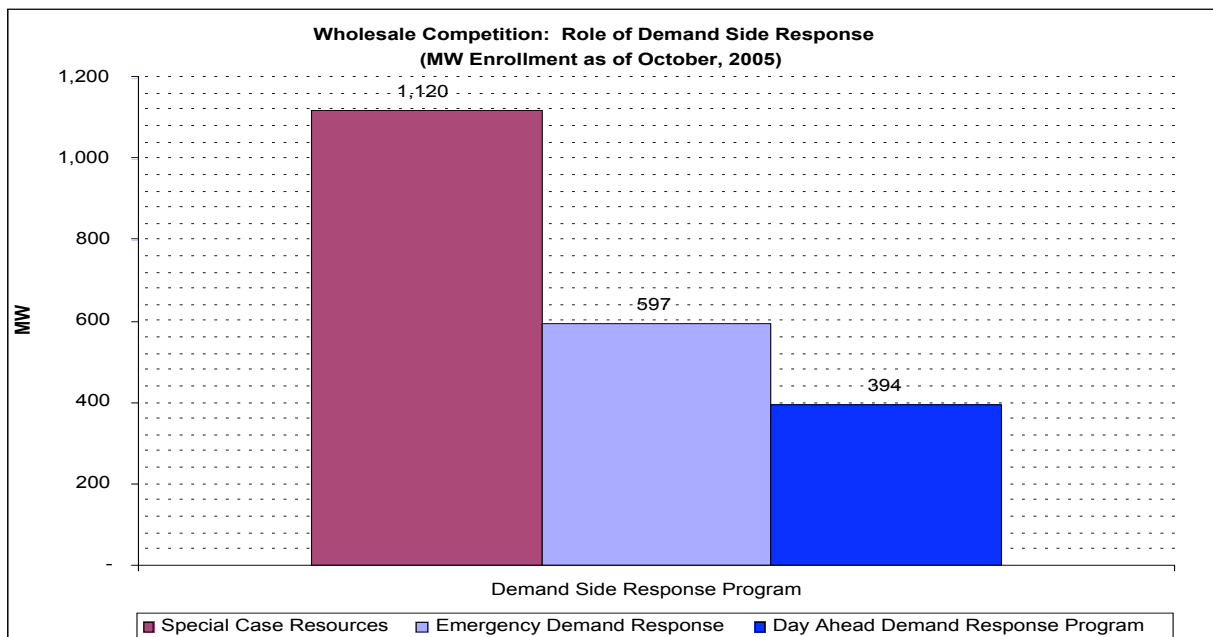
4. **Integration of Demand Side Response**

By implementing market rules that allow for demand response providers to take part in the energy and installed capacity markets, the NYISO has allowed the development of significant resources which act as a substitute for new generating

capacity. Demand response providers, by reducing usage on the system at critical times, help the NYISO to balance load and generation and thereby maintain a secure and reliable system. Demand response providers also help to lower energy costs by eliminating the need to operate higher cost generation.

Market-based programs implemented by the NYISO have resulted in an increase in participation by demand response providers within the New York Control Area. Currently, there are 23 private aggregators providing demand response services, in addition to eight utilities. As of October 18, 2005, the NYISO had enrolled 1,794 participants, representing 1,120 MW, in its Special Case Resources (SCR) Installed Capacity (ICAP) Program. There were 917 participants, representing 597 MW, in the NYISO's Emergency Demand Response (EDRP) Program, and 19 participants, representing 394 MW, in its Day Ahead Demand Response Program (DADRP).

Chart 6



5. **Improvement in Generator Performance**

It is important that generating units are able to operate when called on by the NYISO. Improving the availability of the generating units reduces the need to take emergency actions to address load/capacity imbalances when generation units are forced off-line unexpectedly. Forced outages also cause higher energy costs because of the need to operate higher-cost replacement generation. Finally, improvements in the performance of generators reduce the amount of installed capacity required.

Locational Based Marginal Pricing (LBMP) and Unforced Capacity (UCAP)-based Installed Capacity pricing provide generators incentives to be available when the bulk power system most needs them. The availability of generators during the summer months increased to 90.3% of the time versus 86.5% prior to the NYISO's operation. In addition, since the inception of the NYISO's markets, the duration of nuclear unit maintenance outages has been greatly reduced, while their reliability has improved. The average capacity factor for nuclear units has increased from approximately 60 percent prior to 2000 to approximately 90 percent currently.

III. Market Design Issues Related To Wholesale Competition

1. Market Rules

One of the keys to developing competitive wholesale markets in New York, in addition to the divestiture of substantially all generation assets by the utilities, was the transfer of operational control of transmission facilities to an independent system operator. This transfer of control eliminated any potential for preferential access to the transmission system, and provided an open forum for developing transparent and non-discriminatory market rules through an open collaborative process involving all market participants, ultimately overseen by an independent board of directors. Significantly, New York's markets provide for significant savings by employing a flexible financial LBMP model in which congestion costs are quantified and can be hedged through financial products (primarily Transmission Congestion Contracts, or TCCs) as opposed to a traditional physical "contract path" model which can lead to the curtailment of economic transactions.

The NYISO's LBMP markets incorporate a least-cost security-constrained model to dispatch the state's resources in the most efficient manner possible. The simultaneous co-optimization of energy, operating reserves and regulation service, both day-ahead and in real time, makes the most efficient use of available resources to meet demand at the lowest possible cost and provides transparent locational price signals. These clear price signals provide a basis for economically efficient longer-term generation, transmission, and demand response investment decisions, as well as efficient day-to-day arbitrage and transactional decision-making.¹⁵

The day-ahead energy market provides a robust and liquid hedge against the more volatile real-time market, and helps mitigate market power by reducing the profitability of withholding in the real-time energy market. Newly introduced Standard Market Design 2 (SMD2) enhancements provide effective scarcity pricing based on reserve deficiencies. The NYISO, the NYPSC and market participants continue to work to refine

¹⁵ A CERA Report indicates that the NYISO's wholesale markets are among the most advanced markets in the country.

and improve these and many other market rules, some of which are discussed at greater length elsewhere in this report.

2. **Price Transparency**

Efficient electric markets depend on transparent prices accurately reflecting the cost of supply: generators rely on prices to decide whether they should operate; investors rely on prices to decide whether to finance a new generating plant, what type of plant to build, and where to build it; and customers rely on prices to decide how much electricity to buy. Prices that fail to accurately reflect costs will send conflicting signals, leading to inefficient decisions and ultimately higher costs to customers.

The cost of generating electricity is not the same at all times and places; in fact it is extremely variable. On a hot summer day, high loads require the operation of expensive generating plants in New York City and Long Island, so electricity prices must rise to reflect these costs. However, in the middle of the night, loads may drop so low that only baseload hydroelectric and nuclear plants are needed and additional load could be served at little or no cost; efficient prices will then be very low. In the hours in-between, most of New York's load can be served by upstate generation at moderate costs, but there may not be enough transmission capacity to serve all downstate load; as a result, some expensive downstate generation will be needed, implying higher prices downstate.¹⁶

The NYISO's wholesale market prices reflect these varying costs of generation. Pricing for wholesale electricity, expressed in dollars per megawatt hour, is set at 11 zones within New York State.¹⁷ Prices in the NYISO's Real-Time market are updated every five minutes, reflecting the continuous changes in the marginal cost of serving load in each zone. These accurate real-time prices are essential to the efficient and reliable

¹⁶ Existing transmission lines deliver about 5,000 MW of electricity from upstate to downstate. So when downstate load totals 10,000 MW, downstate customers effectively buy half of their load at upstate prices.

¹⁷ The eleven zones are Long Island, New York City, Westchester (Dunwoodie), So. Hudson Valley (Millwood), Hudson Valley, Capital District, Mohawk Valley, North Country, Central, Genesee, and West. Differences between zonal prices are caused by congestion on the transmission system and losses that occur when electricity is transmitted. NYISO, Wholesale Electric Market Report, Week Ending Saturday, January 14, 2006. This document is available at www.nyiso.com/public/webdocs/market_date/reports_info/weekly_pricing_report/currentdamwholesale.txt

real-time operation of New York's electricity system; they ensure that the most efficient generators are in use at any given time.

The real-time electric system is a demanding environment. At any time, load may change unexpectedly, a generator may suffer an outage, or a transmission line may face a potential overload. LBMPs must respond to every event in order to help ensure the efficient and reliable operation of the system. One of the benefits of this price transparency is that LBMPs reveal congestion costs in different portions of the transmission system. These price signals allow market participants to respond to changing conditions in various portions of the grid, reducing the need for system operators to administratively ration limited transmission resources.¹⁸

Because unexpected events happen daily, real-time LBMPs are inherently volatile. However, only a small portion of load (typically about 5%) pays real-time prices. Almost all electricity is purchased in advance, either in the NYISO's day-ahead market (DAM) or through bilateral contracts. Day-ahead LBMPs are based on day-ahead bids by LSEs, suppliers, and marketers. Because they reflect only expected events, the DAM LBMPs are much more predictable and less volatile than real-time LBMPs. As a result, DAM LBMPs provide the benchmark for New York's spot energy market.

The recent nationwide rise in natural gas and oil prices has resulted in a corresponding rise in the NYISO's LBMPs. As a result, competitive wholesale market prices reflect today's higher cost of gas and oil fired generation, and provide strong incentives for fuel switching and investment in new generation fueled by alternative fuels (renewable resources, dual-fuel, clean coal, nuclear).

3. **System Reliability**

To serve load reliably, wholesale electricity generation must be tightly coordinated; for example, total generation must match total load at all times, and transmission lines must not be overloaded. This coordination is accomplished by central dispatch, under the direction of the NYISO. The NYISO performs a least-cost economic

¹⁸ Paul L. Joskow, Markets For Power in the United States: An Interim Assessment, p.11 (August 23, 2005).

dispatch of generation resources, consistent with applicable reliability criteria and transmission constraints.

The installation of new more efficient generating units, such as the Athens, East River, Ravenswood, Bethlehem and Poletti projects has also contributed to system reliability by making increased capacity available to the system. As previously discussed, demand response providers help the NYISO to balance load and generation, and thereby maintain a secure and reliable system, while helping to lower energy costs by reducing the need to operate higher cost generation.

Long-term planning is crucial to ensuring system adequacy because of the long lead times required to site and build new generation or transmission lines. The NYISO employs an annual Comprehensive Reliability Planning Process to forecast system reliability needs over a 10-year period. Under the planning process, the NYISO will identify violations or potential violations of reliability rules that result or could result from inadequate bulk power infrastructure during the planning period.¹⁹ The NYISO will publish the results of this evaluation annually in a Reliability Needs Assessment (RNA). The planning process also provides for action beyond the normal planning cycle where the NYISO identifies an imminent threat to reliability. Market-based proposals are open to all resources, including generation, demand response providers and merchant transmission developers. If no viable market-based solution comes forward, developers may submit alternative regulated solutions. However, transmission owners must develop regulated “backstop solutions” to address reliability needs if the market fails to do so. The NYISO will evaluate the market-based and regulated solution proposals and present the results in its Comprehensive Reliability Plan (CRP), which is aimed at matching reliability needs and appropriate market-based and/or regulated solutions.²⁰

In New York State, natural gas is increasingly important as a fuel for both electric generation and home heating. This is due in part to historically low prices, and also

¹⁹ These reliability rules have included operating and planning criteria standards developed by the North American Electric Reliability Council (NERC), the Northeast Power Coordinating Council (NPCC) and the New York State Reliability Council.

²⁰ NYISO Open Access Transmission Tariff, Attachment Y: New York ISO Comprehensive Planning Process for Reliability Needs, available at http://www.nyiso.com/public/webdocs/documents/tariffs/oatt/att_y.pdf

because natural gas is a "clean fuel" which does not produce SO₂ as a byproduct of combustion. As a result, the siting of natural gas-fired generating facilities faces somewhat lower environmental regulatory standards, and lower costs associated with emissions controls needed for other types of fuel. The increased importance of natural gas, and the fact that New York is at the "end" of supply lines originating in the southern United States, raises significant concerns. Interruptions or shortages in the state's natural gas supply, whether due to catastrophic weather events such as hurricanes or delivery constraints during periods of peak demand can profoundly affect prices and adversely affect the state's economy and citizens. As a result, it has become critical to ensure cooperation between New York's gas distribution companies, the NYISO, and gas-fired generators, and discussions are ongoing to establish procedures to ensure reliable operation of the bulk power system in the event of shortages of natural gas. Issues being discussed include oil inventory reporting, communications protocols for providing emergency natural gas supplies to generating units when necessary to maintain system reliability, and procedures allowing the use of fuel oil during gas shortages to avoid the shedding of electric load.

4. **Market Power**

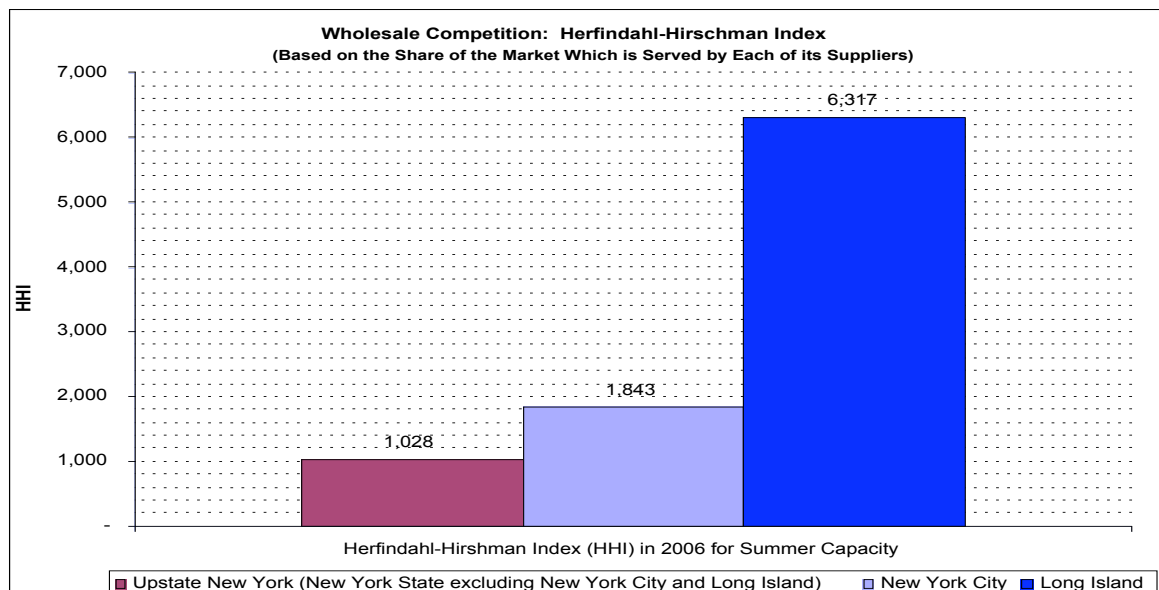
Market power refers to the ability of a supplier to increase the market price above competitive levels by withholding a portion of its own supply, either by inflating its bid above its marginal cost (economic withholding), or by refusing to enter a bid at all (physical withholding). The supplier foregoes profits from the portion withheld, but gains from the higher market price for its remaining supply. Withholding tends to be most profitable for large suppliers when the market is tight, i.e. when there are few alternatives and those are much more expensive.

The exercise of market power can harm markets by increasing prices and costs above competitive levels (since higher-cost supplies must substitute for the supplies withheld). It can also threaten reliability, if withholding causes an artificial shortage of supply. Finally, market power threatens the transparency of prices, so that customers, suppliers, and investors might not be able to rely on market prices to guide their decisions.

A common measure of market power is the Herfindahl-Hirschmann Index (HHI), which measures concentration of supply; a high HHI (above 1,800) indicates a high potential for market power.²¹ The HHI for the state, not including New York City and Long Island, is 1,028, indicating a low potential for market power. The upstate markets have many competing sellers and prices reflect demand and supply and, therefore, the marginal cost of production.

For the New York City metropolitan area and Long Island, the HHI is 1,843 and 6,317, respectively, indicating a high potential for market power. Recognizing the high concentrations in New York City and Long Island, special measures have been applied to ensure competitive prices in the downstate markets. Market power within New York City is mitigated by strict cost-based caps on large suppliers. On Long Island, energy needs are served by the Long Island Power Authority, with most generation under long-term contract. While energy and capacity prices are higher downstate, these reflect transmission constraints and higher costs of supply in that area, rather than the exercise of market power.

Chart 7



²¹ The HHI is defined as the sum of the squares of supplier percentages: If 10 suppliers each have a 10% share of the market, the HHI is 10×100 , or 1000, indicating a competitive market; if one supplier controls 100% of the market, the HHI is 10,000. The Department of Justice merger guidelines state that an HHI above 1800 indicates a serious concern over market power.

The NYISO's independent market advisor (David Patton) has found the NYISO markets to be competitive, with no evidence of significant economic or physical withholding.²² However, the HHI indices reveal that the electricity markets in New York City and Long Island are not structurally competitive and thus require continued mitigation to keep prices at competitive levels. While these mitigation measures are needed and beneficial, they are inferior to the discipline of many competing sellers and demand-side resources in achieving the most efficient competitive markets.

5. **Capacity Market**

The NYISO's markets, by providing transparent prices and stable market rules and procedures, have greatly facilitated market participation, and encouraged investment in energy infrastructure. Much attention has been focused on whether energy-only markets, without regulatory interference, will provide sufficient price signals to ensure adequate system capacity, including needed reserves, to ensure reliability on a going-forward basis. The inquiry is complicated by a number of factors, including the long lead-times needed to develop, site and construct facilities, regulatory and political uncertainties inherent in the development process, and financial uncertainties due in part to the still-relatively-new energy markets as well as the capital intensive character of energy facilities. Given present relatively low levels of price-responsive load, an energy-only competitive wholesale market design relying solely on energy prices to finance new generation may lead to unacceptably high levels of involuntary curtailments, particularly within major load pockets such as in New York City and Long Island.

To mitigate this risk, in New York all load serving entities (LSEs) must procure sufficient levels of installed capacity (ICAP) to meet applicable reliability standards.²³ LSEs must make ICAP payments, which compensate generators for their availability. If an LSE fails to procure sufficient capacity prior to each month, the NYISO charges the

²² Potomac Economics, Ltd., 2004 State of the Market Report: New York ISO (July 2005), p. iii.

²³ In addition, there are locational capacity requirements for LSEs serving the major load pockets in New York City and Long Island. Such LSE's must procure a specified minimum portion of their capacity from local generation.

LSE a Supplemental Supply Fee for the deficiency and uses the funds to procure the required capacity. Although there are costs associated with the ICAP requirement, the higher level of reliability benefits customers by reducing the risk of involuntary curtailments as well as reducing price spikes in the energy markets.

Competitive markets depend upon prices to signal the need for generation. The NYISO's original installed capacity market design included a fixed minimum requirement with a very large penalty on loads for deficiencies ("deficiency charge"). However, this design failed to produce predictable ICAP prices. Prices in the Statewide market tended to be near \$0 unless a shortage developed, in which case the price would suddenly jump to the very high deficiency charge. Market participants had difficulty predicting these prices or responding effectively to them. Moreover, the design provided an incentive for generators to withhold enough capacity to create an artificial deficiency. As a result, the ICAP market was highly susceptible to market power, reducing confidence in its prices.

To improve the performance of the capacity market, in 2003 the NYISO replaced the original ICAP market design with a "Demand Curve." If the available supply is greater than the minimum requirement, additional capacity is procured, but at a lower price. Thus, as load growth gradually tightens the capacity market, the ICAP price gradually increases to signal, in advance, the need for additional capacity. This gradual price response reduces price volatility and mitigates potential market power in the capacity market.

Since the introduction of the Sloped Demand Curve in June 2003, spot market prices in New York are reasonably stable and predictable, forward prices (from the 6-month strip auctions) are consistent with expected spot prices, and all supply receives a payment, instead of generators with "excess" capacity receiving nothing. Despite the continued tight capacity market in New York City, merchant supply has been bid into the capacity market at reasonable prices, and has not been withheld to create an artificial deficiency. In addition, there has been an increase in the number of bilateral contracts for capacity.

These stable and reasonable prices have helped existing older plants, except those that were retired for environmental reasons, remain in operation. The Demand Curve has

also ensured capacity payments for almost 1,000 MW of distributed generation and interruptible load. New York's approach, which has been described as "state of the art,"²⁴ also effectively moderates energy prices and significantly reduces incentives to exercise market power.²⁵ Based on its review of available data such as offer patterns, prices, and capacity sales, the NYISO has concluded that the ICAP markets are generally performing competitively without evidence of significant economic or physical withholding.²⁶

As for the long-term effectiveness of the capacity market in attracting new generation investment, a definitive test of that effectiveness is premature. The generation market in the Eastern United States, and therefore in upstate New York, is currently in a surplus capacity state. As such, while a few merchant plants have been completed since the introduction of the Demand Curve, upstate prices from the Demand Curve are low and are properly signaling a lack of demand.²⁷ The true test will come when the need for new generation is on the near-term horizon and investors decide whether to enter the market in time to satisfy that need. We have not yet come to that point.²⁸

6. **Demand Side Response**

Demand Side Response is very important for the functioning of an effective wholesale market. Both the NYISO and the Commission have taken steps to further demand side response efforts both on the wholesale and retail sides.

²⁴ E. Krapels, P. Flemming, S. Conant, Energy Security Analysis, Inc., The Design and Effectiveness of Electricity Capacity Market Rules in the Northeast and California, *The Electricity Journal*, (October 2004).

²⁵ The NYISO has found that within the New York Control Area, capacity offered and purchased has consistently exceeded minimum capacity requirements. NYISO, December 1, 2005 Report on Implementation of, and Withholding Under, the New York Installed Capacity ("ICAP") Demand Curves, p. 1 (January 3, 2006).

²⁶ NYISO, December 1, 2005 Report on Implementation of, and Withholding Under, the New York Installed Capacity ("ICAP") Demand Curves, (January 3, 2006).

²⁷ In the tight New York City capacity market, the financial incentives provided by the Demand Curve have been supplemented by requests for proposals by Transmission Owners for long-term contracts.

²⁸ New York's ICAP Demand Curves have been in place for only about two and one-half years, and were only set at full capacity values in 2005. Given this, the long lead time needed to develop new generating facilities, and the various barriers to construction of new facilities, the NYISO has also concluded it is too early to reach any definite conclusions about the effects of the demand curves on investment in new generation in New York. NYISO, December 1, 2005 Report on Implementation of, and Withholding Under, the New York Installed Capacity ("ICAP") Demand Curves, pp. 1-2 (January 3, 2006).

The NYISO has developed several voluntary price-responsive load and distributed generation programs under which customers can choose whether to curtail load, and by how much, and be appropriately compensated. These programs, including the Special Case Resources (SCR) Installed Capacity (ICAP) Program, the Emergency Demand Response (EDRP) Program, and the Day Ahead Demand Response Program (DADRP), have resulted in increased participation by demand response providers in the New York Control Area. During periods of extreme weather or other system emergencies, these resources provide valuable reserves and help reduce the costs of serving the remaining load. For example, in 2002, the NYISO was able to call on these resources to help avoid voltage reduction and/or load shedding. The NYISO is considering the possibility of participation of demand side resources in the ancillary services markets as well.

The NYPSC has a long history of promoting pricing to facilitate greater demand elasticity. Most recently, the NYPSC directed utilities to file draft tariffs that would make Day-Ahead Market hourly energy pricing mandatory for their largest customers.²⁹ Further, voluntary time-of-use rates are available for residential customers, as required by State Law.³⁰

New York has also restructured standby rates for customer-owned on-site generation in order to better align customer demand response to proper economic signals.³¹ There is also an innovative pilot program in New York that is exploring the use of demand responsive appliances for residential use.³²

²⁹ Case 03-E-0641, Proceeding on Motion of the Commission Regarding Expedited Implementation of Mandatory Hourly Pricing for Commodity Service, Order Instituting Further Proceedings And Requiring The Filing Of Draft Tariffs (issued September 23, 2005).

³⁰ N.Y. Pub. Serv. Law § 66(27) (McKinney Supp. 2005).

³¹ Case 99-E-1470, Proceeding on Motion of the Commission as to the Reasonableness of the Rates, Terms and Conditions for the Provision of Electric Standby Service, Opinion and Order Approving Guidelines for the Design of Standby Service Rates, Opinion 01-4 (issued October 26, 2001).

³² Cases 02-M-0514 et al., Proceeding on Motion of the Commission to Investigate Competitive Metering for Natural Gas Service, Notice Requesting Comments on Staff Report (issued September 7, 2005), Comments of TRC (October 21, 2005) (describing the Westchester "Smart Homes" Pilot).

7. **Regional Markets**

Efficient wholesale markets require not only that resources within an ISO's boundaries are efficiently utilized, but that power transfers between neighboring regions are efficient as well. This will allow for lower prices regionally as the lowest cost resources will be utilized over a larger regional footprint. This is especially true during periods of high demand, when relatively small changes in imports can substantially reduce the frequency and magnitude of price spikes while at the same time improving overall reliability. Differences in market rules and designs, operating and scheduling protocols, imperfect information, and other diverging regional practices can inhibit the attainment of boundary efficiencies. Since 2000 the NYISO, the PJM Interconnection (PJM), the Independent Electricity System Operator (IESO) (Ontario) and the New England Independent System Operator (ISO-NE) have undertaken scores of individual projects to harmonize rules and protocols to facilitate interregional trade including:

- Emergency power transfer agreements to ensure that energy will flow across control area boundaries during emergency conditions.
- Reserve sharing agreements to allow temporary sharing of reserves and improve regional reserve market efficiency.
- Multi-hour Block Transactions to allow New York to accept and schedule external transactions with minimum durations, such as 5-day by 16-hour products commonly traded in the markets.
- Long-Term Transaction Pre-scheduling to allow imports into New York to be scheduled up to 18 months in advance.
- Progress on coordination and management of controllable lines between regions to facilitate the economic transactions between control areas over controllable facilities such as the Cross-Sound Cable between the NYISO and the ISO-NE, and Phase-Angle Regulators between the NYISO and PJM.
- Elimination of "rate pancaking" between the NYISO and the ISO-NE to remove a toll on transactions between control areas to allow power to flow more efficiently between them and help eliminate price spikes in either control area.

Electric & Natural Gas Retail Markets

I. Introduction

The opening of retail energy markets to competition has provided all New York consumers – 9.4 million residential and 1.2 million business electric and natural gas accounts – with the ability to choose their commodity supplier. Retail competition gives consumers choice which promotes market innovation and creates an incentive to provide value. This choice provides consumers with a range of value-added services, pricing arrangements that monopoly service would not otherwise produce.

The NYPSC has sought the development of robust retail competition by supporting key initiatives, such as increased customer choice, lower barriers to market entry for energy service companies (ESCOs), a level playing field for all suppliers, effective dispute resolution protocols, essential consumer protections, innovative pricing and services, ease of customer migration among suppliers, and price/value comparisons. The benefits of a competitive retail electric and natural gas market include the ability to choose suppliers, the availability of both fixed and variable pricing, availability of multi-year contracts, and the provision of environmentally-friendly (i.e., green) energy.

Currently, there are seventy-three suppliers in New York with at least seven competitive suppliers serving residential electric customers and eight competitive suppliers serving residential natural gas customers in each major utility franchise area. Experience has shown that retail competition in New York has developed to a greater extent for larger-use customers. Statewide, the market share of ESCOs serving larger-use customers is higher than for those serving lower-use customers, measured both by the number of accounts and load served. However, New York has witnessed steady growth in retail markets and that trend is expected to continue as consumers become aware of the opportunities for value that ESCOs provide.

1. **The Restructuring of New York's Retail Energy Markets**

New York restructured its energy markets to promote efficient energy services at just and reasonable rates, while providing customers greater choice, value and innovation. Value-added services – including heating system and appliance maintenance, efficiency consulting, etc. – could be bundled with energy if the energy supply was made competitive. Competition was also expected to produce downward pressure on prices, and offer consumers new supply pricing options (fixed, indexed, capped, etc.) and services, producing better value for their energy dollars.³³

2. **August 25, 2004 – Statement of Policy**

The Commission's 2004 *Statement of Policy on Further Steps Toward Competition in Retail Energy Markets*³⁴ identified important steps to accelerate development of competition in New York's electric and natural gas markets. In that document, the Commission directed the largest electric and natural gas utilities in the state to develop individual implementation plans for the continued development of retail energy markets. The Commission also ordered the development of statewide initiatives based on a number of identified "best practices" for fostering the availability of competitive choices to consumers. These best practices included: ESCO referral programs, utility purchase of ESCO receivables, release of utility account numbers to ESCOs with customer authorization, alignment of financial incentives for utility shareholders with the success of retail access, and the use of hourly pricing for commodity for the largest industrial and commercial customers.³⁵

Other than the delivery of electricity and natural gas over local utility systems, the Commission recommended opening all remaining utility retail functions to competition.³⁶

³³ Rather than impose a specific solution, the Commission developed a comprehensive policy framework, and worked with industry participants and interested parties to implement policy goals. This approach has allowed orderly market development through informed responses to constantly-evolving market conditions.

³⁴ Case 00-M-0504, *Competitive Markets*, Statement of Policy on Further Steps Toward Competition in Retail Energy Markets (issued August 25, 2004) ("August 25, 2004, Policy Statement").

³⁵ *Id.*, pp. 29-32, 47.

³⁶ *Id.*, p. 17.

It supported continued expansion of time-differentiated pricing among large electric customers, starting with the largest commercial and industrial customers in New York,³⁷ and encouraged interested parties to explore the idea of auctions to further develop the approaches that would best serve the New York energy marketplace.³⁸ The Commission also supported the exploration of aggregation programs for lower-use customers.³⁹

The Policy Statement addressed retail price volatility for customers remaining with utilities for commodity supply by reaffirming the portfolio approach it had supported in its 1998 Gas Policy Statement for use in addressing volatility for both electric and natural gas. The Commission stated its concern with volatility in spot markets and belief that smaller-use customers should be afforded some protection from that volatility.

3. **Customer Protections/Chapter 686 – HEFPA Changes**

Chapter 686 of the Laws of 2002, modified the Home Energy Fair Practices Act (HEFPA) to apply to ESCOs as well as delivery utilities. Under the statute, residential customers purchasing their energy commodity from ESCOs were provided the same essential consumer protections as customers who buy their commodity supply from the utility. Important safeguards, such as deferred payment agreements, low-income customer protections, cold weather rules, medical emergency provisions, and deposit regulations were now applicable to customers of all commodity suppliers. These protections provided a level playing field among load-serving entities, both utilities and ESCOs, so that consumers comparing services could do so with the knowledge that core consumer protections apply to all providers.⁴⁰

³⁷ *Id.*, p. 32.

³⁸ *Id.*, p. 26.

³⁹ *Id.*, p. 42.

⁴⁰ The Commission addressed changes to HEFPA under Chapter 686 of the Laws of 2002 in Case 03-M-0117.

II. Development of Retail Markets

1. The Office of Retail Market Development

The Commission created the Office of Retail Market Development (“ORMD”), the first organization of its kind in the country among utility regulatory commissions, in December 2003 to focus on electric and natural gas retail market issues and foster the development of competitive retail energy markets. ORMD is responsible for helping to create a level playing field for all market participants and ensuring that consumers have information needed to make informed choices when choosing an energy supplier. New York’s decision to establish ORMD has generated interest throughout the country, in Canada and in the United Kingdom, and has been emulated elsewhere. The Illinois Legislature has introduced legislation to create a similar office⁴¹ and the state commissions of New Jersey,⁴² Michigan⁴³ and Texas⁴⁴ now have offices with a retail market focus within their organizations.

ORMD has primary responsibility for:

- the ESCO eligibility process;
- utility migration reporting (including green power);
- the Power to Choose Web site and other competition related web content;
- Uniform Business Practices (UBP);
- electronic data interchange (EDI) standards;
- evaluation of utility retail access programs;
- addressing disputes between ESCOs and utilities; and
- removal/reduction of barriers to entry into New York retail markets.

⁴¹ H.B. 4977 requires the Illinois Commerce Commission to establish an Office of Retail Market Development to promote retail electric competition for residential and small commercial electricity consumers. (see Illinois General Assembly - www.ilga.gov).

⁴² The New Jersey Bureau of Public Utilities, Division of Energy now has a Bureau of Market Development and System Reliability which oversees industry restructuring issues. (see BPU - www.state.nj.us/bpu/).

⁴³ The Michigan Public Service Commission created the Competitive Energy Division. (see MI NYPSC - www.michigan.gov/mpsc/).

⁴⁴ The Texas Public Utilities Commission has created a Retail Market Oversight office within its electric division. (see TX PUC - www.puc.state.tx.us/).

2. **Policy Statement Best Practices**

In its August 25, 2004 Policy Statement, the Commission reaffirmed its commitment to competitive markets as the preferred means of promoting safe and adequate energy services at just and reasonable prices, while also providing customers with the benefit of greater choice, value and innovation.⁴⁵ It further identified several best practices as desirable for more widespread use in New York. Since then, many utilities have begun implementing these best practices after receiving input through collaborative meetings on filed rate cases and retail access plans.

a) *ESCO referral program*: Of particular interest are ESCO Referral Programs similar to the PowerSwitch program⁴⁶ initiated by Orange and Rockland Utilities, Inc. These utility-run programs facilitate retail access enrollment, offering customers a two-month commodity price discount from a participating ESCO. The Commission recently issued an Order adopting guidelines and requiring the development of similar programs for each of New York's major electric and gas utilities. Several utilities are currently in the process of adopting such programs as identified below.

b) *Purchase of Receivables*: The purchase by utilities of ESCO receivables (POR), when combined with utility consolidated billing, was seen as another way to facilitate retail competitive markets. When combined with Orange and Rockland Utilities, Inc.'s PowerSwitch program, the effects on migration of residential and small commercial customer statistics were very significant. All of New York's major utilities, with the exception of KeySpan Energy, have adopted this best practice since the Policy Statement was issued.

c) *Access to customer data*: Another best practice under consideration is how to allow ESCOs to get access to customer data in a more efficient fashion to help

⁴⁵ The Commission's vision statement is as follows: "The provision of safe, adequate, and reliable gas and electric service at just and reasonable prices is the primary goal. Competitive markets, where feasible, are the preferred means of promoting efficient energy services, and are well suited to deliver just and reasonable prices, while also providing customers with the benefit of greater choice, value and innovation. Regulatory involvement will be tailored to reflect the competitiveness of the market." August 25, 2004, Policy Statement, at p.18.

⁴⁶ Orange and Rockland's original ESCO referral program was Switch and Save. It was initiated in 2000 and changed to PowerSwitch in 2004.

them market to customers. The Commission has recognized the need to make the enrollment process as easy as possible, while still carefully protecting consumers and their privacy.

d) *Alignment of Utility Incentives*: In its Policy Statement, the Commission stated that incentives which aligned utility interests with facilitating customer choice were a positive element of a utility's retail access program and also stated that utilities should not propose commodity offerings that provide a profit center for the utility, as this would represent a counter-incentive to the promotion of retail choice.

e) *Hourly pricing for large electric customers*: The exposure of the largest commercial and industrial customers to spot market prices was also considered a reasonable way to both assure that proper price response was realized and to allow competitive providers to provide pricing mechanisms to address the risk management needs of customers. In September of 2005, the Commission ordered the major New York utilities to file draft mandatory hourly price tariffs for their largest electric customers.

f) *Aggregation*: In its August 2004 Policy Statement, the Commission found aggregation to be an attractive method to increase the market power and overall attractiveness of individual residential, small-business and even low-income users through municipal and/or affinity buying groups which reduce customer acquisition costs. The Commission directed staff to continue to develop and foster aggregation by assisting interested groups. It also encouraged interested parties to explore the idea of large scale aggregation efforts for large commercial and industrial customers.

3. **Retail Access Specific Efforts**

a) *Unbundling*: The movement from cost-based regulation to competitive markets for commodity and other energy services requires that the expenses and costs of utilities be correctly accounted for and assigned to each individual function performed by the utilities. This process requires the “unbundling” of service elements into discrete services, such as commodity, metering, and billing and payment processing. The Commission completed its generic review of unbundling issues and issued an Order on August 25, 2004 addressing statewide generic and other issues raised by the cost studies

submitted in the proceeding by NYSEG and Consolidated Edison.⁴⁷ Based on its review of those issues, the Commission required utilities to unbundle their rates, based on the principles outlined in that Order no later than in their next rate filing. So far, limited unbundling has been implemented for Consolidated Edison electric rates, National Fuel, and National Grid. Unbundling efforts continue for these utilities, and is actively being pursued within current proceedings for other utilities.

b) *Bill Format*: On February 18, 2005, the Commission issued its Order on Unbundled Bill Formats for utility commodity sales bills. Utilities were ordered to submit draft unbundled bill formats, implementation timetables, outreach and education plans, and any required draft revised tariffs. Several utilities have begun the process of redesigning their bills to address the Commission's Order.

c) *Competitive Metering*: The Commission began developing competitive metering policies in 1996, has been monitoring progress, and has acted from time to time to continue its development. Competitive metering services have been available for the largest electric customers in New York for several years. Based on its evaluation of the need for more advanced metering in its Competitive Markets Policy Statement, the Secretary to the Commission issued a notice requesting comments on issues surrounding competitive metering services.⁴⁸ After comments were received from numerous parties, a Staff Report was issued that recommended, among other things, that utilities be permitted to invest in advanced and automated metering technologies and that the focus of competition in the near term be on competitive meter data services. The comments submitted on that report are now being reviewed by Staff of the Department of Public Service.

d) *ESCO Referral Programs*: As mentioned previously, on December 22, 2005, the Commission issued an Order adopting guidelines and requiring that the development of ESCO Referral Programs similar to Orange and Rockland's PowerSwitch

⁴⁷ Case 00-M-0504, Provider of Last Resort, Retail Competitive Opportunities - Unbundling Track, Statement of Policy on Unbundling and Order Directing Tariff Filings, (issued August 25, 2004).

⁴⁸ Case 02-M-0514, Competitive Metering for Natural Gas Service, Case 00-E-0165, Competitive Metering, Case 94-E-0952, Competitive Opportunities Regarding Electric Service (the Competitive Metering Cases), Notice Seeking Comments (issued November 8, 2004).

proceed at each of New York's major electric and gas utilities.⁴⁹ Based on that Order, several utilities have already proposed programs that will begin in early 2006.

e) *Hourly Pricing*: The Commission recently ordered the major New York electric utilities to file draft mandatory hourly price tariffs for their largest customers.⁵⁰ The Order anticipated that implementing these prices for the largest consumers of electricity would benefit the customers themselves, overall electric commodity peak demand and prices, the competitive retail electric market, and the environment.⁵¹ Further details on these initiatives are provided elsewhere in this report.

f) *Aggregation*: Customer aggregation efforts have also been expanding since the Commission issued its August 2004 Policy Statement. Twenty members of the Council of Industry of Southeastern New York have aggregated 30 MW of their load to be supplied by a power marketer.⁵² The City of Oneonta Common Council extended its contract with an ESCO to provide electric services for city-managed properties. The original contract was reached as part of a collective purchasing agreement with the Municipal Electric and Gas Alliance.⁵³ Some market entities specialize in aggregation programs for affinity groups and have introduced group buying programs such as the Municipal Electric and Gas Alliance.⁵⁴ Dutchess County Board of Cooperative Educational Services put out a request for bids for an electricity supplier and selected an

⁴⁹ Case 05-M-0858, In the Matter of State-Wide Energy Services Company Referral Programs, Order Adopting ESCO Referral Program Guidelines and Approving an ESCO Referral Program Subject to Modifications (issued December 22, 2005).

⁵⁰ Case 03-E-0641, Proceeding on Motion of the Commission Regarding Expedited Implementation of Mandatory Hourly Pricing for Commodity Service, Order Instituting Further Proceedings and Requiring the Filing of Draft Tariffs (issued September 23, 2005).

⁵¹ Case 03-E-0641, Proceeding on Motion of the Commission Regarding Expedited Implementation of Mandatory Hourly Pricing for Commodity Service, Order Approving Marketing Plan Compliance Filings In Part and Directing Further Filings, (issued September 23, 2005) p.7ff.

⁵² "Electricity Aggregation Will Begin 2006 with 43 (at Least) Participants," Council of Industry, December 2005 Newsletter. (see Council of Industry – www.councilofindustry.org)

⁵³ "City Extends Deal With Low-Cost Energy Firm," Jake Palmateer, The Daily Star, March 29, 2005.

⁵⁴ For example, see, www.energynext.com.

ESCO which saves the school districts between 7% and 8% on electricity costs.⁵⁵ At the Tenth National Green Power Marketing Conference – held in Austin, Texas, in October 2005 – advancement in green aggregation by New York local governments was discussed.⁵⁶

4. **Utility Retail Access Plans**

As part of its August 25, 2004 Policy Statement, the Commission requested that all the major New York utilities file Retail Access Plans outlining their proposals to promote competitive markets, including addressing the best practices identified by the Commission. Nearly all of the major New York utilities have filed a Retail Access Plan with the Commission.

The Commission has approved Retail Access Plans, either in whole or in part, for Central Hudson, Consolidated Edison, National Fuel Gas, National Grid, and NYSEG. For example, nearly all of the major New York utilities have either begun purchasing ESCO receivables or are now in the process of putting POR programs into place. ESCO referral programs are either operating or planned for implementation in 2006 for most of these utilities as well. Hourly pricing for large customers has been implemented for Central Hudson and discussions regarding large scale residential and commercial aggregation programs have been held with several utilities. Additional progress for these and the other major New York utilities continues.

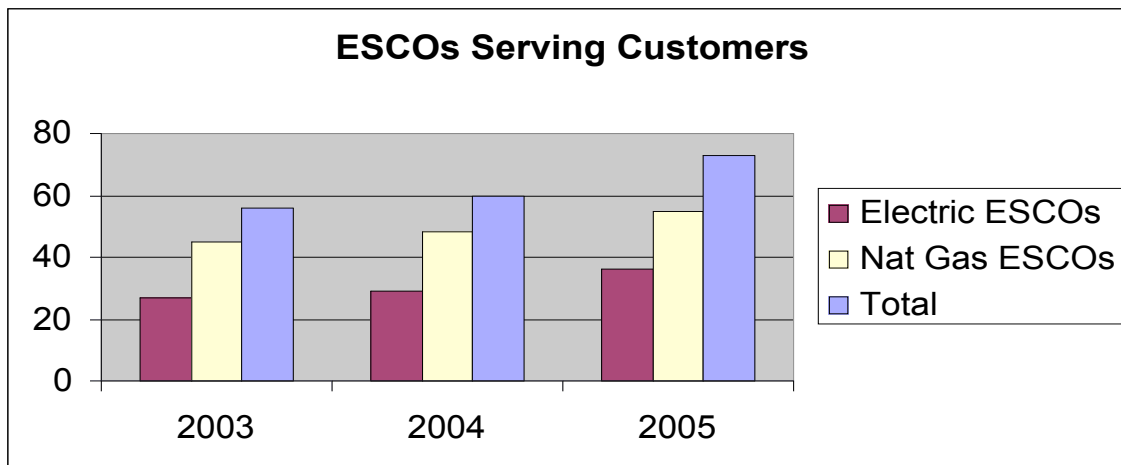
⁵⁵ "Schools Powering Up with New Electricity Provider," Erikah Haavie, Poughkeepsie Journal, October 14, 2005.

⁵⁶ U.S.D.O.E., Energy Efficiency and Renewable Energy, Tenth National Green Power Marketing Conference, http://www.eere.energy.gov/greenpower/conference/gpmconf05_pres.html.

III. Progress in Retail Energy Markets

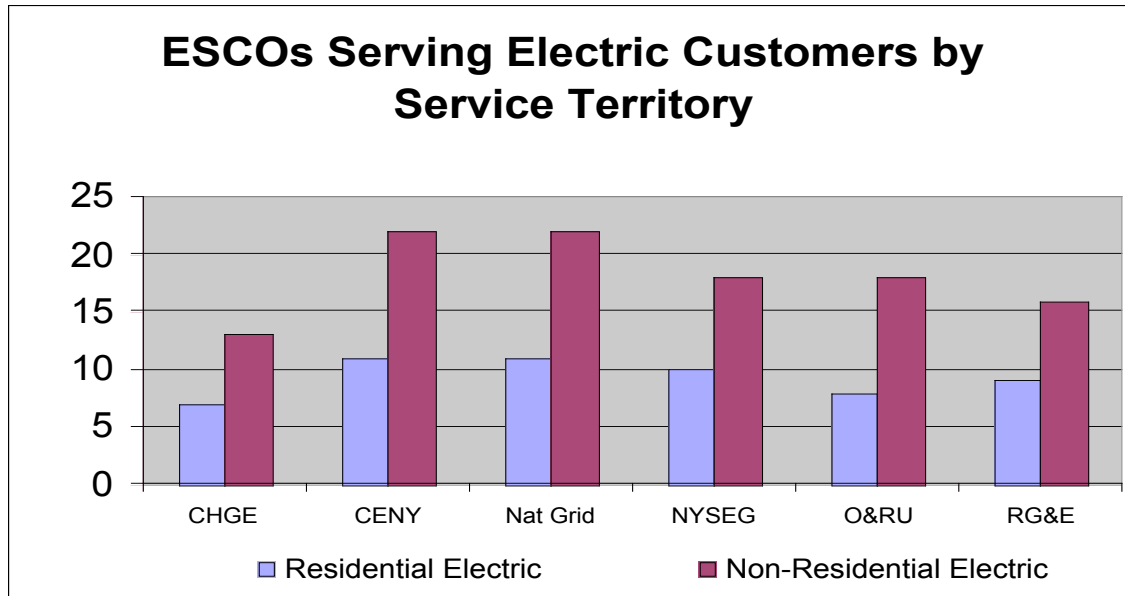
1. ESCO Eligibility and Participation

ESCO entry and activity in New York retail energy markets is a key element of the health of retail energy markets. ESCOs must go through several stages of eligibility prior to serving New York consumers. If an applicant intends to sell natural gas and/or electricity to end users within NYS, they must first be deemed an eligible ESCO by the Commission and be certified by the utilities in whose territories they intend to participate.⁵⁷ The Commission's Office of Consumer Services also reviews the eligibility of ESCOs serving residential customers with respect to the UBP and Commission regulations regarding the revisions to HEFPA resulting from Chapter 686 of the Laws of 2002. Currently there are 99 eligible ESCOs in New York, of which 73 are currently serving customers. In 2005, 31 new ESCOs became eligible, and 13 of these are now serving New York consumers. In that period, seven new ESCOs began providing New York customers with natural gas commodity, and five of those new ESCOs are serving residential customers. There are also seven new electric ESCOs serving New York customers, five of which are providing residential consumers with new electricity supply options.

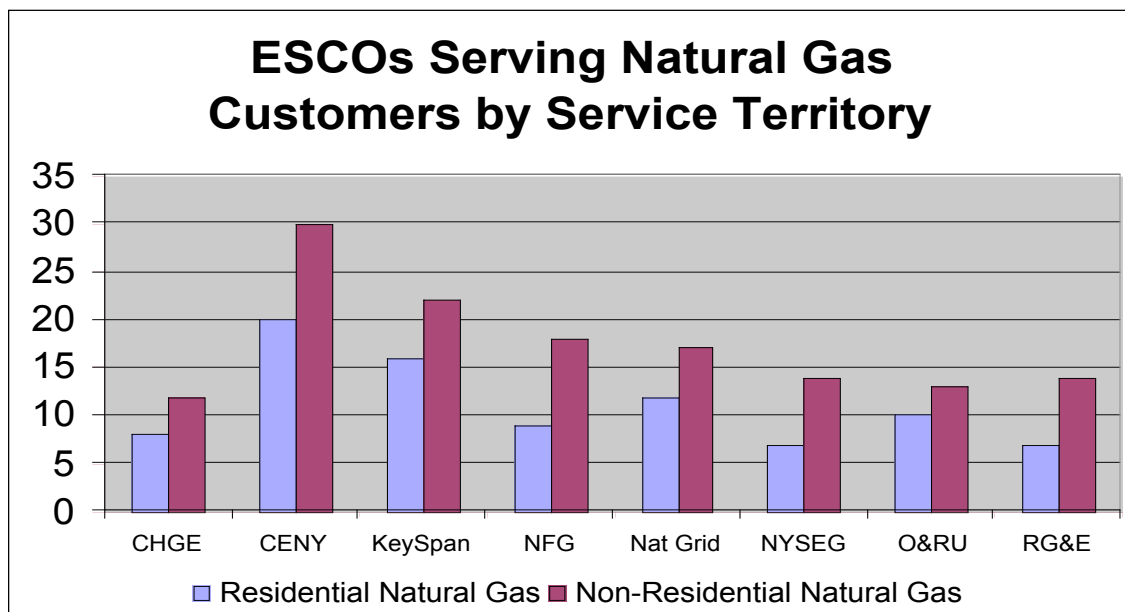


⁵⁷ See <http://www.dps.state.ny.us/escoapp.htm>

Currently, there are at least 7 ESCOs serving residential electric customers and at least 14 ESCOs serving non-residential electric customers in each major New York utility service area.



In each major utility service territory there are at least 8 ESCOs serving residential natural gas customers and at least 12 ESCOs serving non-residential natural gas customers.



The largest number of ESCOs serving customers is found in Consolidated Edison's service territory, the geographic location with the highest customer density in New York.

The Commission has several avenues available to ESCOs and utilities seeking to resolve disputes related to competitive market issues. The UBP provide for formal and expedited resolution of disputes between ESCOs and utilities. ORMD as well as other Offices can be of assistance in resolving informal disputes as well as formal complaints. The Commission also has an Alternative Dispute Resolution process administered by the Secretary to the Commission. Finally, a petition may be filed with the Commission requesting formal action on a dispute.

2. **Customer Retention Rate**

Customer satisfaction with and desire to remain with their competitive supplier is another key indicator of the health and progress of competitive markets. New York's eight major gas and electric utilities do not report ESCO customer retention data, but some of the electric utilities provide limited information regarding customer accounts no longer being served by their previous competitive commodity supplier.⁵⁸ This data shows the total number of customer accounts which are no longer being served by the prior ESCO; however, there is no way to determine why these accounts are no longer served by that ESCO. In 2005, for the data reported, an average of 1% (3,572) of all residential ESCO customer accounts went to utility commodity supply per month for any reason.

In April 2005, Orange and Rockland Utilities, Inc., the utility with the highest percentage of customer migration, reported that for calendar year 2004 only about 1.5% of all retail access customers switched back to the utility for their energy commodity supply. Orange and Rockland reported much higher percentages of retail access customers who switched commodity suppliers to another ESCO; 6.7% of electric and 3.7% of natural gas retail access customers, respectively.⁵⁹

⁵⁸ The natural gas sales and migration reports do not provide this data at this time. All of the major electric utilities provide residential data, with the exception of Central Hudson Gas and Electric.

⁵⁹ Comments of Orange and Rockland Utilities (filed April 5, 2005) p. 3.

3. **Value-Added Services**

Another important measure of the progress in the development of retail energy markets is the extent to which the ESCOs are providing value-added services such as fixed commodity prices, capped and indexed commodity prices, bundled telephone service, "green" power generated from renewable resources, or consulting services. Value-added services for large commercial and industrial customers include sophisticated hedging and price-certainty arrangements, energy efficiency and energy management services, and demand response assistance and support.

As of January 2006, there were fixed prices offered to residential customers in at least seven of the eight major natural gas utility service territories. The number of known residential natural gas fixed price offerings ranged from two to six within each territory. In Central Hudson's service territory, 10 ESCOs offered fixed prices to natural gas customers for the 2005 heating season.

As of January 2006, there were also fixed price offers for residential electric customers in at least four out of six of the major electric utility service areas, with as many as three per service area. In Con Edison's service territory, at least three ESCOs offered fixed electricity prices for residential customers, including a green energy product with a fixed price.

ESCOs also offer customers other value-added services, such as load control, energy efficiency assistance, and telephone service bundled with energy. In several service territories, some ESCOs are separately offering optional home furnace cleaning and maintenance contracts and at least one ESCO offers this service bundled with its natural gas commodity. As more ESCOs enter the market and competitive markets continue to expand, this trend is expected to grow.

In every major utility service area, customers can choose to purchase electricity generated from renewable resources, either from an ESCO offering green power or from a green energy provider through the utility. The latest available annual data from the environmental disclosure program indicates that 162,000 MWhs were purchased in New York's voluntary green market in 2004. In the Renewable Portfolio Standards proceeding, New York established a goal of having, by the year 2013, 25% of its energy

needs met from renewable energy sources. Four percent of that amount (in other words, an amount equivalent to 1% of New York's total electric consumption) is expected to come from voluntary consumer purchases of energy commodity from renewable resources.

There has been progress toward achieving that goal. In 2004, 0.1% of all New York State's electric consumption was served through voluntary green purchases. Preliminary data from renewable energy providers for September 2005 – the first month for which retail data were available – indicate that more than 17,000 customer accounts had selected a green power offering, using nearly 14,000 MWhs of green power in that month. Over 99% of these were residential accounts.⁶⁰

4. **Savings**

The Commission supports the concept that retail market competition will spur innovation and provide better overall value for consumers' energy dollars. One component of the value created by ESCOs is the savings they offer to consumers.

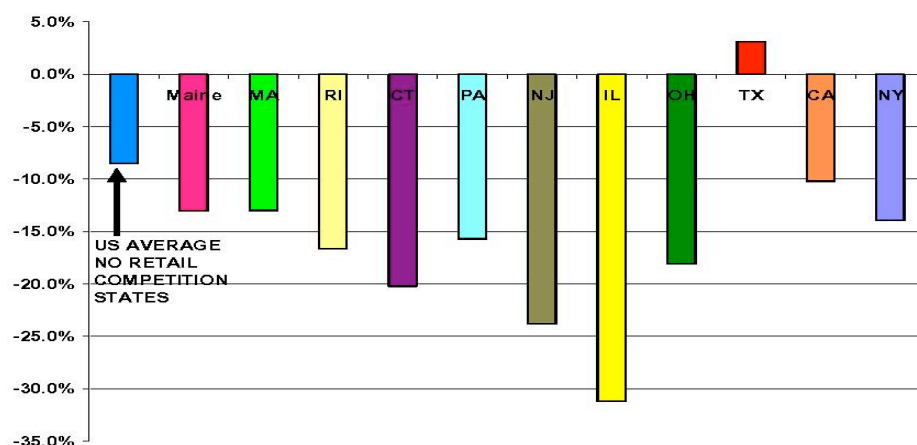
As discussed in the wholesale competition section before, real electric bills have decreased over the years for customers staying with the utility.⁶¹ No hard data is available to pinpoint the precise dollar savings consumers are realizing by switching to ESCOs. However, customers seem to be satisfied with the service they are receiving from ESCOs as indicated by the retention rates and customer satisfaction statistics noted elsewhere in this report. Further, Paul Joskow's analysis indicates that, while the average real price for residential customers in states without retail electric competition fell by about 8%, the real residential electric price in New York fell by about 14%. Joskow has also found that, other than in Texas, residential customers in states with retail electric markets fared better than the average residential electric customer in states without retail access in the period between 1996 and 2004.⁶²

⁶⁰ Department Staff continues to conduct collaborative conferences with utilities, green providers, ESCOs, and other parties to increase customer awareness of the availability and benefits of purchasing green power as well as encouraging additional ESCOs and other green power providers to provide green products.

⁶¹ See, *supra*, pp. 7-9.

⁶² "Markets for Power in the United States: an Interim Assessment," Figure 6, Paul L. Joskow, MIT, August 23, 2005.

Changes in Real Residential Prices 1996-2004 (%)



Source: Calculated from U.S. Energy Information Administration (EIAa, EIAb, EIAc) (various issues), adjusted for changes in the consumer price index.

Even though prices for electricity and natural gas change from day to day in the competitive retail market, some ESCOs offer guaranteed savings from the utility price and some offer utility or market indexed prices to larger customers. For example, some ESCOs offer fixed price contracts that save customers up to 9% when compared to the fixed price service from the utility.⁶³ In addition, existing ESCO referral programs offer customers introductory discounts and rebates.⁶⁴ On December 22, 2005, the Commission issued an Order adopting guidelines for the development of ESCO referral programs for the remaining major New York electric and gas utilities. ESCO referral programs are being implemented for Central Hudson's customers in March 2006, for Consolidated

⁶³ A January 9, 2006 article in the Binghamton, NY Press and Sun Bulletin stated that some residential customers in NYSEG's territory were saving 30% on their electric bills. The article also noted that several local governments and school districts were saving between 14% and 20% on their electric bills.

⁶⁴ For example, full-service utility customers in O&R's service area can get a 7% discount from the utility's natural gas and/or electric commodity price for two months under that utility's PowerSwitch Program. In the Fall of 2005, in the "Take 25" program in Consolidated Edison's service area, six ESCOs offered residential and 10 ESCOs offered non-residential natural gas customers a \$25 rebate, after two months of service, to enroll with them before the heating season began. The same offer was extended to non-residential customers by 10 ESCOs. Some ESCOs have even offered larger rebates in the Take 25 program. The reported enrollment resulting from the campaign was 16,000 accounts.

Edison's and National Fuel's customers on April 1, 2006, and for National Grid's customers in the second quarter of 2006.

5. **Customer Satisfaction**

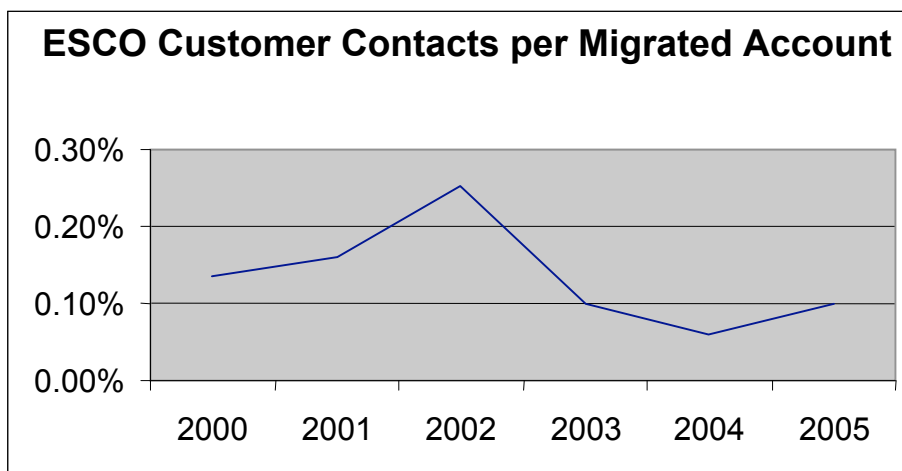
Another key indicator is customer satisfaction levels. The Office of Consumer Services addresses the inquiries and resolves the complaints of residential and business consumers regarding their ESCO service. A review of ESCO customer contacts received at the NYPSC provides some insight into customer awareness and experience regarding retail competition.⁶⁵

Customer Contacts						
	2000	2001	2002	2003	2004	2005
Contacts	693	1231	1918	717	458	929
Accounts	514,593	769,038	761,905	708,495	761,864	920,304 ⁶⁶
Rate	0.13%	0.16%	0.25%	0.10%	0.06%	0.10%

The table shows that the number of customer contacts regarding ESCO service has declined since the peak reached in 2002. At the same time, both the number of customers served by ESCOs as well as the number of eligible ESCOs has increased significantly. When the customer contact numbers are compared to the number of customer accounts that are enrolled in ESCO commodity supply service, the data indicate that in 2002 there was a 0.25% customer contact rate compared to a 0.10% customer contact rate for 2005.

⁶⁵ Consumer contacts about ESCO services are reported on the Commission's Web site.
http://www.dps.state.ny.us/ocs_stats.html

⁶⁶ Total number of accounts for 2005 includes utility-forecasted data for the number of accounts in December 2005.



Compared to total customer contacts, the number of complaints filed by consumers regarding ESCOs is much lower. Less than one-quarter of the consumer contacts in 2005 became complaints. In 2005, the number of complaints regarding ESCO service was only 227, a little over 0.02% of the 920,304 accounts enrolled with ESCOs at the end of 2005.

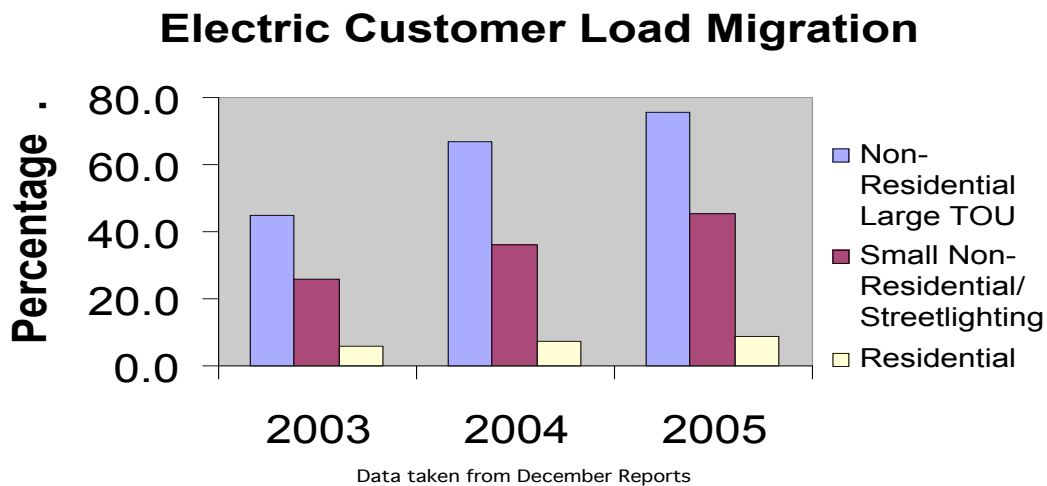
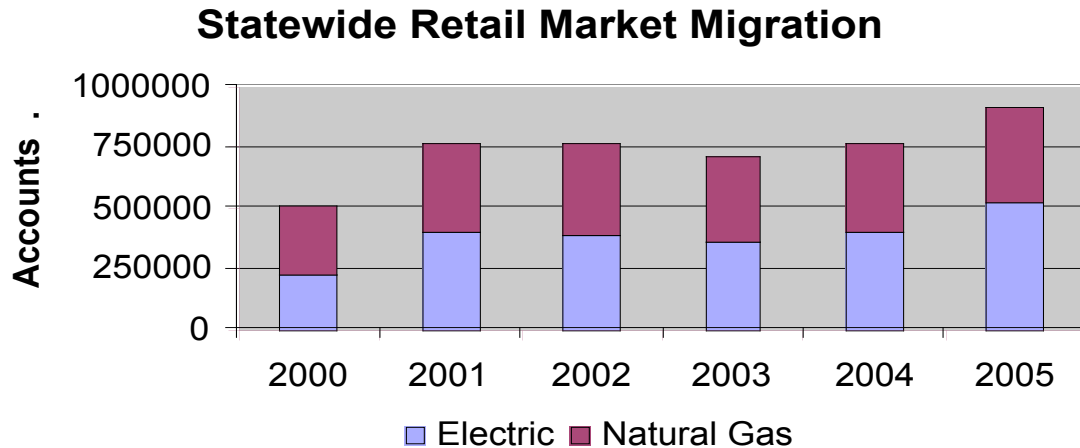
Slamming and misrepresentation have always been of great concern to the Commission. Of the 40 ESCO slamming complaints filed with the Commission in 2005, only 8 were determined to be actual situations where an unauthorized ESCO was the consumer's commodity supplier. The other 32 complaints were determined to be situations where the switch to ESCO service had been authorized by the customer.

6. Migration Statistics

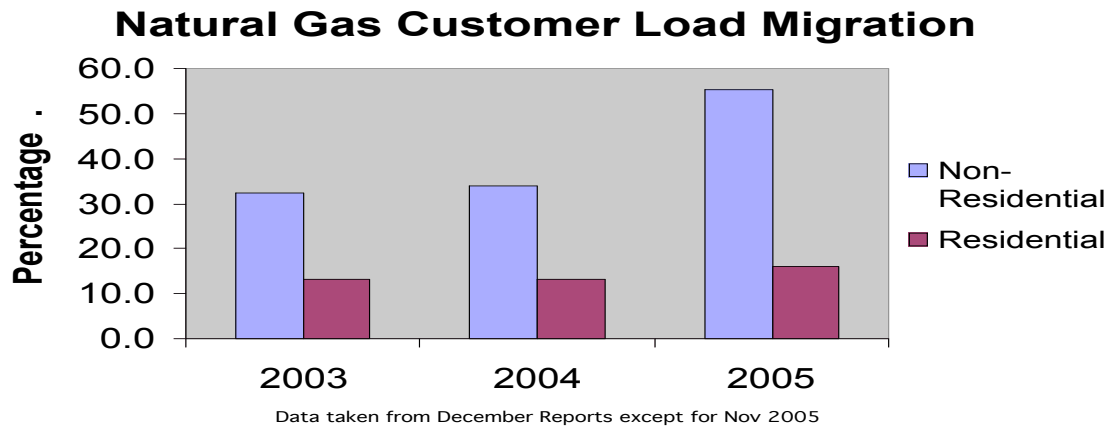
The trend in customers migrating from utility to ESCO commodity service is one of the key indicators of the development of competitive markets. Even though New York has not yet fully implemented all the best practices identified in the Commission's Competitive Markets Vision Statement, the table below indicates significant early growth in customer migration occurred in 2001 subsequent to the release of the recommended decision in the Competitive Markets proceeding.⁶⁷ After that, account migration statistics remained relatively static until 2004 but saw healthy gains in 2005, subsequent to

⁶⁷ Case 00-M-0504, Competitive Markets, Recommended Decision (issued July 13, 2001).

implementation of some of the best practices the Commission had identified.⁶⁸ As best practices continue to be implemented, additional customer migration is expected.



⁶⁸ Data for commodity load migration was not reported in a consistent manner prior to 2003.



a) **Retail Electricity Markets**

Growth in retail electric migration has increased, with a 12.9% growth in competitive sales, and a 32% growth in total customer accounts enrolled with ESCOs, between December 2004 and December 2005. Most of this growth comes from a 39% growth rate in small and medium commercial and industrial accounts. Growth is expected to increase with the entry of additional large and well-capitalized ESCOs.⁶⁹ In New York, as of December 2005, 527,508 electric accounts have switched to ESCOs for their energy commodity. Thus far, 55.6% of large commercial and industrial Time-of-Use (TOU) electric customers have switched to an ESCO. Further, 38.5% of all customer load has migrated to ESCOs and over 75.7% of all large time-of-use electric customer load is now supplied by ESCOs.

In the residential market, 6.7% of customer accounts statewide now receive electric service from an ESCO. As the chart below indicates, ESCO penetration levels vary and are higher in some utility territories. For example, in Orange & Rockland's service area, the residential migration rate is 30.4%, while 17.5% of residential customer accounts in Rochester Gas & Electric's service area have switched to an ESCO. Recent statistics show that in December 2005, a significant increase in residential enrollments took place in Central Hudson's service area (up 32.0%) and Consolidated Edison's

⁶⁹ For example, Direct Energy has announced it is entering New York in March 2006 to serve residential, commercial, and industrial customers. ("Direct Energy Splashes into Giant New York Market," Restructuring Today, January 26, 2006.)

territory (up 50.3%), due in part to the implementation of the Commission's best practices.

December 2005 Statewide Comparison Report								
New York State*	Total		Non-Residential - LG TOU		Non-Residential - SM & ST LGT		Residential	
	Customer Accounts	Load (MWh)	Customer Accounts	Load (MWh)	Customer Accounts	Load (MWh)	Customer Accounts	Load (MWh)
Customer & Load Migration	527,508	3,313,004	3,264	1,443,781	154,156	1,578,490	370,088	290,733
Total Eligible	6,381,976	8,614,367	5,866	1,907,409	837,709	3,476,768	5,538,401	3,230,190
% Migration	8.30%	38.50%	55.60%	75.70%	18.40%	45.40%	6.70%	9.00%
Monthly Avg (yr end 11/05)	463,703	3,262,609	3,245	1,502,766	137,620	1,498,099	322,838	261,744
% Change from Avg	13.80%	1.50%	0.60%	-3.90%	12.00%	5.40%	14.60%	11.10%
12/04 Customer & Load Migration	399,734	2,935,487	2,931	1,400,516	110,720	1,304,362	286,083	230,609
% Chg from 12/04	32.00%	12.90%	11.40%	3.10%	39.20%	21.00%	29.40%	26.10%
Utility	Total		Non-Residential - LG TOU		Non-Residential - SM & ST LGT		Residential	
	Migrated Customer Accounts	Migrated Load (MWh)	Migrated Customer Accounts	Migrated Load (MWh)	Migrated Customer Accounts	Migrated Load (MWh)	Migrated Customer Accounts	Migrated Load (MWh)
CHG&E	3,523	125,273	29	98,564	1,399	24,965	2,095	1,744
Con Edison	177,516	1,280,558	441	531,676	60,473	689,389	116,602	59,494
NYSEG	80,685	448,029	2,053	250,534	26,920	144,798	51,712	52,697
Nat Grid	127,184	1,016,180	193	359,838	40,077	575,608	86,914	80,734
O&RU	66,796	131,384	31	28,001	9,813	59,028	56,952	44,355
RG&E	71,804	311,579	517	175,167	15,474	84,702	55,813	51,710

b) Retail Natural Gas Markets

In 2005, the number of natural gas accounts enrolled with ESCOs grew by about 8.5% compared to 2004. As of December 2005, 392,796 natural gas accounts have migrated to ESCOs.⁷⁰ All of New York's large commercial and industrial natural gas customers no longer receive their commodity from a utility. According to the natural gas migration report for November 2005, other non-residential natural gas customer account

⁷⁰ The overall number of migrated accounts is taken from the utility forecasts for December 2005.

migration is 18.5% statewide.⁷¹ Currently, 38.3% of the entire natural gas commodity volume in New York is purchased from ESCOs. For all non-residential customers, over half (55.2%) of all natural gas commodity is now purchased from non-utility sources.

Statewide, 8.2% of all residential accounts and 11.9% of residential heating accounts have switched to competitive suppliers. Orange & Rockland has the highest level of residential customer accounts served by ESCOs, with about 37% of gas residential heating accounts switched to ESCO service. About 27% of Conning's residential heating accounts, 15.5% of Consolidated Edison's and RG&E's residential heating accounts, and 15% of National Grid's residential heating accounts are now being served by ESCOs. Statewide about 16.0% of total residential commodity consumption is no longer provided by the delivery utility.

NEW YORK STATE DEPARTMENT OF PUBLIC SERVICE
Nov-05

GAS STATEWIDE MARKETER MIGRATION SUMMARY										
	<u>Total</u>		<u>Non-Residential</u>		<u>Residential</u>		<u>Residential Heating</u>		<u>Residential-Non Heat</u>	
Type of Sales	Number of Accounts	Volume in MDT	Number of Accts	Volume in MDT	Number of Accts	Volume in MDT	Number of Accts	Volume in MDT	Number of Accts	Volume in MDT
TRANSPORTATION:										
LARGE VOLUME	3,409	11,530	3,409	11,530	N/A		N/A		N/A	
SMALL AGGREGATION	375,590	8,164	62,850	4,604	312,740	3560	266,135	3418	46,605	142
Total Transportation Sales	378,999	19,694	66,259	16,134	312,740	3560	266,135	3418	46,605	142
% of All Sales	9.10%	38.30%	19.30%	55.20%	8.20%	16.00%	11.90%	16.40%	3.00%	10.80%
DISTRIBUTION COMP. SALES										
FIRM**	3,777,935	26,507	272,436	7,859	3,505,499	18,648	1,978,432	17,477	1,527,067	1,170
INTERRUPTIBLE	5,235	5,245	5,235	5,245	N/A		N/A		N/A	
Total Distribution Comp. Sales	3,783,170	31,752	277,671	13,104	3,505,499	18,648	1,978,432	17,477	1,527,067	1,170
% of All Sales	91.10%	61.70%	80.70%	44.80%	91.80%	84.00%	88.10%	83.60%	97.00%	89.20%
TOTAL SALES:	4,162,169	51,446	343,930	29,238	3,818,239	22,208	2,244,567	20,895	1,573,672	1,313

⁷¹ Individual customer group information is from November 2005, the latest date for which natural gas volume information is available. The natural gas utilities file two reports with the Commission, the first is the forecast of accounts, filed at the beginning of each month based on the number of meters switched to retail access. The second is filed 45-60 days after the close of the month and includes updated accounts as well as monthly volumes.

GAS STATEWIDE MARKETER MIGRATION SUMMARY - BY UTILITY

		Total		Non-Residential			Residential-Total			Residential-Heating		
Utility	Number of Accts	Sales Volume in Dth	Proj. Ann.Vol. MDT	Number of Accts	Sales Volume in Dth	Proj. Ann.Vol. MDT	Number of Accts	Sales Volume in Dth	Proj. Ann.Vol. MDT	Number of Accts	Sales Volume in Dth	Proj. An.Vol MDT
CHGE	1,532	129,885	1,784	760	118,692	1,609	772	11,193	174	687	10,827	170
CON ED	56,335	2,034,599	20,088	12,515	874,448	11,788	43,820	1,160,151	8,301	16,455	1,141,511	8,000
CORNING	3,079	70,872	3,302	252	47,147	2,910	2,827	23,725	392	2,827	23,725	392
KEYSPAN - LI	30,319	668,772	12,311	6,328	488,850	7,703	23,991	179,922	4,607	20,931	173,567	4,448
KEYSPAN - NY	60,332	1,173,996	18,386	9,229	616,467	9,435	51,103	557,529	8,951	40,061	459,564	7,924
NFG (See Note*)	53,471	1,869,492	40,563	9,563	1,383,936	34,812	43,908	485,555	5,751	43,217	483,026	5,729
NYSEG	5,635	157,739	3,742	3,756	147,258	3,475	1,879	10,481	267	1,820	10,348	264
NATL GRID	71,540	922,160	14,757	9,541	486,848	7,499	61,999	435,312	7,259	59,603	426,744	7,126
O&R	45,906	611,347	9,508	4,842	209,733	4,026	41,064	401,615	5,482	40,240	398,169	5,434
RG&E	47,441	525,119	7,431	6,064	230,383	3,338	41,377	294,736	4,093	40,294	290,328	4,011
TOTALS	375,590	8,163,981	131,873	62,850	4,603,762	86,802	312,740	3,560,218	45,277	266,135	3,417,809	43,496

* Note: Throughput for Aggregation and Large Transportation Customers has been estimated for November 2005.

Note: Residential Total includes Residential-Heating.

N/A = Not Applicable

IV. Education and Outreach

A critical component of the transition to competitive markets is a continuing consumer education and information program. The Commission's August 25, 2004 Policy Statement recognized the importance of coordinating the efforts of all stakeholders in educating and informing consumers regarding the value of their choice.⁷²

The Commission sponsors extensive consumer education related to retail energy competition, including the "Your Energy, Your Choice" statewide program that uses promotional media such as pamphlets, billboards and newspaper advertisements. Each year at the New York State Fair, and numerous local events, Department Staff distributes literature describing retail competition and options for consumers such as green market alternatives. Staff also uses these opportunities to respond directly to consumers' questions about retail energy markets. The Department of Public Service also makes its publications available to other groups for their use in explaining retail choice to their constituents and clients.

Department Staff also attend Market Expos and Energy Fairs, sponsored by New York State's major utilities and attended by ESCOs and consumers, providing general information regarding competition to consumers and assisting them in understanding the process of enrollment. Listed below are some of the key elements and highlights of the education and outreach efforts that support the development of retail markets.



Power to Choose Web site – Using the Commission's Power to Choose Web site, consumers can enter their zip code to get geographic-specific information on ESCO choices. The ESCOs listed in the Power to Choose chart are actively offering electricity and natural gas commodity and may be offering other services to consumers in the utility

⁷² August 25, 2004, Policy Statement, pp. 46-47.

service territory selected. The Commission launched its new Power to Choose Web site in mid-October 2005.

Energy Fairs – Utility-sponsored Energy Fairs provide residential customers an opportunity to learn more about retail access. During an Energy Fair, customers learn about competition and meet face-to-face with participating ESCO representatives who may make commodity price offers. Utilities are able to provide consumers with their account numbers to facilitate real-time enrollments. Energy Fairs are a cost-effective way to educate residential customers about competition and provide them with commodity offers from competitive suppliers. Many Energy Fairs have been held throughout New York, attracting thousands of visitors and additional fairs are planned for 2006.

Market Expos – Market Expos provide non-residential business customers an opportunity to learn more about the current status of retail access programs in a specific utility's service territory. During the Market Expo, customers consider their energy supply choices and meet face-to-face with participating ESCO representatives to discuss potential commodity offerings. Like Energy Fairs, Market Expos are a cost-effective way to educate non-residential customers about their competitive options and provide them with commodity offers from competitive suppliers. Market Expos have been held in most major utility service territories.

Market Match Programs – Market Match currently provides, via a secure Web site operated by the utility, large industrial and commercial customers the opportunity to obtain solicitations from ESCOs for commodity service. The utility notifies eligible customers of the program by mail and, if interested, customers authorize posting of historical consumption data on the secure Web page. Participating ESCOs may access the historical consumption data and provide the customer a confidential offer for commodity service. It is an inexpensive and non-labor intensive means of providing customers an easy, non-threatening way to obtain solicitations from marketers. The Market Match program is being expanded to include lower consumption customers.



Green Power Marketing – Green power marketing efforts in New York have drawn national attention. In addition to its high profile broadcast media campaign, the Commission also has included green power information on most of its other educational materials. In October 2004, New York hosted the Ninth National Green Power Marketing Conference in Albany. New York's green marketing campaign was awarded the prestigious gold award in the 2005 MarCom Creative Awards, selected from over 4500 entries and was cited as a best practice at the Tenth National Green Power Marketing Conference held in Austin, Texas in October 2005.⁷³⁷⁴ A customer awareness survey of the "New York's Future is in Your Hands - Green Power is Clean Power" advertising campaign indicated it had a significant impact on increasing customer awareness, in both the upstate and downstate regions of New York. Consumer awareness regarding both green power availability and retail choice generally grew significantly during the advertising period. Upstate awareness of green power availability increased 12.5 percentage points, while Downstate awareness increased by 7.0 percentage points. The Commission's Green Power call center call volume also rose significantly during the campaign⁷⁵

Other Utility and ESCO Programs – In addition to Energy Fairs, Market Expos, and Market Match, New York utilities have sponsored other consumer education efforts, including Web site information, bill inserts, and call center support. All major energy

⁷³ U.S. Department of Energy, Energy Efficiency and Renewable Energy, Tenth National Green Power Marketing Conference, http://www.eere.energy.gov/greenpower/conference/gpmconf05_pres.html.

⁷⁴ "Green Gets Blue Ribbon," Albany Times Union, Buzz Section, December 11, 2005.

⁷⁵ 1-866-GRN-POWR (1-866-476-7697).

utilities have Web pages dedicated to retail choice, listing eligible ESCOs, and providing additional information. They also have included messages on customers' bills and have mailed inserts on retail competition along with customer bills on at least an annual basis. Utility customer call center staff handle consumer questions and inquiries on how they can obtain more information and enroll with an ESCO. Utilities with ESCO Referral Programs include the ability for a customer to enroll in these programs over the phone with a utility representative.

ESCOs conduct their own marketing and consumer education, demonstrating great flexibility in marketing their offers to consumers. They have exhibited many marketing techniques, including: use of Web site enrollment, door-to-door marketing, telemarketing, targeted mailings, mass media advertising, and participation in programs sponsored by the utilities and Commission. ESCOs also provide general consumer education about retail competition and energy savings tips on their Web sites and through newsletters to their customers.

The result of these efforts by all participants is that customers' awareness of their options, and competition in general, is advanced. Customer awareness is generally higher for commercial consumers than it is for residential consumers. Awareness levels, as measured by individual utility customer satisfaction surveys, are as high as 75% among residential customers for National Fuel and National Grid customers and as high as 82% among commercial customers for National Fuel. National Grid reports customer awareness levels of 81% for commercial customers.

Related Public Policy Issues

Under ideal circumstances, perfectly functioning competitive markets for energy would consistently reflect the marginal cost of producing and delivering energy to end users. Price signals would lead to informed and efficient decision-making and encourage timely market entry to meet identified needs. Regulatory intervention would not be needed to ensure that society's need for energy is timely and reliably met. However, some regulatory intervention is needed. For example, certain beneficial technologies which are not yet mature enough to compete in the market place need to be encouraged. In addition, certain demand side management activities require ongoing regulatory support as the markets continue to evolve. New York has identified two key areas where regulatory intervention is needed: promotion of renewable energy resources and promotion of demand side management activities. This section briefly describes some of the steps taken thus far. These activities are being undertaken with the recognition that adverse impacts on the operation of competitive wholesale and retail electric markets in New York should be minimized.

1. Renewable Portfolio Standards

The 2002 State Energy Plan required that the New York State Energy Research and Development Authority (NYSERDA) examine the feasibility of a renewable portfolio standard (RPS). NYSERDA's preliminary report found that an RPS can be implemented in a manner consistent with New York's wholesale and retail markets and may improve energy security and help diversify the state's electricity generation mix. The report also stated the expectation that an RPS would spur increased economic development opportunities in the renewable energy industry.

Thereafter, the Public Service Commission instituted a proceeding and subsequently issued an "Order Approving Renewable Portfolio Standard Policy" which, among other things, called for an increase in renewable energy used in the state to 25%

by the year 2013.⁷⁶ Two approaches were identified to achieve that goal: a central procurement approach that would provide for increases to about 24% and a voluntary green market approach that would provide at least 1%. The central procurement approach provides for the regulated investor-owned utilities to collect a surcharge on most delivery customer bills and transfer those funds to NYSERDA, which administers the RPS program for the Commission. NYSERDA enters into contracts to provide incentives, based on actual production, to renewable energy producers and marketers who sell or deliver energy into the New York wholesale market. NYSERDA also provides funding for customers to install such facilities "behind the meter." The incentives will encourage developers to build more renewable energy facilities and also encourage customers to install renewable resources on their side of the meters.

The Commission also directed that an Implementation Plan be developed and approved to guide the program through 2013. Shortly after the Order was issued, and prior to development of the Implementation Plan, Congress authorized an extension of the Production Tax Credit (PTC) allowable for certain renewable facilities until December 31, 2005. To take advantage of the credit, the Commission quickly authorized a "Fast Track" procurement under the RPS to facilitate development of renewable resources that might be able to meet the December 31, 2005 deadline. Twenty-two proposals were submitted by the January 18, 2005 deadline, and awards were given to seven projects. In 2006, those seven projects are to begin producing 821,000 MWh/year of renewable energy, satisfying the majority of the Commission's first year goal toward its 25% by 2013 target. A subsequent solicitation is expected to take place in 2006 and thereafter until the full goal is met. Recently the PTC was extended until December 31, 2007.

The Implementation Plan was developed and approved by the Commission in April of 2005. The Plan identifies procedures for determining eligibility, establishing future procurements, monitoring the program, and other actions needed for the program to go forward. Interested party workshops were held during the summer of 2005 to address several outstanding issues, and notices under the State Administrative Procedures

⁷⁶ Case 03-E-0188 – Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, Order Regarding Retail Renewable Portfolio Standard (issued September 24, 2004) p.3.

Act (SAPA) were issued. Comments from interested parties were received and will be considered by the Commission as part of its review of plans for the next RPS solicitation.

The Commission has also addressed issues regarding certain existing renewable resources, such as small hydro facilities (i.e., five MW or less), that may cease operations because of financial difficulties.⁷⁷

2. **Energy Efficiency**

In 1996, the NYPSC established a System Benefits Charge (SBC) to fund public policy initiatives not expected to be adequately addressed by competitive electric markets. The underserved areas were identified as energy efficiency programs, energy related research and development, and initiatives designed to reduce the financial burden of energy costs on low-income consumers. In 1998, the NYPSC specified the initial SBC funding levels for the funding period of July 1, 1998, to June 30, 2001, and named NYSEDA as the Commission's third-party, independent SBC administrator. The SBC was renewed for five-year periods in January 2001 and December 2005. Currently the annual SBC funding level is approximately \$150 million. Annual funding will be increased to \$175 million for the period of July 1, 2006- June 30, 2011.

The SBC funds a wide array of programs serving all major sectors of energy consumers from the average homeowner to large manufacturing plants. Beginning in 2001, there was increased emphasis placed on demand response programs.

NYSEDA reports that, from the inception of the SBC program through September 2005, the accomplishments of its statewide SBC programs include these highlights: annual electricity use in the state has been reduced by approximately 1,700 GWh; peak demand reduction of 1,000 MW has been achieved through installed efficiency measures and demand response programs; and annual bill savings by electricity, oil, and natural gas consumers are estimated at \$230 million. Investment of approximately \$813 million in SBC funds is expected to result in additional public and private sector investments of approximately \$1.4 billion, primarily in cost-effective energy efficiency improvements; an estimated reduction in annual nitrogen oxide (NO_x)

⁷⁷ See Case 03-E-0188, Proceeding on Motion of the Commission Regarding Retail Renewable Portfolio Standard (issued January 26, 2006).

emissions of 1,500 tons, sulfur dioxide (SO₂) emissions of 2,700 tons, and carbon dioxide (CO₂) emissions of over one million tons. The program is expected to create and sustain an average of 4,800 jobs annually over the eight-year SBC program period (1998 through 2006).

Remaining Challenges

1. Demand Side Response

Because Demand Side Response is crucial to the success of competitive wholesale electric markets, continued effort should be undertaken to increase participation by customers in all Demand Response programs at the NYISO. In addition, the protocols for demand response participation in ancillary services markets should be finalized. Neighboring regions (ISO-NE and PJM) also have Demand Response programs in place and new programs are being proposed. Market participants should continue to improve consistency of the programs between regional markets and avoid the creation of new seams. Finally, retail rate designs to facilitate better promotion of demand response should continue to be pursued.

2. Regional Markets

Many initiatives are underway to improve regional wholesale markets, and they should continue. New York continues to work with both ISO-NE and PJM to develop the individual rules and protocols necessary to operate each controllable transmission facility connecting the regions. New York and New England have begun discussions aimed at improving the ability of market participants to schedule transactions between the two areas and to do so in a shorter timeframe. Efforts are also underway to eliminate "rate pancaking" with PJM, and to expand regional reserve sharing, among many other initiatives as well. At the same time, great care must be taken to ensure that, as market rules and procedures evolve, no new impediments to cross-boundary trade are created.

3. Wholesale Market Rules

Work is continually underway to refine and improve wholesale market rules and procedures. With the recent implementation of new real-time market software there is a need to ensure that price signals are fundamentally correct. Another significant priority is to evolve new rules and systems to more accurately represent resource capabilities, such as the specific characteristics of combined-cycle generators and wind farms, so that they

can be dispatched efficiently and system reliability can be maintained. The NYISO is now re-evaluating a host of market rules to ensure that they are all working in harmony in practice, given that they have evolved individually.

4. **New Generation and Transmission**

Article X renewal is needed to help site new generation. The NYISO's wholesale prices have been pushed up by high natural gas and oil prices; they are signaling a great need for investment in generation that uses alternative fuels. However, the market response may be stymied by excessive difficulties in siting, thus limiting supply additions and forcing consumers to pay higher prices. To deliver price relief and reliability to customers, new generation must be sited, including generation that does not rely on natural gas.

New transmission investments, whether merchant or rate-based, may be needed to access renewable resources or cheaper out-of-state resources. However, the NYISO has not yet established procedures for allocating long-term transmission rights for new transmission investments. The NYISO must develop clearly defined transmission rights to foster new transmission investment.

Completion of the NYISO's procedures for a comprehensive reliability planning process is needed to ensure future reliability and provide information on transmission congestion to help assess the need for relieving congestion.

Finally, New York State must continue to monitor critical planning issues such as availability of gas supply for electric generation, fuel diversity, and the interaction of environmental regulations with electric generation planning.

5. **Consumer Awareness and Education**

Additional efforts to enhance and improve consumer education and outreach to improve customer awareness of their available energy choices are necessary. Consumers need to be reminded of their options over time as retail energy market competition develops. Momentum in implementing retail competition programs and providing consumers with better tools to evaluate market offerings and take advantage of them should be maintained.

Further development of policies promoting ESCO-provided green power offerings is required, as well as the continued improvement to green migration reporting. As renewable products continue to develop, it is important that consumers are kept informed of the various options and alternatives and that their preferences and purchasing habits are tracked.

A new statewide survey of consumer awareness of and experience with retail competitive markets would help assess customer knowledge. A new survey should be developed and conducted.

6. Price Signals and Value-Added Services

ESCO concerns about utility price transparency should be addressed to assure that consumers see correct price signals, which allow the fair and accurate comparison of ESCO and utility commodity prices. Currently, the utility prices against which ESCOs compete reflect varying amounts of commodity-related costs including financial hedges. Clarity and consistency in utility approaches should be pursued.

A variety of value-added services are an important part of the advantages expected from retail competitive markets. ESCOs should increasingly offer these services to mass market customers. Associated issues such as billing options should be addressed.

7. Infrastructure and Retail Market Design

Momentum on competitive initiatives such as competitive metering, unbundling, unbundled bills, ESCO Referral Programs, POR, hourly pricing, and ESCO consolidated billing should be continued. This effort would include completing modifications to UBP and EDI to support these, as well as other, initiatives.

There are many additional opportunities for improvement in the consistency of retail market programs between regional markets in New York State. As identified best practices are integrated into each utility service territory, that effort will improve the ability of ESCOs to enter multiple markets. ESCOs will also be able to utilize similar back office functions and operate comparable marketing programs and strategies across New York.

ESCO business models should be revisited to consider increased aggregator, broker and direct customer oversight. As the market has developed, new entities have arisen to take advantage of the opportunities that a competitive market provides. These new business strategies should be examined to determine whether additional Commission monitoring and/or oversight is needed. Consumer interests will continue to be considered and protections maintained as retail markets progress.

Finally, the Commission, through its Staff, should continue to actively observe and monitor the retail energy marketplace with the intent to level the playing field between all suppliers of competitive services. Its efforts should be directed to identify and reduce or eliminate barriers to market entry by new entrants.