

WHITE PAPER

THE EVOLVING NEW YORK ENERGY MARKET

An organization's guide to the current market and how to position for energy management success

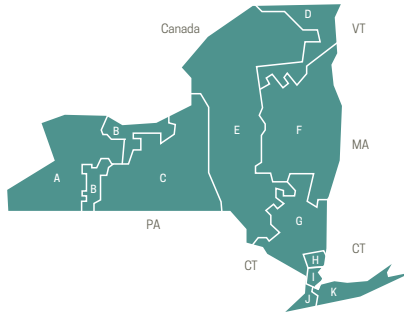
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THE NEW YORK ENERGY MARKET IS INTRICATE, COMPLEX, AND EVOLVING



It's not easy to settle on a single word to describe the New York Energy Market as it exists in the present. Intricate comes to mind, so does complex. While we're at it, let's throw in interdependent among the descriptive suitors.

These words, however, have always sufficed to describe The New York Energy Market, and there's no reason to think they'll lose their relevance in the future.

Maybe an adjective isn't what we're looking for. (If it is, we've offered three that encompass the market's omnipresent state.) Maybe there's another part of speech we can call on to label the market in a way that helps New York businesses understand how to best manage their energy spends both now and in the future.

How's this:

The New York energy market is evolving.

(That was a gerund in case anyone reading this is my 10th grade English teacher.)

I was on the cusp of writing the market is transitioning, but that would suggest it is merely changing from one state or condition to another.

To say the New York Energy Market is evolving is the better way to describe its current state. It's developing gradually to a more complex form, replete with visionary initiatives, new regulations, and opportunities for organizations seeking to better manage their energy use and spend.

The market's newfound complexity, however, shouldn't be mistaken for one that's more difficult to understand. The market is adapting to its changing environment in a way that, I think, would make Charles Darwin—evolution's most fervent champion—proud.

Classical economist Adam Smith might smile at the New York Energy Market's development as well, considering the very changes it endures as part of its evolution can also ensure it remains rewarding under the tenets of a free market.

In the pages that follow, I aim to explain how recent events have played a role in shaping both the New York Energy Market's current state and its evolution. I'll also attempt to predict what might be in store for the market and how I believe New York businesses can position themselves to better manage their energy today and in the future.

Making bold statements about the future is, of course, a thorny endeavor. I promise to be forthright and cautious, with one exception. I can assure with 100% certainty that you won't see another gerund in this paper.

On with the evolution.

WHAT'S AFFECTING THE NEW YORK ENERGY MARKET?

Let's examine several factors that have shaped the current state of our energy market.

Announced closures of aging fossil fuel and nuclear facilities have resulted in a reduction of generation capacity.

The New York Independent System Operator (NYISO), the state's grid operator tasked with maintaining the reliability and stability of the grid, published in April 2017 their Gold Book, which presents the NYISO's capacity data for the years 2017-2027.

The eight (8) proposed deactivations would result in a loss of 1798 MW of generation capacity.

2017 LOAD & CAPACITY DATA REPORT

TABLE IV-5: NOTICES OF PROPOSED DEACTIVATIONS AS OF MARCH 15, 2017

OWNER/OPERATOR	STATION	ZONE	PROPOSED DEACTIVATION DATE	PTID	CRIS	SUMMER	WINTER	NOTES
Cayuga Operating Company, LLC	Cayuga 1	C	07/01/17	23584	154.1	152.0	150.2	1
Cayuga Operating Company, LLC	Cayuga 2	C	07/07/17	23585	154.7	150.2	150.4	1
Entergy Nuclear Power Marketing LLC James A. FitzPatrick	R.E. Ginna Nuclear Power Plant, LLC R.E. Ginna	C	01/01/17	23598	858.9	837.5	850.5	3
R.E. Ginna Nuclear Power Plant, LLC R.E. Ginna		B	04/01/17	23603	582.0	579.4	580.6	2
Innovative Energy Systems, LLC	Auburn LFG	C	03/16/17	323710	0.0	0.0	0.0	4
J-POWER USA Generation, L.P.	Shoreham GT 3	K	08/13/17	24213	45.4	45.4	45.4	
J-POWER USA Generation, L.P.	Shoreham GT 4	K	08/13/17	24214	43.9	44.6	45.7	
J-POWER USA Generation, L.P.	Freeport EQUUS GT1	K	10/31/17	23764	48.3	47.5	49.0	

1. Unit is currently operating under a Reliability Support Services agreement through June 30, 2017.

2. In accordance with a settlement agreement, Ginna submitted a notice of continued commercial operation following expiration of its Reliability Support Service Agreement.

3. Generator's proposed date of deactivation: Q4 2016-Q1 2017. As of the date of this Gold Book's publication, the unit has continued to operate in 2017, but has not withdrawn its Notice of Deactivation.

4. Unit retired on March 16, 2017.

The above chart (excerpted from page 76 of the NYISO's 2017 Gold Book) includes two nuclear plants (R.E. Ginna in Zone B, James A. FitzPatrick in Zone C) that will continue to stay open due to subsidies the plants will receive as part of the Clean Energy Standard (CES) approved by New York regulators on August 1, 2016.

Not included in the Gold Book's list of power plants set to close is the Indian Point Power plant, which New York Governor Andrew Cuomo announced on January 9, 2017, will close in April of 2021. When Indian Point closes, it will eliminate 2066.9 MW of capacity.

If we do the math and account for plants that will be staying open as a result of subsidies and those that are scheduled to close, we have a total of 7 generators and a total of 2,424 MW scheduled to leave the market.

Increased reliance on natural gas-fired capacity has already put a strain on gas delivery infrastructure. New York State benefits from a diverse fuel mix for its generation fleet. Natural gas, however, fuels the largest percentage of our state's generation portfolio.

The high demand for natural gas during periods of extremely cold weather over a large portion of the country can reduce the availability of natural gas for generation plants. This was evident during the winter of 2013/14 when the Polar Vortex brought about extremely cold temperatures in the Northeast and Mid-Atlantic areas of the country.

The NYISO was able to meet New York's record winter peak demand set on January 7, 2014. The potential volatility should the situation arise again, however, remains a concern, especially considering that natural gas's delivery infrastructure has met a few formidable road blocks in the Empire State.

PIPELINES DENIED

Within the last year, several natural gas pipeline construction projects have been halted by New York Regulators.

On April 22, 2016, the New York Department of Environmental Conservation (DEC) denied the Constitution Pipeline's Water Quality Certification. The 124 mile pipeline would extend from Susquehanna County, Pennsylvania, to the Iroquois Gas Transmission and Tennessee Gas Pipeline systems in Schoharie County, in eastern New York.

In April of 2017, The DEC rejected National Fuel Gas's proposed Northern Access Pipeline, an estimated 100-mile pipeline that would have moved gas from the Marcellus shale to markets in Western New York, the Midwest, and Canada.

Proponents of both the Constitution and Northern Access pipelines contend that their rejections could lead to reliability issues for utilities in what may become a gas-constrained region. Opponents contend that electricity needs in the area should not be met with new natural gas pipeline capacity, but with renewable energy and demand-side management.

WHAT DOES THIS MEAN TO YOU?

1. EXPECT CAPACITY CHARGES TO INCREASE

A decrease in capacity will likely lead to a rise in capacity charges on businesses' electric bills. Capacity charges, recall, are monthly charges which reflect the amount of electricity a given ratepayer consumed when demand on the New York Grid was at its highest.

2. POWER COSTS MAY RISE, TOO

Power costs will probably rise, despite the stability of fossil fuel prices and relatively flat energy consumption across the state. The addition of renewable energy resources across New York has helped mitigate energy costs, while increased energy efficiency has done its part to keep overall consumption in check. These resources, however, are simply not enough—or in the case of renewables, too variable—to offset rising energy costs due to the loss of base load generation plants.

3. DEMAND MANAGEMENT MAY BE YOUR SAVING GRACE

With energy costs potentially on the rise in New York State, sound demand-side management is more important than ever. Through peak demand management, organizations can reduce their capacity charges by using less energy when electricity consumption on the grid is at its peak. By participating in demand response programs, which pay businesses for using less energy when the grid is stressed, organizations can earn revenue to help offset rising energy costs.

In a moment, we'll discuss how to best go about engaging in both peak demand management and demand response.

REFORMING THE ENERGY VISION (REV)

New York State has taken a leadership role in the way our nation's electrical grids meet the future.

Governor Andrew Cuomo's Reforming Energy Vision (REV), enacted in 2015, along with regulatory changes introduced by the Public Service Commission (PSC) aim to promote efficient use of energy, deeper penetration of renewable energy resources such as wind and solar, wider deployment of distributed energy resources, such as micro-grids, roof-top solar and other on-site power supplies, as well as battery storage.

The goal of these changes is to empower consumers with more choice for managing and consuming electricity. Among these goals are the following, which the program seeks to achieve by 2030:

- 40% Reduction in GHG emissions from 1990 levels.
- 50% Generation of electricity from renewable energy sources
- 23% Decrease in energy consumption in buildings from 2012 levels.

Source: New York State Department of Public Service

Currently, the PSC is considering changes in regulatory, tariff, and market designs and incentive structures with a goal of better aligning utility interests with achieving the REV's policy objectives.

WHAT DOES THIS MEAN TO YOU?

1. REV IS ABOUT YOU, THE CONSUMER

According to the New York State's Department of Public Service, under the REV's strategy, "New York is actively spurring clean energy innovation, bringing new investments into the State, and improving consumer choice and affordability."

The changes brought about by the REV seek to empower customers with more choices in how they consume and manage electricity. That means, the regulations proposed and enacted have the consumer's interest top-of-mind.

2. THE REV AND UTILITIES CAN GET ALONG (AND THAT'S GOOD FOR YOU, TOO)

The PSC has issued orders that seek to reward utilities for their speedier interconnection of distributed energy resources (DER). As utilities realize DERs like renewable energy and demand response can serve their systems needs, markets for such DERs could emerge on the distribution system, similar to the way generation markets evolved on the bulk power grid after utility deregulation in the 1990s and 2000s.

This has been called by theorists as "transactive energy," a system where DERs earn locational and temporal compensation for the services they provide the grid in real time. While it may be some time before we see such a system take shape, the prospect of DERs integrating onto the grid in a timely fashion bodes well for organizations who participate in demand response and demand management—both of which are DERs the PSC's orders seek to reward utilities for interconnecting.

NEW YORK UTILITIES HAVE LAUNCHED THEIR OWN DEMAND RESPONSE PROGRAMS

New York businesses now have more opportunity to earn money for using less energy when the grid is stressed.

According to Utility Dive's 2017 State of the [Electric Utility Report](#), 75% of the utility professionals surveyed expect a moderate to significant increase in demand response and demand management in their service territories over the next decade.

That's good news for energy grids, and maybe better news for businesses looking to take advantage of lucrative incentives both ISO and utility-sponsored curtailment programs offer.

Several of New York State's electric utilities have recently created new demand response programs that pay businesses for being a part of the solution by using less energy when the grid is stressed.

In 2016, the Public Service Commission (PSC) mandated that local distribution utilities provide a [Commercial System Relief Program \(CSR\)](#) throughout their territory and a [Distribution Load Relief Program \(DLRP\)](#) in select areas.

The CSR and DLRP have proven to be attractive demand response programs for both organizations who are new to demand response as well as businesses already participating in the NYISO's Special Case Resource Program, one of the oldest demand response programs in the country.

Participants in one or both of these demand response programs, can earn revenue, protect the grid, preserve the environment, and help keep energy prices stable in New York.

WHAT DOES THIS MEAN TO YOU?

1. NEW DEMAND RESPONSE PROGRAMS MEAN NEW OPPORTUNITIES FOR BUSINESSES TO EARN REVENUE BY USING LESS ENERGY.

The phrase "win/win" has become one of the most hackneyed sayings in corporate America. In this case, however, it's apt. Demand response as a solution to alleviate grid stress appears to be a "win/win/win/win" participants earn revenue (win), protect the grid (win), preserve the environment (win), and help stabilize energy prices (win).

2. REVENUES EARNED FROM DEMAND RESPONSE CAN HELP OFFSET MANDATORY ENERGY TAXES

As part of a statewide initiative to maintain nuclear power plants, your organization is already paying a mandatory energy tax with a portion of your electric bill.

Participating in one or more of your local utilities new demand response programs is a great way to offset this cost and earn back what you've already paid in.

HOW TO POSITION YOUR ORGANIZATION FOR SUCCESS IN A TIME OF TRANSITION

To say that now is a time of uncertain transition concerning our nation's energy grid would be like saying the Yankees have won a few World Series in their time—both are understatement, gross ones at that. Whether scientific, economic, or political, many factors play integral roles in shaping how our grid will develop to meet the needs of the present and future.

One thing seems rather certain: because New York has taken progressive steps toward evolving our state's electrical grid to meet future demand, the rest of the country is looking to us to see how we fare.

In that sense, not much has changed since 1882 when Thomas Edison built the world's first electrical grid in New York City. The State of New York was an energy pioneer then and continues to be in the 21st century.

OPPORTUNITIES ABOUND

Governor Cuomo's Reforming Energy Vision presents what can be considered a bold plan, one ripe with opportunity for organizations looking to rethink how they manage their energy. New demand response programs offered by local electric utilities can be combined with those offered by the NYISO. The result can maximize revenue earned from curtailment, thereby allowing participating organizations to offset rising energy costs and mandatory energy taxes.

Capacity charges, which comprise on average 20-30% of a company's electrical bill, also appear to be on the rise. These charges can be lowered through peak-demand management—a demand-side management process that, in many cases, uses the same curtailment strategies as demand response.

WHAT AN ORGANIZATION CAN DO TO BETTER MANAGE THEIR ENERGY

The best way for an organization to take advantage of the opportunities available in the New York Energy Market is to consult a trusted demand-side energy management company. Such a company can evaluate an organization's facilities and determine its curtailment capabilities. Next, they can explain in full the many demand response and demand management programs that are available in the New York Market and help determine which offer the particular organization the best chance for curtailment success.



ABOUT THE AUTHOR: Mike Hourihan is an analyst of the New York energy market and a Market Development Manager for CPower, one of the country's largest and most successful providers of demand response for commercial and industrial organizations.

Contact Mike or anyone at CPower's New York team [HERE](#).

About CPower: CPower is a demand-side energy management company. We create optimized energy management strategies that help businesses streamline their energy usage, offset costs through demand response participation, and reach their sustainability goals. CPower is a leading provider of demand side management services to commercial and industrial customers across the US and has 25+ years of knowledge and experience in helping customers implement intelligent energy management programs.

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