



NYPA 2020 STRATEGY UPDATE

EMPOWERING CUSTOMER SUCCESS



**NY Power
Authority**

Letter from the President

In 2014 NYPA launched its landmark Vision 2020 Strategic Plan. At its core, it outlined six strategic initiatives to transform the Authority into a next generation utility capable of leading the rapidly evolving New York State energy system. Our Vision 2020 efforts continue to be guided by Governor Andrew Cuomo's innovative state energy policies—Reforming the Energy Vision and the Clean Energy Standard, which are fundamentally altering how individuals, businesses and communities access energy in every region of the state.

Halfway through our 6-year plan I am pleased to say we have made significant progress. Due to the hard work of the Authority's staff, we are making the vital leap from abstract ideas to concrete results. We are redesigning how we manage our assets, helping our customers adapt in an ever-demanding business environment, and utilizing innovative digital technologies.

We are now taking this moment to sharpen our strategic focus because we understand that change in the energy landscape is accelerating. We are partnering with our customers, focusing more than ever on helping them be successful using energy. By doing so we will also make greater contributions to the State's goal of realizing a more responsive, decentralized, clean, customer-oriented electric grid.

As you will read, a major theme of our recast strategy is enabling NYPA to become the first end-to-end "digital utility" in the country. As described in this document, we are becoming the preeminent digital utility in order to provide an array of new benefits to our customers that include:

- Providing greater insight into their energy supply and demand
- Enabling lower costs through better energy management
- Deploying new technologies that will make energy use less costly and more sustainable

These outcomes are already being realized through our New York Energy Manager facility, which links thousands of New York buildings on a single digital platform—combining the power of big data, advanced analytics and machine learning.

In addition, we are using digital tools and analytics to make our generation and transmission assets smarter and more resilient, allowing us to detect outages before they occur. Our new Integrated Smart Operations Center (ISOC) will also help us increase the operating flexibility of our assets, ensuring we respond quickly to market signals and reliability needs.

Longer-term, NYPA aspires to lead the way toward an agile, flexible, responsive and fully digitized New York State grid that will empower New Yorkers' choice to use, generate and store their own power. The digitized grid will also smooth out the variability that accompanies greater use of wind, solar and other intermittent renewables and instantaneously re-route power to prevent outages, while reducing the need for costly reserve power. We are realizing this future through our Smart Generation and Transmission initiative and the development of the Advanced Grid Innovation Lab for Energy (AGILE).



Working on these cutting-edge projects is teaching NYPA a valuable lesson: if we want to ensure that our customers benefit from the greater value and opportunity presented by an increasingly complex and challenging energy system, we must move away from the traditional one-directional customer supply relationship. We must instead operate in partnership with customers and with other public and private market participants to help those customers be successful. We have set the bar high for ourselves, by stating that we will become the New York energy services provider that:

1. Is the market leader for both energy efficiency and renewable energy services
2. Offers the best deal, by far, in electricity commodity management for our supply customers
3. Has the largest market share of new transmission and large scale renewable projects
4. Leads in energy storage and electric vehicle infrastructure and services for New York State

As an organization founded to provide a public benefit, we are continually focused on embracing our role as a steward of the State's natural resources in the way we manage our assets. In that vein, NYPA is also expanding our activities in two other critical areas:

- **Environmental Justice**—as part of our commitment to ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies, we are collaborating with environmental justice communities near NYPA's facilities and have also established an internal Environmental Justice Task Force at NYPA.
- **Sustainability**—we explicitly embrace NYPA's environmental and social responsibilities and are committing ourselves to setting an example in this critically important area. NYPA has formalized its internal and external commitments to sustainability and introduced sophisticated tracking and measuring systems, including regular public reports on our data and efforts.

In 2016, we celebrated our 85th anniversary and are very proud of our storied legacy. The Authority's next chapter will be highlighted by introducing new technologies, offering breakthrough energy services and creating more value for our customers. Most importantly, we will remain at the forefront of sweeping energy, environmental and economic developments, and do everything we can to establish true long-term partnerships with our customers across New York.



Gil C. Quiniones

President and Chief Executive Officer
New York Power Authority

An energy revolution is taking place— and New Yorkers are leading the way

Progressive Energy Policy



NY State sets aggressive clean energy goalsⁱ

Rapid Technology Advancements



Renewables become cost comparative to conventional forms of electricity generation

Consumer Sustainability Interest



Large-scale renewables proportion of total New York State energy consumption reaches 24% (33,192 GWh)ⁱⁱ



In Nevada, two major businesses declare intention to leave the grid and provide own energy needs



Large corporations lead the way in renewable energy transformation—71 of the Fortune 100 companies have sustainability targets^v

2013

2014

Here is what we know: the global electric industry is in the midst of dramatic transition, climate change mitigation is a world-wide priority and innovation in our industry is accelerating.

Faced with aging energy infrastructure, the increasing frequency of extreme weather events and a successful but one hundred year old utility business model, the industry has, to date, struggled to integrate the advantages of a cleaner, smarter, more decentralized electric grid with the promise of reliability and affordability.

The good news is that rapid advancements in technology, the introduction of progressive energy policy and keen consumer interest in sustainability are now providing utilities with the necessary tools to both drive and shape this transformation across the United States and New York State.



Renewable energy targets and commitments have been made by 67 cities, counties, towns and other municipal entities across the US



New York becomes first city to set energy storage mandate—100 megawatt-hours by 2020



New York State deploys Reforming the Energy Vision: a vision for a more customer-centric, cleaner, distributed and efficient energy system



Offshore wind comes to Rhode Island. The nation's first offshore wind farm completed (30MW)



17 million American households make their homes more energy-smart and grid-responsive with home automation^{iv}



1 millionth US solar installationⁱⁱⁱ



Tesla releases first mass market electric vehicle—the Model 3—with over 400,000 pre-orders



One in 50 new jobs added in the United States was created by the solar industry^{vi}



IKEA deploys 45th rooftop solar project in the US to reach a 40MW target



Department of Energy estimates wind power could support 380,000 jobs by 2030^{vii}

2015

2016

2017

The future electricity grid—the consumer is in control

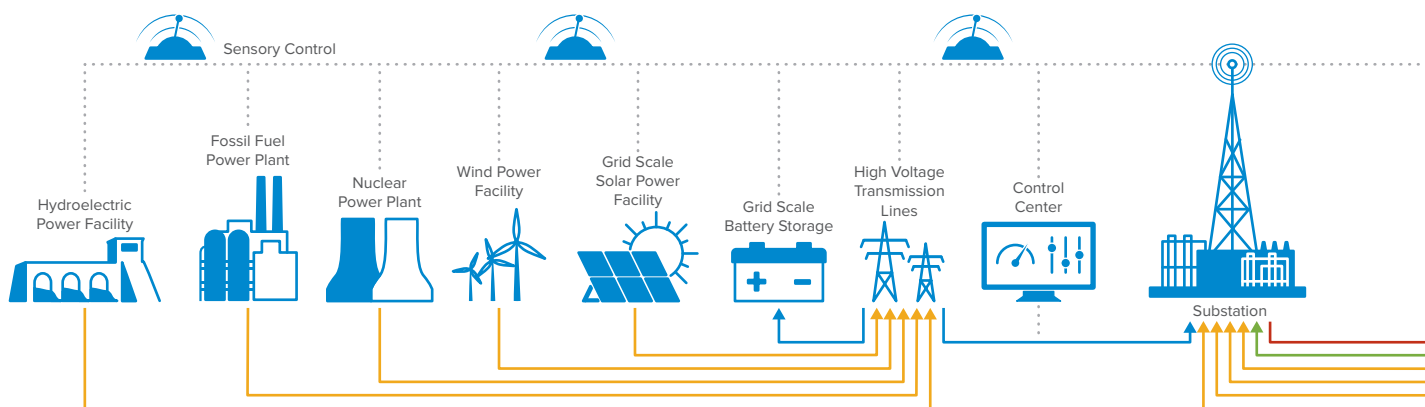
Reforming the Energy Vision (REV) is creating an energy future where customers have choice and control over how electricity helps them achieve their business goals—specifically, choice around cost, certainty, cleanliness and convenience of supply. Our cities, businesses and institutions will increasingly expect a clean, efficient, reliable electricity system that is simple to navigate and free from risk.

At NYPA, we are proud to power the schools and colleges that educate our children, the manufacturing and commercial businesses that provide employment across the State and the rail, subway, bus and airport systems that transport us each day.

Our customers think more expansively about energy when looking to achieve their business objectives—whether delivering comfort, lighting or transportation or attaining long and short-term sustainability goals. By gaining far greater access to new energy technologies and services and learning to take advantage of a more competitive landscape, customers are becoming more acquainted and excited about their energy options.

For years, grid-based supply has shaped the electric grid and how businesses, industry and residents consume power. Supply had to always match demand at each point in time; there was limited opportunity to provide accurate price signals to customers so they could adjust their consumption. With the impending introduction of smart meters, greater system data availability and energy technologies such as solar, storage and demand response, customers can increasingly decide when and how to consume electricity.

The Future Energy System



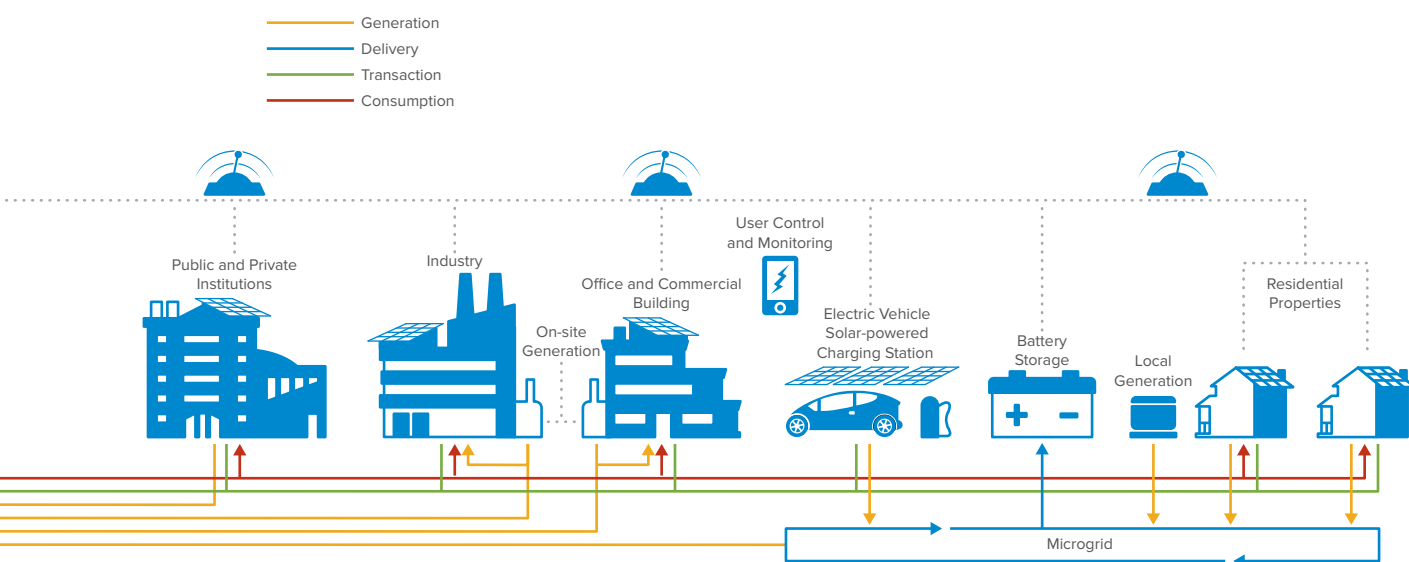
As these technologies and services mature, we will see customers become accustomed to dictating the structure, capabilities and behavior of both the electricity grid and the generation of power. Utilities must re-imagine and re-engineer the grid to be more interconnected and flexible. This new way of operating will enable them to accommodate a range of generation types, demand response, and the variability of renewable generation and match those with customer demand. This will require:

- Adaptive, responsive technologies and services such as storage (pumped hydro, batteries, water heaters, etc.) to act as a short-term shock absorber to match customer demand with supply from low-cost local or decentralized renewable generation.
- More efficient and flexible grid-scale generation and delivery to fill in the weekly/monthly/seasonal gaps when decentralized/renewable generation cannot meet customer demand.
- Predictive analytics and artificial intelligence to help manage the grid in an optimal fashion.

NYPA is dedicated to delivering this energy future on behalf of our customers and working with them in addressing, managing and sharing the risks, complexities and opportunities that the next generation of the electricity grid will provide.

“Super-low-cost renewable power is going to force a revolution in the way power grids are designed and regulated.”

Michael Liebreich
BNEF Chairman of Advisory Board



The smart consumer—NYPA will guide our customers through the energy transformation

NYPA provides value to a vast array of customers throughout New York State by turning the State's renewable resources into clean electricity. We aspire to be the preferred, trusted supplier for our customers by delivering low-cost and reliable electricity and innovative, energy-efficient and competitive solutions.

Empowering New York for over 85 years, NYPA's mission is to power economic growth across the State by providing our customers with the low cost, clean, reliable energy and innovative energy infrastructure and services they value.

NYPA aims to lead the energy transformation in NY State and build successful, mutually beneficial long-term partnerships with our customers that ensure the electric grid meets their business needs.

We understand that placing the customer at the center of everything we do is vital to the successful realization of the future electric system. We believe this requires NYPA to evolve beyond the traditional one-directional supply-to-consumer relationship and instead establish long-term, strategic partnerships with our customers where outcomes and success are shared. To this end, we will:

- Facilitate energy choice and value delivery for our customers
- Share the opportunities and risks of energy transformation and choice
- Support our customers in their energy decisions by providing transparency and data-driven analytics to ensure optimized energy investments
- Work collaboratively with other utilities, technology providers and regulators on behalf of our customers

“NYPA is so much more than an asset operator and provider of low cost reliable electricity, we are a partner with our customers to help them be successful.”

Jenny Liu

VP Energy Resource Management, NYPA

Value Brought to New York State by NYPA

Despite the changes taking place in the industry, NYPA continues to deliver value to our customers and the State at a scale that others cannot. Since 2013:



Carbon Avoidance

NYPA's hydro generation offsets the CO₂ emissions of 1.7 million cars.



Clean Energy

83% of megawatt-hours generated by our assets derive from carbon free resources.



Jobs Created

Our clean power programs support 840 customers and 400,000 jobs.



Customer



Economic Value

We have used our clean electricity to create \$1.1 billion dollars of economic value.



Pumped Storage

NYPA stores enough energy in our pumped storage plants to power 1.2 million homes.



Energy Efficiency

Our energy efficiency team helped our customers use less energy, saving 2,161,000 mmBTU's—the equivalent of 380,000 barrels of crude oil.

NYPA's commitment to meeting our vision

As part of our commitment to building long term, collaborative partnerships with our customers, we will become the utility that, in New York State:



Is the market leader for both energy efficiency and renewable energy services



Offers the best deal, by far, in electricity commodity management for our supply customers



Has the largest market share of new transmission and large scale renewable projects



Leads in energy storage and electric vehicle infrastructure and services

All of which will be delivered through a digitized NYPA.

“Our goal is to create digital twins or digital replicas of our buildings, our power plants, transmission system and substations. By doing so, and by applying the latest technology in data analytics, machine learning, artificial intelligence, data visualization and graphics, we can really drive and optimize the productivity of our assets and partner with our customers to help them reduce costs and improve the way they serve their customers.”

Gil Quinones

President and CEO, NYPA



Delivering our 2020 Strategic Vision

In 2014, we articulated a clear vision for the future electricity system. Though the pace of change may be accelerating, the premise of that future energy vision remains the same, reaffirming NYPA's current strategic investments and allowing us to focus further still on the things we have planned. And now, we increasingly have the knowledge and tools at hand to realize this future—in a way that focuses on delivering the right solutions for our customers.

This will require all of us at NYPA to take a fundamentally different approach to how we think about our business—introducing a new rationale for making strategic investments, accelerating project development and execution, seeking nontraditional solutions to problems and understanding that we, in the eyes of our customers, will become a technology and service company as much as an engineering and infrastructure one.

Delivering on our vision begins with NYPA becoming the first digital utility—creating a real time digital replica of our infrastructure, generation assets and customer assets, and automating many of our back office processes. This will entail the deployment of connected technologies, sensors, robust communication networks and advanced analytics that operate with our physical assets, processes and activities. Central to these efforts are three 'digital hubs'.

We will use this combination of a physical/digital NYPA as the platform to execute our strategic ambitions—improving operational decision making, building stronger partnerships with our customers and leading the charge on industry innovation.

“We believe that digitization will become the new utility norm and by embracing the power of advanced data analytics, we will fundamentally transform the value of NYPA to our customers.”

Ricardo Da Silva
VP Strategic Operations, NYPA



NYPA's Digital Hubs

Customer Insight—NYEM

New York Energy Manager (NYEM) is NYPA's digital energy service for our customers. It provides real-time visualized data on energy use. This data will help NYPA work with its customers to drive insights that improve building energy performance, lower energy bills and integrate distributed resources. Thousands of buildings, including all major state facilities, already take advantage of NYEM's data analytics and advisory services.

Digital Generation & Transmission Operations—iSOC

With our market leading Integrated Smart Operations Center (iSOC), we are deploying advanced sensors, measurement technologies and communications infrastructure onto NYPA's assets. The iSOC will generate insights that help us better predict, and avoid, problems with our generation and transmission facilities ensuring that we make optimal, cost efficient asset management investment decisions. This will enable us to manage our assets more flexibly in response to market conditions and grid reliability needs.

World Class Grid Research—AGILe

The Advanced Grid Innovation Laboratory for Energy (AGILe) is New York's first electric power research facility. It will use Big Data analytics to simulate, develop, deploy and integrate the next-generation electric grid and position New York State as a leader in electric grid research.

“The power grid is in the midst of a digital revolution that is dramatically transforming how we provide electricity statewide.”

Richard Kauffman

Chair of Energy and Finance, Office of the Governor

Customer Success



We understand the importance of building long term strategic partnerships with our customers in an increasingly complex and volatile industry.

While we operate critical infrastructure throughout the State, we are more than an owner and operator of assets, we are first and foremost a services provider to our customers.

Leveraging our low-cost electricity and other assets enables us to promote economic development, job retention and growth, support our customers' strategic needs and power the economic competitiveness in New York State.

Moving forward, we will work in collaboration with our customers to identify and deliver the best options to support their business and energy goals, and the optimization of their day-to-day operations. The customer experience will include NYPA:

- Creating long term strategic energy plans with our customers that map out how energy supply and services can meet their current and future business needs.
- Using real time data about customer energy usage to identify and prioritize opportunities and estimate benefits.
- Drawing on our ability to specify the right technology and services partners to ensure customers get tailored, best value solutions.
- Offering a range of customer partnership options that allow customers to cost-effectively manage project risk.
- Utilizing our strong financing, project management, legal, regulatory affairs, market forecasting and analysis, and streamlined procurement capabilities to successfully evaluate options and implement projects.
- Measuring and verifying the outcomes of projects to make sure that expected benefits are delivered to our customers.

We will also make the management of our customers' energy needs easy by focusing on outcomes, responding with speed and utilizing digital tools to improve the customer journey experience. Our business model will allow us to share risk and opportunity with our customers. Through innovation, NYPA will provide data-driven insights to empower our customers to make the right strategic investments.

Finally, we are continuing to invest in the talent, proficiency and performance of our employees. This ensures we are providing seamless service to our customers across all levels of our business.

“Comprehensive analytics on real-time energy data is both empowering our customers to take greater control of their energy use and enabling NYPA to work with our customers to develop customized energy services and products that meet their business needs.”

Emilie Bolduc

VP New York Energy Manager, NYPA

“Get closer than ever to your customers. So close that you tell them what they need well before they realize it themselves.”

Steve Jobs

Former CEO, Apple

Customer Digital Experience—CDEx

NYPA is rolling out a program that starts with imagining what a world-class customer journey would look like from the customers' perspective, rather than settling for a tactical evolution of the current state. We will transform the current customer journey to an end-to-end digital journey; increasing value by expanding and digitizing current channels, touch points, tools, products and services.

Making Energy Easy
for Our Customers

Shared Risk,
Long-Term Reward

Understanding Our
Customer Needs

Ability to Offer Tailored,
Timely Solutions

State Parks Solar Program

NYPA created a first of its kind, no-upfront cost solar advisory service and contract mechanism to meet the New York State Parks public space health and environmental protection needs. This allowed Robert Moses State Park to become the first energy-neutral state park in the nation with a 500 kW solar array.

Innovation

New York State has a well-earned reputation for being at the heart of global innovation. Many advances in electricity, engineering and digitization have their origins here. As the energy market evolves, New Yorkers will be at the forefront of the energy transition, successfully launching new products and services that will help consumers. At NYPA, we have written our own history of innovation and, given our unique role in the NY energy market, are furthering our efforts for the betterment of the State and our customers.

Since launching our 2020 strategy, we have invested in foundational technologies across our business and are building interconnected platforms that will enable open innovation across our organization for third parties and, most importantly, for our customers. We are also investing in building teams of data scientists that leverage data from our platforms and create new technologies, applications and solutions. These investments are allowing us to help our customers tap energy technologies such as renewables, energy efficiency products, storage and electric vehicles. Improved situational awareness is also allowing us to tackle grid modernization issues and challenges such as losses and congestion.

We believe that the utility needs to become as much a technology company as it is an asset management or engineering company. To achieve these ambitions and innovate effectively, NYPA will:

- Open up our business environment and collaborate with startups, enterprises and universities to decrease innovation cycles across the grid—ensuring that utilities are more responsive to customers’ needs at as low cost as possible.
- Build core business and technology architecture that addresses the complexity of technology innovation, integration and choice and ensures that our vision of a plug-and-play electric grid becomes a reality. This will allow us to modernize our business environment without compromising the reliability of the electric grid.
- Encourage a culture of innovation across NYPA through the deployment of fast, agile, customer-focused project management principles. This will ensure we can evolve quickly as technology develops or customer and operational needs change.
- Examine and explore innovative business models. This will ensure we are at the forefront of commercializing and extracting value from crucial new market developments for the benefit of our customers.

“NYPA is committed to making the Electric Grid the Innovation Grid, creating a data rich business environment that harnesses both the deep, practical know-how of the utility industry and the fresh, imaginative mindset of the entrepreneur.”

Doug McMahon
VP Strategy, NYPA



Project EDGE

Working in collaboration with our Municipal and Cooperative customers, NYPA will use New York Energy Manager and advanced data analytics to develop new risk avoiding, energy as a service based business models and implement solar, storage and other Distributed Energy Resources that deliver value to our customers.

“In New York, the electricity grid is becoming a digital lab.”

GTM 2017

Innovative Data Analytics

NYPA is building a team of data scientists that will create a new standard in utility business analysis and decision making, bring inventive solutions to business problems and automate traditionally low value, manual data analysis across our organization.

Cost Leadership



Our aim is to provide the best deal, by far, in electricity commodity management for our supply customers.

NYPA has maintained a cost leadership position in the Northeast U.S. power generation business for decades. Consequently, we offer low-cost power to our customers, spurring economic development and job creation throughout the State. Cost leadership has been achieved through a legacy of long-term strategic investments and careful and efficient stewardship of our facilities. We have been a leader in adopting technologies and new practices to maintain a competitive position while upholding the highest levels of reliability. Because most of our power is produced by renewable hydropower resources, and our natural gas-fired plants are highly efficient, the power supply we offer our customers represents exceptional value.

NYPA's strong balance sheet and credit ratings afford us the patience and flexibility to adopt new technologies, extend the life of facilities, and implement financially efficient options that many industry participants cannot.

Over the last four years, NYPA has provided over \$1.1 billion in savings to customers compared to market prices.

However, the entire generation sector faces a protracted period of low power prices driven by low natural gas prices, increasing installation of zero marginal cost renewable resources, and efficiency gains that suppress electricity consumption. These trends have strengthened our resolve to maintain our low-cost position to ensure that our customers enjoy the best possible power prices in the future.

Instead of concentrating solely on the cost of our own generation, NYPA will focus even more on the total customer energy bill—the product of both energy price and usage—as the REV market and utility reforms incentivize utilities to do. No other market participant provides both low-cost power and energy services. NYPA provides customers with the lowest cost power in the marketplace and helps customers be the most efficient users of energy. This dual focus, customer-centric view enables NYPA to provide unparalleled value.

Investing in an electricity system that can efficiently leverage low-cost grid scale renewable energy sources and demand side products and services is therefore a priority for NYPA.

“Every day, our teams at the plants are fixated on finding new ways to improve the way we generate and deliver electricity in an effort to help our customers improve their competitive edge.”

Chris Carey

Operations Superintendent—Niagara, NYPA

“Meeting customers’ energy needs, including affordability, will increasingly require a deliberate combination of energy supply and demand based services.”

Keith Hayes

VP Economic Development, NYPA



Marcy South Series Compensation

NYPA worked with New York State Electric & Gas to both install capacitor banks and reconnector existing circuits, boosting the transfer capability of a key transmission line by 440 MW. This is enabling southeastern New York to access cleaner, more economical power from abundant upstate sources.

Process Excellence

NYPA is undertaking a critical transformation of key business processes—starting with procurement and ‘meter to cash’ processes—with expected benefits of \$20-\$40 million per year over the next five years.

Measuring Success

Working with customers in new ways requires utilities to reprioritize and organize around what success means for the customer. Moreover, as stewards of the electricity system, utilities need to take accountability for results. NYPA is no different—and to that end we will measure success of our plan through three customer-oriented strategic goals:



Customer Success

NYPA will make customer success our success



Cost Leadership

NYPA will continue to manage the risk of electricity price volatility for our customers by ensuring that they enjoy the best value energy bill



Innovation

NYPA will lead the State in accelerating and innovating new technologies and business models that help create value for NYPA and for our customers

“We care deeply about what makes our customers successful. We think about what products and services our customers are providing to their customers and tailor our services to help customers achieve their goals.”

Jill Anderson

EVP and Chief Commercial Officer, NYPA



Conclusion: Empowering the success of our customers

More than a century after the introduction of commercial electricity, the electricity grid and the role of the utility are being reimagined. NYPA is well-positioned to help our customers take full advantage of all that this new era offers. We generate and deliver over 20 percent of the State's electricity needs and are the only energy services company with the ability to provide both comprehensive and customized energy solutions.

Looking ahead, we will help bring about the flexible, distributed, consumer-driven energy system of the future by investing in the things that customers truly value. NYPA will lead this transformation in concert with our customers by:

- Making the success of our customers, the success of NYPA
- Working with our customers to empower them with better choices by becoming the first digital utility
- Partnering with others to test and build the next generation electricity grid—a grid that will accommodate much greater customer choice around cost, convenience, cleanliness and location of energy commodity and services
- Accelerating collaborative innovation in the valuable business practices, technologies, products and services that our customers and the broader State of New York value

This is an exciting, comprehensive agenda, and we have the skills, determination and vision to make it happen, setting a new standard for utility operation.



NYPA 2020 Strategic Plan on a Page

Strategic Initiatives and Key Projects

Customer Solutions

- Transforming the way NYPA engages with its customers
 - New York Energy Manager
 - Project EDGE
 - State Parks Solar
 - Customer Digital Experience

Smart Generation + Transmission

- Creating and maintaining a backbone of intelligent, flexible and resilient transmission and generation infrastructure
 - AGILe
 - Marcy South Series Compensation

Asset Management

- Ensuring NYPA has optimal understanding and visibility of our assets to make informed decisions with respect to the allocation of investments
 - iSOC

Process Excellence

- Optimizing process performance across the enterprise
 - Procurement
 - Meter to Cash

Workforce Planning

- Creating a dynamic, engaged and upwardly mobile workforce of the future
 - MOSAIC HR system roll-out

Knowledge Management

- Developing a flexible, creative and empowered workforce
 - Knowledge Transfer Program

DIGITIZATION

Offer the best deal in electricity commodity management for our supply customers

Be market leader for both energy efficiency and renewable energy services

Mission

Power the economic growth and competitiveness of New York State by providing customers with low cost, clean, reliable power and innovative energy infrastructure and services they value

Strategic Targets

CUSTOMER SUCCESS

Making customer success our success

COST LEADERSHIP

NYPA will continue to manage the risk of electricity price volatility for our customers by ensuring that they enjoy the best value energy bill

INNOVATION

NYPA will lead the State in accelerating and innovating new technologies and business models that help create value for NYPA and for our customers

Lead market in energy storage and electric vehicle infrastructure and services

Have the largest market share of new transmission and large scale renewable projects



Customers

References

- i. Reforming the Energy Vision, <https://rev.ny.gov/>
- ii. NYISO 2016 Load and Capacity Report, http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Documents_and_Resources/Planning_Data_and_Reference_Docs/Data_and_Reference_Docs/2016_Load__Capacity_Data_Report.pdf
- iii. Greentech Media, <https://www.greentechmedia.com/articles/read/The-U.S.-Solar-Market-Now-One-Million-Installations-Strong>
- iv. <http://www.prnewswire.com/news-releases/parks-associates-more-than-100-million-us-households-do-not-have-a-smart-home-device-300450441.html>
- v. Advanced Energy Economy, Report on 2016 Corporate Advanced Energy Commitments
- vi. The Solar Foundation's National Solar Jobs Census, <http://www.thesolarfoundation.org/national/>
- vii. National Renewable Energy Lab's Wind Energy Workforce Development & Jobs Report, <http://www.nrel.gov/docs/fy17osti/67377.pdf>

Photos

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STATE OF
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