

# SUSTAINABILITY PLAN | 2019-2023



**NY Power Authority**



## **SUSTAINABILITY AT THE NEW YORK POWER AUTHORITY**

Sustainability is defined as an approach to development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Corporate sustainability is accordingly a business strategy that manages economic, social and environmental performance for long-term value creation. As a clean energy provider, the New York Power Authority (NYPA) is seeking to demonstrate leadership in every aspect of its business by taking a comprehensive approach to sustainability management and integrating sustainability principles into day-to-day decision-making.



## **■ ABOUT THIS PLAN**

This enterprise-wide Sustainability Plan adheres to and implements NYPA's Sustainability Policy. The Plan recognizes and advances sustainability efforts from business units and departments across NYPA. The Sustainability group developed the plan with guidance from NYPA's Sustainability Advisory Council, key stakeholders and subject matter experts. The Sustainability group will coordinate and work with cross-functional teams from all facilities to ensure projects and initiatives identified in each section of the Plan are implemented.

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# INTRODUCTION

## SUSTAINABILITY PLAN OVERVIEW

This enterprise-wide Sustainability Plan reflects the New York Power Authority's core values and supports its Strategic Vision. The overarching goals of the Plan are aligned with NYPA's decarbonization strategy and New York State's clean energy and climate policies and Executive Orders.

The Plan addresses internal operations as well as customer and public-facing programs. Internal operations includes generation and transmission, buildings, transportation, supply chain, materials and waste, water and land. The customer and public-facing programs include energy efficiency, renewable energy, energy storage and transportation electrification.

## OVERARCHING GOALS

1. Support climate stabilization at 1.5 degrees and establish strategies to address greenhouse gas emissions and the impacts of climate change across NYPA's value chain
2. Meet and exceed New York State's goal to reduce greenhouse gas emissions 40% by 2030 across NYPA's electricity supply, administrative/support buildings and vehicle fleet
3. Reduce energy use and improve resource efficiency across NYPA operations
4. Protect and conserve natural resources, including water and land, across NYPA operations and supply chain
5. Lead by example in sustainability and accelerate adoption of sustainable technologies, processes and behaviors by showcasing NYPA's efforts

## EXECUTIVE ORDER

166

- Issued in 2017
- Upholds Paris climate agreement
- Directs state entities to take action to meet 40x30 and 80x50 greenhouse gas reduction goals
  - Mitigate operational GHG emissions from all sources
  - Develop public-facing programs to accelerate adoption of new technologies



## MAPPING PATHWAYS TO DECARBONIZATION

The Intergovernmental Panel on Climate Change (IPCC)<sup>1</sup> recently issued a special report indicating that a temperature rise of more than 1.5 degrees Celsius above preindustrial levels could have devastating impacts on society and ecosystems at the global level. Global warming is projected to reach 1.5 degrees C between 2030 and 2052 if warming continues to increase at the current rate. Limiting temperature rise to 1.5 degrees is still possible but will require “rapid and far reaching transitions in energy, land, infrastructure (including transport and buildings), and industrial systems.” The report summarizes a range of behavioral changes and technological advancements that will be needed across all emitting sectors, including:

- Rapid and profound decarbonization of the energy sector
- End-use energy-efficiency in all sectors
- Switching from fossil fuels to electricity in end-use sectors
- Ecosystem-based adaptation, restoration, avoided degradation and deforestation, and biodiversity management
- Coastal defense and hardening
- Education and outreach to accelerate behavior change

Governor Cuomo has set ambitious targets to reduce statewide greenhouse gas (GHG) emissions 40% by 2030 and 80% by 2050 from 1990 levels. The Governor’s Green New Deal ramps up New York’s efforts with a goal to achieve 70% renewable energy by 2030 and 100% carbon-free electricity by 2040. It also reinforces the requirements of Executive Order 166, which directs state entities to lead by example in reducing GHG emissions and accelerate market transformation through public-facing programs. EO166 identifies pathways to achieving state 40x30 goals that closely align with IPCC guidance.

NYPA is implementing these strategies internally and with its customers, and is also developing public-facing programs to accelerate market transformation. This Sustainability Plan presents a framework to measure the impact of NYPA’s internal, customer and public-facing programs and track progress towards achieving New York State’s goals.

<sup>1</sup>The IPCC is an intergovernmental body of the United Nations dedicated to providing an objective, scientific view of climate change and its political and economic impacts.

### EO 166

### DECARBONIZATION PATHWAYS

- Increase electric generation from renewable sources to 50% by 2030 (Clean Energy Standard)
- Reduce building energy use by 23% by 2030 through building shell and end-use equipment upgrades
- Increase air- and ground-source heat-pump sales to majority of heating/cooling equipment sales by 2030
- Increase light-duty electric vehicle sales to 20% by 2030, accelerate to 90% by 2050
- Reduce vehicle miles travelled by fossil-fuel vehicles through smart growth and other strategies
- Make advanced biofuels from sustainable feed stocks part of the transportation fuel mix



# GOVERNANCE

## COMPANY SUSTAINABILITY POLICY

The NYPA Sustainability Policy establishes NYPA's Sustainability Program and defines responsibilities for planning, executing, monitoring and reporting. The Sustainability Program identifies and sets sustainability goals and targets that focus on energy efficiency, greenhouse gas reductions, and sustainable resource and asset management practices. The Sustainability Policy calls for the creation of long-term and annual action plans to ensure the goals and targets are reached.

Strong and inclusive governance structures are essential to ensure the successful implementation of the Sustainability Plan. In order to fully integrate sustainability into NYPA's operations, the NYPA Executive Management Committee (EMC) will oversee the achievement of the goals identified in the Plan. The following individuals are responsible for oversight and implementation:

- The Senior Vice President Public & Regulatory Affairs has oversight of the NYPA Sustainability Policy and the NYPA Sustainability Plan, and as such serves as NYPA's Chief Sustainability Officer.
- The Vice President Environmental Justice & Sustainability has direct oversight of the NYPA Sustainability Plan and implementation milestones.
- The Director of Sustainability is responsible for overall development of the Sustainability Plan, including engagement with the NYPA Sustainability Advisory Council and business units on plan implementation, performance management and reporting.
- The Utility Operations Asset Management group is responsible for the integration of goals and key performance indicators into Regional NYPA Asset Management Plans.
- Regional Managers and other members of the Sustainability Advisory Council are responsible for identifying subject matter experts to support the implementation of projects and initiatives identified in the Sustainability Plan.

## SUSTAINABILITY ADVISORY COUNCIL

The Sustainability Advisory Council (SAC) serves as the collaborative body to advise on the NYPA Sustainability Program and the development and implementation of the Sustainability Plan. Advisory Council members work with the Director of Sustainability to identify goals and targets, develop and implement plans to ensure goals are met, and where necessary, create or revise facility/department policies and/or procedures to support plan implementation.

The Advisory Council will meet quarterly to increase coordination among business units, communicate progress, and drive continuous improvement. The Sustainability Advisory Council consists of representatives (vice president or equivalent) identified in the table on the adjacent page.



### ANNUAL ACTION PLANS AND PROGRESS REPORTS

The Sustainability group will prepare annual action plans based on the goals, strategies and action items identified in this Plan. The Sustainability group will also produce annual progress reports that include all activities and results for the previous year.

### PROGRAM IMPLEMENTATION

The Sustainability Plan develops and expands the Sustainability Program in key areas. Funds for Plan implementation will be included in the annual Program budget. Projects will be implemented by staff at each site. In cases where NYPA staff is not available, NYPA will contract for outside services.

### GOALS | STRATEGIES | ACTIONS

		2019	2020	2021	2022	2023
<b>GOALS</b>	<b>ENSURE SUCCESSFUL IMPLEMENTATION OF SUSTAINABILITY PLAN</b>					
<b>STRATEGY</b>	<b>ESTABLISH GOVERNANCE STRUCTURES AND PROCESSES</b>					
<b>ACTIONS</b>	Create SAC charter and establish roles and responsibilities	●				
	Prepare annual action plans	●	●	●	●	●
	Review/reassess goals and revise if necessary			●		
	Schedule quarterly meetings of Sustainability Advisory Council	●	●	●	●	●
	Prepare annual progress reports	●	●	●	●	●
	Prepare and track annual Sustainability Plan budget	●	●	●	●	●
	Incorporate plan goals in Regional Asset Management Plans	●		●		

### MEMBERS OF THE SUSTAINABILITY ADVISORY COUNCIL

#### PUBLIC & REGULATORY AFFAIRS

Environmental Justice & Sustainability  
Community & Government Relations

#### HR & ENTERPRISE SHARED SERVICES

Enterprise Shared Services  
HR & Organizational Development

#### LAW

Relicensing & Implementation

#### COMMERCIAL OPERATIONS

Project & Business Development  
Clean Energy Business & Market Development  
Energy Efficiency  
Economic Development  
New York Energy Manager  
Energy Resource Management

#### RISK MANAGEMENT

Enterprise Risk Management

#### UTILITY OPERATIONS

NIA | STL | CEC | BG | SENY  
Environment, Health & Safety  
Engineering  
Project Management

#### BUSINESS SERVICES

Strategic Supply Management  
Financial Operations  
Strategy



# MANAGING AND COMMUNICATING PERFORMANCE

The Sustainability group collects and analyzes all sustainability performance data, monitors and reports progress towards sustainability targets, and works with the Sustainability Advisory Council, subject matter experts and project leads to keep the programs on track.

## CORPORATE SCORECARD

Sustainability targets and metrics will be integrated into the corporate scorecard. This will reinforce NYPA's drive for continuous improvement. Key performance areas that will be integrated into the scorecard in 2019 include:

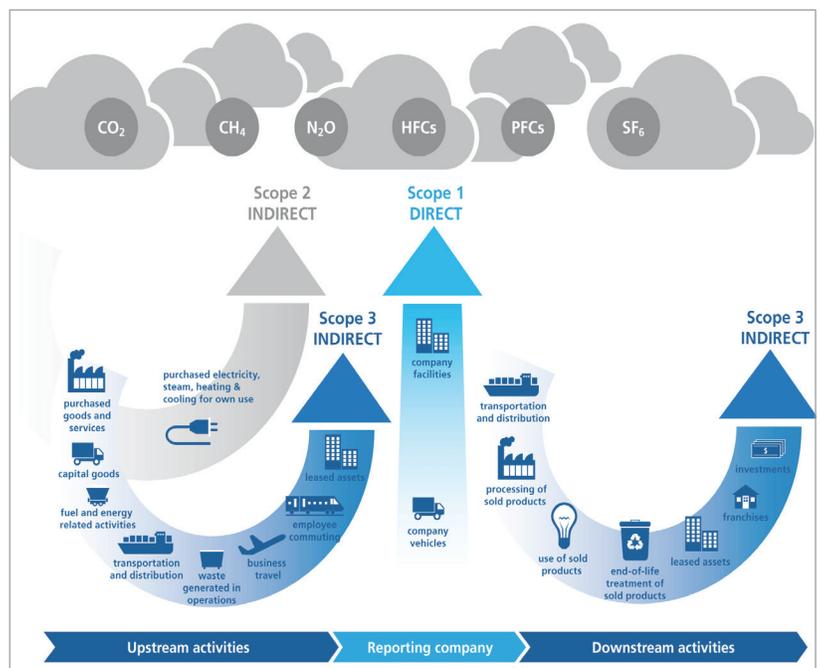
- Carbon emission reduction goals for NYPA's electricity supply
- Energy and carbon emission reduction goals for NYPA administrative/support buildings
- Carbon emission reduction and vehicle electrification goals for NYPA's light-duty vehicle fleet
- Carbon emission reduction goals for NYPA's customer and public-facing programs

As targets and metrics are established for new program areas, they will be integrated into the scorecard.

## COMPREHENSIVE GHG INVENTORY

NYPA voluntarily reports annual greenhouse gas emissions to The Climate Registry (TCR). Current reporting includes GHG emissions from stationary combustion of fuels (power plants, building heating systems), transportation (vehicle fleet), and sulfur hexafluoride (SF<sub>6</sub>) associated with electrical equipment.

The plan expands reporting to meet the full reporting requirements of TCR in accordance with best practice in the electricity sector. This includes GHG emissions associated with NYPA's electricity sales (owned, contracted and wholesale market purchases) and transmission line losses. NYPA will also respond to the CDP<sup>1</sup> Climate Change Questionnaire for annual New York State EO166 reporting.



<sup>1</sup> The Climate Registry is a non-profit that manages a GHG reporting program for US states and Canada.

<sup>2</sup> CDP is a non-profit organization that runs a global reporting system for companies, cities, states and regions to manage their environmental performance.

## SUSTAINABILITY DASHBOARD

The Sustainability group leverages existing data management systems and analytics platforms to automate data collection and ensure accuracy and timeliness of reporting activities. New York Energy Manager (NYEM) is currently used to track and report building and facility energy use from a combination of both utility billing information (for locations connected to the grid and supplied by another utility) and smart interval meters. Future NYEM development will allow the Sustainability group to track greenhouse gas emissions associated with building energy consumption.

In 2017, the Sustainability group developed a dashboard and data management system that was designed in collaboration with IT to analyze energy use and associated GHG emissions from buildings and vehicles, as well as generation and diversion of non-hazardous solid waste. As goals and metrics are identified for new program areas such as supply chain, land and water, the Sustainability group will pursue a more comprehensive solution tailored specifically to sustainability performance management and reporting.

## ANNUAL REPORTING

The Sustainability group will develop an annual enterprise-wide sustainability report that adheres to Global Reporting Initiative (GRI) Standards<sup>1</sup>. GRI has developed a comprehensive reporting framework for companies and governments (including public and private utilities) to manage and communicate the impact of their operations on critical environmental, social and economic issues.

<sup>1</sup> The Global Reporting Initiative is an international independent standards organization that helps businesses, governments and other organizations understand and communicate their impacts on issues such as climate change and human rights.

GOALS   STRATEGIES   ACTIONS		2019	2020	2021	2022	2023
<b>GOALS</b>	<b>IMPROVE PERFORMANCE MANAGEMENT PROCESSES AND INCREASE TRANSPARENCY IN REPORTING</b>					
<b>STRATEGY</b>	<b>INTEGRATE SUSTAINABILITY METRICS AND TARGETS INTO THE CORPORATE SCORECARD</b>					
<b>ACTIONS</b>	Integrate GHG targets and metrics for NYPA's electricity supply, buildings and facilities, vehicle fleet and customer/public-facing programs	●				
	Integrate additional metrics as new programs are established		●			
<b>STRATEGY</b>	<b>DEVELOP COMPREHENSIVE GHG INVENTORY</b>					
<b>ACTIONS</b>	Expand Climate Registry reporting to include purchased electricity, electricity sales and line losses	●	●			
	Provide CDP Climate Change Response in support of EO166 requirements		●	●	●	●
<b>STRATEGY</b>	<b>INTEGRATE DATA COLLECTION PROCESSES TO IMPROVE PERFORMANCE MANAGEMENT</b>					
<b>ACTION</b>	Identify and procure SaaS data analytics platform	●	●			
<b>STRATEGY</b>	<b>CREATE ENTERPRISE-WIDE REPORT TO COMMUNICATE SUSTAINABILITY PERFORMANCE TO STAKEHOLDERS</b>					
<b>ACTION</b>	Produce sustainability report that adheres to GRI Standards		●	●	●	●

## WORKING GROUP | MANAGING AND COMMUNICATING PERFORMANCE

### PUBLIC & REGULATORY AFFAIRS

Sustainability  
Corporate Communications

### COMMERCIAL OPERATIONS

New York Energy Manager

### UTILITY OPERATIONS

Environment, Health & Safety

### BUSINESS SERVICES

Strategy

### HUMAN RESOURCES &

### SHARED SERVICES

Enterprise Excellence

### INFORMATION TECHNOLOGY



# CLIMATE ASSESSMENT AND ADAPTATION

## ASSESSMENT OF LOW CARBON TRANSITION AND PHYSICAL IMPACTS OF CLIMATE CHANGE

NYPA will leverage its annual scenario planning exercise to assess the potential implications of the transition in the New York power sector and economy that will be necessary to reduce emissions consistent with limiting global average temperature rise to 1.5 degrees Celsius above preindustrial levels.

This planning exercise will develop and apply scenarios that allow for an assessment of the risks and opportunities associated with a 1.5 degree transition and the physical impacts of climate change. NYPA will determine the appropriate emission reduction trajectory and time horizon using New York's 2030 and 2050 goals as the starting point, and will identify key indicators that illuminate emerging trends as well as critical milestones that should be monitored for potential strategy adjustments. Climate scenarios will then be developed showing expected long-term changes in New York State that would impact NYPA's operational objectives.

## CLIMATE CHANGE ADAPTATION PLAN

Building on the climate strategy assessment, an interdisciplinary team under the coordination of the Sustainability group will develop a Climate Change Adaptation Plan. Adaptation is the process of adjustment to actual or expected climate and its physical, social, or economic effects. Adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. This effort will support New York State's ongoing Climate Vulnerability Assessment.

NYPA assessments of existing generation and transmission facilities have identified three primary weather-related risks: extreme winter weather, specifically ice and wind loading combinations on transmission assets; extreme flooding; and extreme high temperatures and heat waves on the generation facilities in New York City.

## KEY QUESTIONS AND CONSIDERATIONS

- What market transformations are necessary to achieve 40x30?
- What transformations are necessary to achieve 80x50?
- What are the state policy and market implications?
- What are the implications of decarbonization for NYPA?

### 1.5-DEGREE TRANSITION

- Greenhouse gas emission reduction trajectory
- Policy landscape
- Advances in energy efficiency and electrification of end-uses
- Pace of deployment of clean energy and energy storage technologies
- Consumer expectations and corporate procurement
- Grid transformation and distributed energy resource deployment

### PHYSICAL IMPACTS

- Extreme temperatures
- Water availability and precipitation patterns
- Sea level rise
- Extreme precipitation events
- Wildfires
- Changes in wind patterns



GOALS   STRATEGIES   ACTIONS		2019	2020	2021	2022	2023
<b>GOALS</b>	<b>ENSURE LONG-TERM STRATEGY ADDRESSES POTENTIAL IMPACTS OF A 1.5 DEGREE TRANSITION AND PHYSICAL IMPACTS OF CLIMATE CHANGE</b>					
	<b>MODERATE OR AVOID HARM FROM CLIMATE CHANGE IMPACTS</b>					
<b>STRATEGY</b>	<b>DEVELOP 1.5-DEGREE SCENARIOS AND INTEGRATE ASSESSMENT OF RISKS AND OPPORTUNITIES INTO NYPA'S LONG-TERM STRATEGY</b>					
<b>ACTIONS</b>	Develop climate scenarios and integrate into existing scenario planning effort	●				
	Refresh climate scenarios and reassess climate strategy as part of annual scenario planning exercise		●	●	●	●
<b>STRATEGY</b>	<b>ASSESS POTENTIAL PHYSICAL IMPACTS OF CLIMATE CHANGE ON NYPA'S OPERATIONS</b>					
<b>ACTIONS</b>	Review previous NYPA vulnerability assessments	●				
	Evaluate how changes in temperature, precipitation patterns, and sea level rise may impact electricity generation and transmission as part of scenario planning exercise	●				
<b>STRATEGY</b>	<b>CREATE ADAPTATION PLAN TO ADDRESS PHYSICAL, SOCIAL AND ECONOMIC IMPACTS OF CLIMATE CHANGE</b>					
<b>ACTIONS</b>	Review past NYPA assessments; research industry best practices	●				
	Identify adaptation strategies necessary to avoid negative operational impacts; prepare and issue adaptation plan	●	●			
	Implement changes to ensure NYPA continues to deliver energy safely and reliably to customers			●	●	●
	Determine adjustments necessary to align with new developments in climate change research				●	●

**WORKING GROUP | CLIMATE ASSESSMENT AND ADAPTATION**

**PUBLIC & REGULATORY AFFAIRS**  
 Sustainability  
 Legislative & Regulatory Affairs  
**BUSINESS SERVICES**  
 Strategy

**UTILITY OPERATIONS**  
 Engineering  
 Technical Compliance  
 Environment, Health & Safety  
 Enterprise Resilience

**COMMERCIAL OPERATIONS**  
 Energy Resource Management  
 Project & Business Development  
 Energy Efficiency  
**RISK MANAGEMENT**  
 Enterprise Risk Management



# ELECTRICITY GENERATION, TRANSMISSION AND SUPPLY

## PROGRAM OVERVIEW

With an extensive hydropower generation fleet, NYPA has one of the lowest emission rates in the country and is an established leader in generating clean electricity. Forecasts of NYPA’s electricity supply (owned generation, contracted generation, and NYISO purchases) indicate that NYPA will meet the state’s 40x30 reduction goal for both absolute emissions and emissions intensity. This is primarily due to three factors:

1. New York’s Clean Energy Standard, which is driving a reduction in the GHG emissions rate of grid electricity (and NYPA power purchases)
2. Declining demand caused by increases in energy efficiency, and hence declining generation from NYPA facilities and associated reductions in NYPA’s absolute GHG emissions
3. Replacement of the Poletti Power Project with the 500-MW combined-cycle plant, which has significantly reduced the carbon intensity of NYPA generation since 2005 (the baseline that NYPA is using to meet the state’s 40x30 goal)<sup>1</sup>

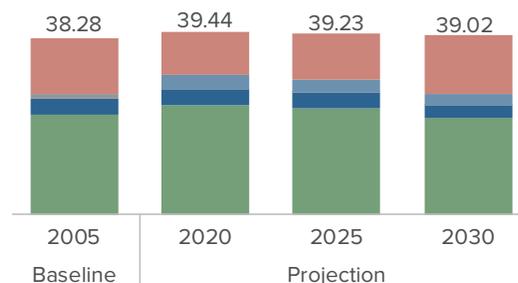
Projects planned by NYPA or in progress are expected to further reduce the GHG emissions rate of NYPA’s electricity supply. These include plant modernization, transmission upgrades, energy storage and other advanced technology demonstrations. If large-scale renewable power purchase agreements are executed, these will also have a positive impact.

NYPA will monitor the absolute GHG emissions and GHG emissions rate of its electricity supply to track progress towards the 40x30 target. NYPA will also measure the impacts to GHG intensity of the various generation, transmission and energy storage projects as they are implemented.

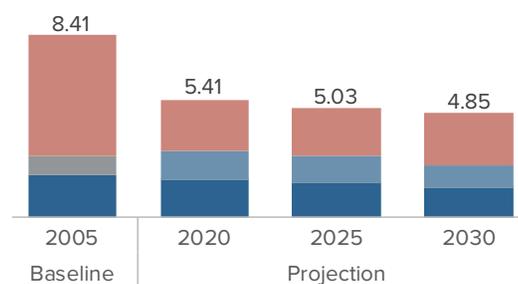
<sup>1</sup> NYPA will use 2005 as the baseline year for electricity supply in accordance with the Paris Climate Agreement.

GHG EMISSIONS METRICS ABSOLUTE VS. INTENSITY
<ul style="list-style-type: none"> <li>• <b>Emissions Intensity</b>   Quantity of emissions normalized by a specific unit such as MWh or square footage</li> <li>• <b>Absolute Emissions</b>   Total quantity of emissions released</li> </ul>

## NYPA GENERATION & SUPPLY (TWH)



## NYPA CO<sub>2</sub> Emissions (million short tons)



## CO<sub>2</sub> EMISSIONS CHANGE (ALL SOURCES)

	2020	2025	2030
2005 BASELINE	-36%	-40%	-42%





GOALS   STRATEGIES   ACTIONS		2019	2020	2021	2022	2023
<b>GOAL</b>	<b>IMPROVE GHG EMISSIONS RATE OF NYPA'S ELECTRICITY SUPPLY 40% BY 2030 FROM 2005 BASELINE</b>					
<b>STRATEGIES</b>	<b>GENERATION</b> <ul style="list-style-type: none"> <li>POWER PLANT MODERNIZATION AND HEAT RATE IMPROVEMENTS TO THERMAL GENERATION ASSETS</li> <li>ELIMINATION OF R22 REFRIGERANT IN SENY</li> <li>REDUCTION IN PARASITIC STATION SERVICE LOADS ACROSS FACILITIES THROUGH LIGHTING UPGRADES, HVAC SMART CONTROLS, AND POTENTIAL OPTIMIZATION OF TUNNEL COOLING TEMPERATURES AT HYDRO FACILITIES</li> <li>ENERGY STORAGE TO OPTIMIZE NYPA GENERATION ASSETS AND CURB PEAKS IN DEMAND</li> </ul>					
	<b>TRANSMISSION</b> <ul style="list-style-type: none"> <li>TRANSMISSION PROJECTS THAT WILL DELIVER RENEWABLE RESOURCES FROM UPSTATE TO DOWNSTATE</li> <li>REDUCTION IN LINE LOSSES DUE TO TRANSMISSION UPGRADES</li> <li>REDUCTION IN SULFUR HEXAFLORIDE (SF<sub>6</sub>) LEAKAGE RATES DUE TO EQUIPMENT UPGRADES</li> </ul>					
	<b>SUPPLY</b> <ul style="list-style-type: none"> <li>LARGE SCALE RENEWABLE POWER PURCHASE AGREEMENTS OF UP TO 4 TWH</li> </ul>					
<b>ACTIONS</b>	Track/report absolute emissions from NYPA's electricity supply	●	●	●	●	●
	Measure impacts to GHG intensity of the various strategies as projects are implemented	●	●	●	●	●
	Track fugitive emission leakage rates for SF <sub>6</sub> and set leakage rate reduction target	●	●			
	Track elimination of R22	●	●			
	Identify opportunities to further reduce GHG emissions intensity and absolute emissions		●	●	●	●
	Assess progress towards state's 40x30 target and determine if an absolute target can be set			●		

**WORKING GROUP | ELECTRICITY GENERATION, TRANSMISSION AND SUPPLY**

**PUBLIC & REGULATORY AFFAIRS**

Sustainability

**UTILITY OPERATIONS**

Regional Managers | All Sites  
 Environment, Health & Safety  
 Project Management  
 Engineering

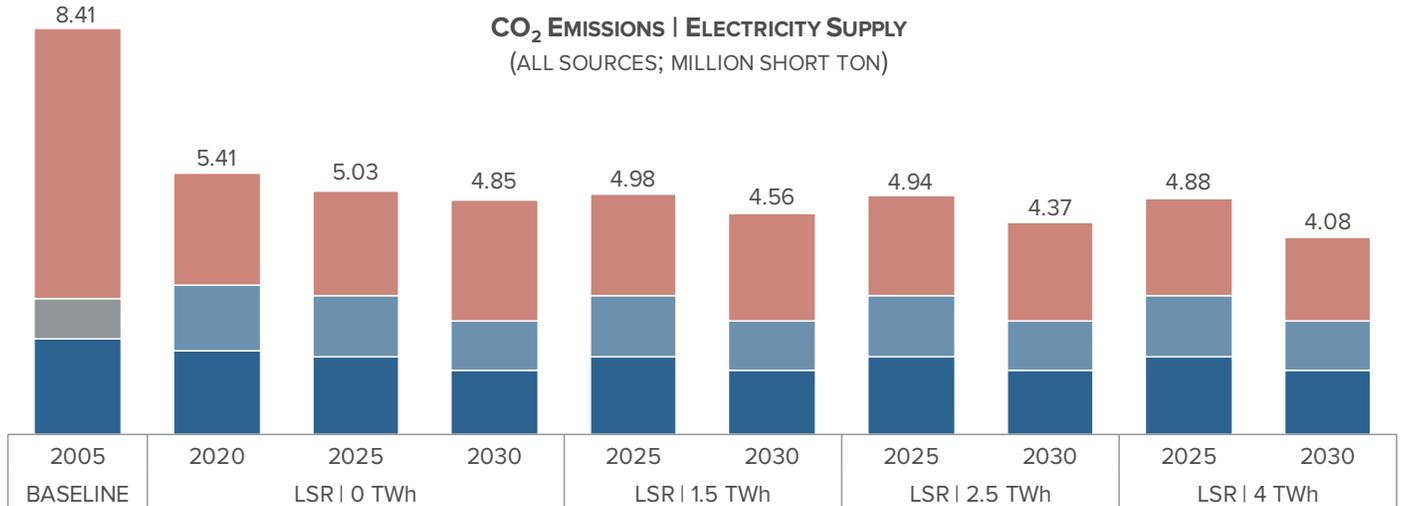
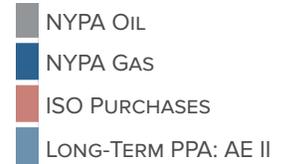
**COMMERCIAL OPERATIONS**

Energy Resource Management  
 Project & Business Development  
 Economic Development

# ELECTRICITY SUPPLY ANALYSIS - GREENHOUSE GAS EMISSIONS

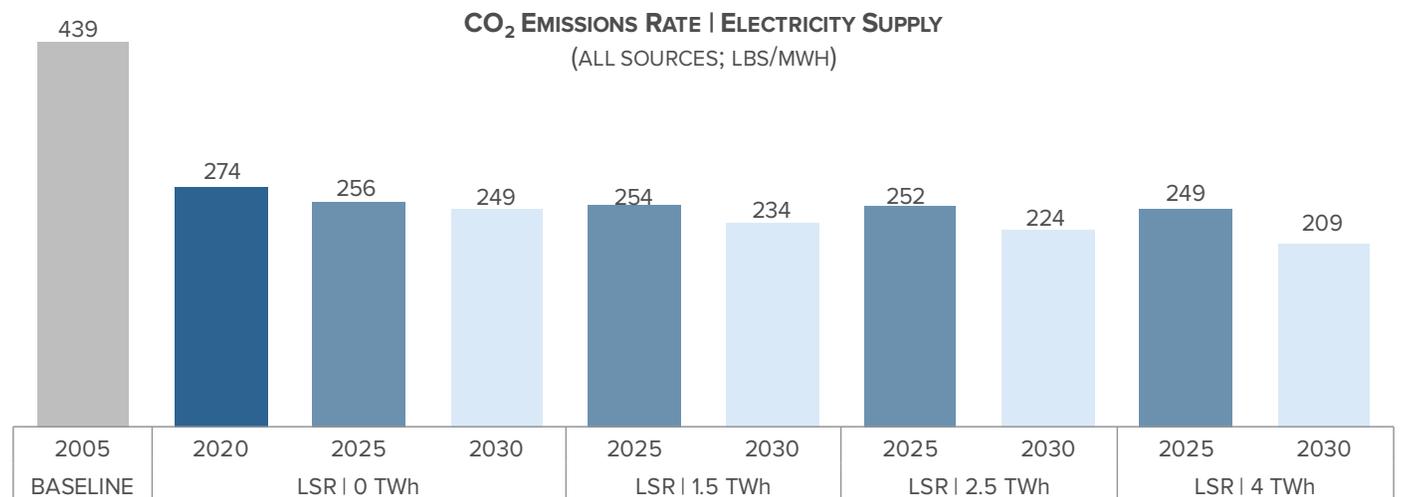
## ASSUMPTIONS - VARIABLE LARGE-SCALE RENEWABLE (LSR) CAPACITY

- NYPA output projections for NYPA-owned facilities and Astoria Energy II (AE II)
- 2021 generation share held constant for in-city, SCPP
- Renewable energy increases linearly starting 2025 to a total of up to 4 TWh by 2030
- NYISO purchases to meet demand as needed



### CHANGE IN ABSOLUTE CO<sub>2</sub> EMISSIONS FROM BASELINE

2005 BASELINE	LSR   0 TWh			LSR   1.5 TWh		LSR   2.5 TWh		LSR   4 TWh	
	2020	2025	2030	2025	2030	2025	2030	2025	2030
	-36%	-40%	-42%	-41%	-46%	-41%	-48%	-42%	-51%



### CHANGE IN ABSOLUTE CO<sub>2</sub> EMISSIONS FROM BASELINE

2005 BASELINE	LSR   0 TWh			LSR   1.5 TWh		LSR   2.5 TWh		LSR   4 TWh	
	2020	2025	2030	2025	2030	2025	2030	2025	2030
	-38%	-42%	-43%	-42%	-47%	-43%	-49%	-43%	-52%



# CUSTOMER, MARKET AND PUBLIC-FACING PROGRAMS

### PROGRAM OVERVIEW

NYPAs customer, market and public-facing programs provide opportunities to advance the state’s energy and greenhouse gas reduction policies and goals.

NYPAs programs include energy efficiency and energy management services, transportation electrification, solar and energy storage. Under this plan, NYPA will assess the projected GHG reduction benefits of these programs, establish GHG reduction goals and track progress towards meeting these goals.

### CURRENT PROGRAM GOALS

#### ENERGY EFFICIENCY

- 11 TBtus saved by 2025

#### RENEWABLE ENERGY AND STORAGE

- Up to 4 TWh of renewables by 2030
- 125 MW of solar development by 2020
- 20 MW of energy storage by 2020

#### TRANSPORTATION

- EVOlve NY | Up to 800 DC fast charge stations by 2025

### GOALS | STRATEGIES | ACTIONS

2019	2020	2021	2022	2023
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GOAL	CAPTURE EMISSIONS REDUCTION BENEFITS FROM CUSTOMER, MARKET AND PUBLIC-FACING PROGRAMS					
STRATEGY	DEVELOP GHG GOALS FOR CUSTOMER, MARKET AND PUBLIC-FACING PROGRAMS					
ACTIONS	Identify all customer program goals (energy efficiency, solar, electric vehicles) and assess projected GHG reduction benefits	●				
	Identify goals for market and public-facing programs (large scale renewables, energy storage, electric vehicle fast charging and workplace charging) and assess GHG reduction benefits	●				
	Establish GHG reduction goals for customer programs	●				
	Establish GHG reduction goals for market/public-facing initiatives	●				
	Review/revise GHG reduction goals as programs develop		●	●	●	●

### WORKING GROUP | CUSTOMER, MARKET AND PUBLIC-FACING PROGRAMS

#### PUBLIC & REGULATORY AFFAIRS

Sustainability

#### BUSINESS SERVICES

Strategy

#### COMMERCIAL OPERATIONS

Energy Efficiency

Clean Energy Business & Market Development

Project & Business Development

New York Energy Manager

#### UTILITY OPERATIONS

Regional Manager | STL

Project Management

Engineering



# BUILDINGS

## PROGRAM OVERVIEW

The residential, commercial and industrial sectors account for more than 1,600 TBtu or 60% of energy consumption in New York State. The state has set goals to improve the energy efficiency of the building sector by 185 TBtu through 2025. EO166 directs state entities to lead by example in reducing absolute greenhouse gas emissions from administrative/support buildings and sets a 40% by 2030 target.

NYPAs building portfolio consists of 120 buildings and facilities and spans over three million square feet. Approximately 40% of these buildings serve administrative/support functions, and the remainder house generation and transmission (G&T) assets. This section addresses administrative/support buildings only. Efforts to improve the energy efficiency of auxiliary systems at G&T facilities are captured under Electricity Generation, Transmission and Supply.

Much work has been done to increase building efficiency under Executive Order 88 (BuildSmart NY) and NYPA's Carbon Footprint Program, and efforts have largely focused on "low hanging fruit." However, there are a number of opportunities to further reduce energy use and emissions across all buildings. Projects range from lighting and building envelope upgrades to advanced building system and HVAC controls.

## PROGRESS TO DATE

BuildSmart NY, which was launched in 2012, directs state entities to reduce the energy use intensity (EUI) of its largest buildings by 20% by 2020. In 2014, NYPA created the Carbon Footprint Program, which expands the scope of EO88 to include all administrative/support buildings.

Between 2010 and 2017, NYPA reduced the EUI of all administrative/support buildings by 15%, with a compound annual growth rate (CAGR) of -2.0%. The GHG emissions intensity fell by 37% within the same time period. This reduction is the result of more than 25 energy efficiency projects, coupled with decreasing grid emission rates. Most of the energy savings can be attributed to NYPA efforts under EO88, which reduced energy consumption across the 12 reporting buildings by 18,300 MMBtu.

In FY 2018, NYPA exceeded the 20% target for EO88, achieving a 24% reduction in EUI two years ahead of the target date.

EXECUTIVE ORDER	88
<ul style="list-style-type: none"> <li>• Issued in 2012 to improve the energy efficiency of New York State buildings</li> <li>• Scope: All admin/support buildings greater than 20,000 ft.<sup>2</sup></li> <li>• Baseline: FY 2011</li> <li>• Target: 20% reduction in energy-use intensity by FY 2020</li> <li>• Metric: kBtu/ft.<sup>2</sup></li> </ul>	
<b>TARGET ACHIEVED   24% REDUCTION</b>	

EXECUTIVE ORDER	166
<ul style="list-style-type: none"> <li>• Issued in 2017 to reduce NYS operational GHG emissions from all sources</li> <li>• Scope: Includes all admin/support buildings and all fleet vehicles</li> <li>• Baseline: 2010<sup>1</sup></li> <li>• Target: 40% reduction in GHG emissions by 2030, 80% by 2050</li> <li>• Metric: MT CO<sub>2</sub>e</li> </ul>	

<sup>1</sup> NYPA will use 2010 as the baseline year to align with EO88.

**GOALS | STRATEGIES | ACTIONS**

2019	2020	2021	2022	2023
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<b>GOALS</b>	<b>REDUCE ENERGY AND GHG EMISSIONS ASSOCIATED WITH ADMINISTRATIVE/SUPPORT BUILDINGS</b>				
	<b>ENERGY REDUCTION TARGETS</b>				
	• <b>ENERGY INTENSITY   20% BY 2020   30% BY 2025   40% BY 2030 FROM 2010 BASELINE</b>				
	<b>GHG EMISSIONS REDUCTION TARGETS</b>				
	• <b>GHG INTENSITY   40% BY 2020   50% BY 2025   60% BY 2030 FROM 2010 BASELINE</b>				
	• <b>GHG ABSOLUTE   50% BY 2030 FROM 2010 BASELINE</b>				
<b>STRATEGY</b>	<b>DEVELOP AND IMPLEMENT ENERGY EFFICIENCY PROJECTS AT ALL SITES</b>				
	• <b>PRIORITIZE UPGRADES TO EQUIPMENT AND SYSTEMS NEARING END OF LIFE</b>				
	• <b>EXPAND SCOPE OF ONGOING PROJECTS TO INCLUDE MORE EFFICIENT TECHNOLOGIES</b>				
	• <b>ACCELERATE PLANNED PROJECTS THAT DEMONSTRATE POSITIVE ENVIRONMENTAL AND FINANCIAL RETURNS</b>				
<b>ACTIONS</b>	Begin Implementation of 15 new projects; complete 10 ongoing projects by the end of 2019	●			
	Conduct assessments of building systems including HVAC, lighting, and envelope and identify opportunities for efficiency improvements	●	●		
	Integrate sustainability criteria into the project assessment and scoring process	●	●		
	Develop policy establishing standards for new construction and renovations		●		
	Develop project portfolio and work plan for subsequent year		●	●	●
	Implement energy efficiency projects identified in work plan		●	●	●
<b>STRATEGY</b>	<b>MONITOR &amp; ANALYZE ENERGY AND EMISSIONS PERFORMANCE WITH DIGITAL APPLICATIONS</b>				
<b>ACTIONS</b>	Analyze building performance through NYEM, Sustainability Dashboard and other modeling tools	●	●	●	●
	Forecast energy and GHG reductions based on project pipeline and other critical variables	●	●	●	●
	Install smart meters for all energy sources (electricity, natural gas, fuel oil); identify location/number based on energy use	●	●	●	●
<b>GOAL</b>	<b>EXPAND THE INSTALLED CAPACITY OF ON-SITE RENEWABLES   2.5 MW BY 2025</b>				
<b>STRATEGY</b>	<b>IDENTIFY OPPORTUNITIES FOR ADDITIONAL RENEWABLE GENERATION CAPACITY AT ALL SITES</b>				
<b>ACTIONS</b>	Conduct assessments at each site to identify locations suitable for solar PV and/or geothermal	●			
	Develop engineering and design packages for small-scale renewable energy projects	●	●		
	Complete construction and installation of all projects			●	●
	Incubate and pilot new technologies at NYPA sites that can be replicated for customers		●	●	●

**WORKING GROUP | BUILDINGS**

**PUBLIC & REGULATORY AFFAIRS**  
Sustainability  
**HR & ENTERPRISE SHARED SERVICES**  
Facility Management  
**BUSINESS SERVICES** | Strategy

**UTILITY OPERATIONS**  
Regional Managers  
Asset Management  
Engineering  
Site Project Teams

**COMMERCIAL OPERATIONS**  
Energy Efficiency  
Clean Energy Business & Market Development



# TRANSPORTATION

## PROGRAM OVERVIEW

In New York State, the transportation sector contributes 41% of all greenhouse gas emissions, the largest portion of any sector. NYPA has taken a leadership role in accelerating the market for electric vehicles with EVolve NY, and has a responsibility to lead by example with fleet electrification and workplace charging.

## VEHICLE FLEET

Executive Order 166 directs state entities to reduce emissions from light-, medium-, and heavy-duty vehicles 40% by 2030. NYPA will take a comprehensive approach to reducing fleet GHG emissions that includes rapidly expanding the number of battery electric (BEV) and plug-in hybrid (PHEV) vehicles in its fleet. NYPA will also promote right-sizing and will explore opportunities to test low-carbon fuels in the medium- and heavy-duty fleet.

## COMMUTING

NYPA's Workplace Charging Program (WPC) provides electric vehicle charging access to employees at all facilities. It has proven to be an effective way to encourage electric vehicle adoption by reducing range anxiety. Membership in the program has grown significantly since 2016, and there are now more than 40 employee vehicles plugging in across sites, from NIA to STL to the 500-MW.



## LIGHT-DUTY FLEET

NYPA's light-duty vehicle (LDV) fleet is comprised of a range of passenger and specialty vehicles, ranging from sedans to full-size SUVs to pickup trucks. The data below provides a snapshot of the 2017 LDV fleet.

**343** VEHICLES

**5.5** % ELECTRIFIED

**3.0** MILLION MILES TRAVELED

**272K** GALLONS OF FUEL

**20.9** AVERAGE MPG

**1.5K** MT CO<sub>2</sub>E

**GOALS | STRATEGIES | ACTIONS**

2019 2020 2021 2022 2023

GOALS	REDUCE GHG INTENSITY AND ABOLUTE GHG EMISSIONS FROM ALL VEHICLES 25% BY 2025   40% BY 2030 FROM 2010 BASELINE					
	ELECTRIFY LIGHT-DUTY FLEET 50% BY 2025   100% BY 2030					
STRATEGY	REPLACE EXISTING INTERNAL COMBUSTION (ICE) VEHICLES WITH PLUG-IN HYBRID (PHEV) AND BATTERY ELECTRIC VEHICLES (BEV) AS NEW MODELS BECOME COMMERCIALY AVAILABLE					
ACTIONS	Revise existing fleet policy to incorporate selection and assignment guidelines for BEVs and PHEVs	●				
	Replace existing internal combustion (ICE) vehicles with BEVs and PHEVs as suitable models become commercially available	●	●	●	●	●
	Complete charging station installations for fleet vehicles at sites	●				
	Expand number of charging stations as needed in line with vehicle replacement strategy		●	●	●	●
	Develop a Smart Charging pilot/demo at White Plains Office		●	●		
STRATEGY	REDUCE FUEL CONSUMPTION BY PROMOTING VEHICLE RIGHT-SIZING					
ACTION	Revise fleet policy to require replacement of existing vehicles with smaller, more efficient vehicles where feasible	●				
STRATEGY	REDUCE TOTAL FLEET MILES TRAVELED BY PROMOTING ALTERNATIVES TO SINGLE PASSENGER TRIPS					
ACTION	Create policy to promote carpooling, video-conferencing and use of public transportation where feasible	●	●			
STRATEGY	DEMONSTRATE EMERGING TECHNOLOGIES FOR MEDIUM-, HEAVY-DUTY AND OFF-ROAD VEHICLES					
ACTION	Test electric and alternative-fuel vehicles if suitable models become commercially available			●	●	●
STRATEGY	EXPAND USE OF LOW-CARBON FUELS FOR MEDIUM- AND HEAVY-DUTY FLEET VEHICLES					
ACTION	Conduct renewable diesel pilot if fuel is available; assess feasibility of expansion			●	●	●
GOALS	PROMOTE MORE EFFICIENT MODES OF COMMUTING AND SUPPORT ADOPTION OF ELECTRIC VEHICLES					
STRATEGY	EXPAND WORKPLACE CHARGING PROGRAM					
ACTIONS	Complete first phase of employee charging station installations at sites	●				
	Expand number of charging stations as employee demand increases		●	●	●	●
	Provide guidance and resources to employees seeking to purchase EVs	●	●	●	●	●
	Reassess program and monthly fee structure based on number of program participants and feedback		●		●	

**WORKING GROUP | TRANSPORTATION**

**PUBLIC & REGULATORY AFFAIRS**

Sustainability

**HR & ENTERPRISE SHARED SERVICES**

Fleet Management  
Facility Management

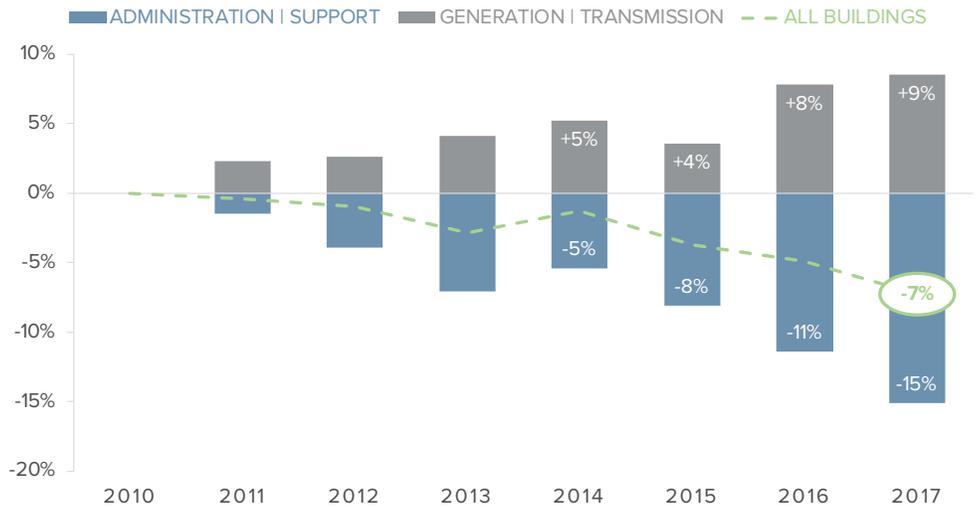
**UTILITY OPERATIONS**

Regional Managers  
Site Project Teams  
Engineering  
Technical Compliance

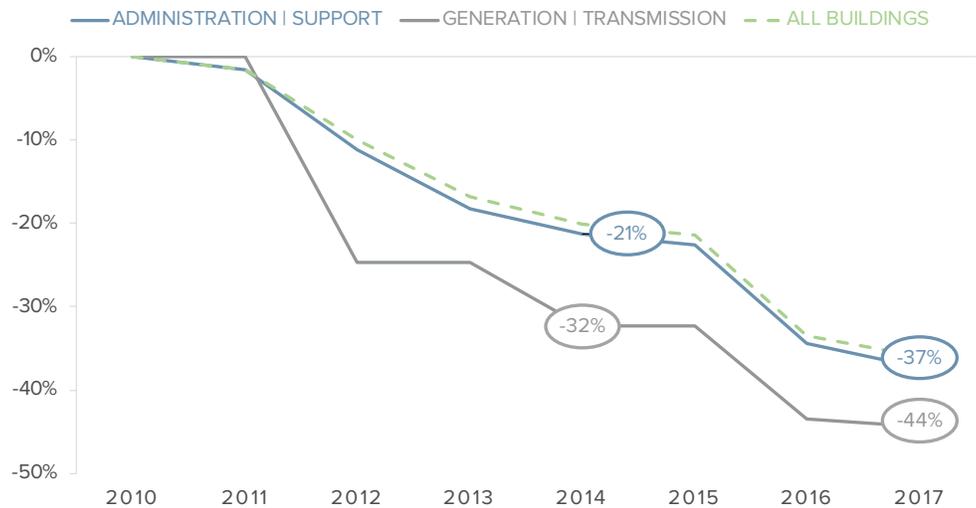
# BUILDINGS AND FLEET PERFORMANCE

These graphs show energy-use and GHG emissions performance for NYPA buildings and vehicle fleet from 2010 to 2017.

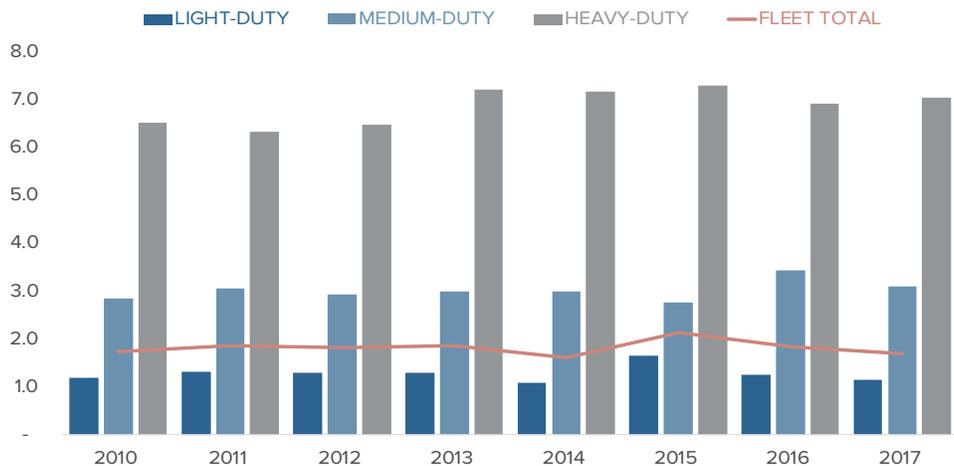
## BUILDINGS AND FACILITIES | CHANGE IN ENERGY-USE INTENSITY



## BUILDINGS AND FACILITIES | CHANGE IN GHG EMISSIONS INTENSITY



## VEHICLE FLEET | GHG EMISSIONS INTENSITY (LBS. CO<sub>2</sub>E/MILE)





# WATER EFFICIENCY

## PROGRAM OVERVIEW

While New York is not located in a water scarce region, the widespread availability of water resources cannot be taken for granted. New York has strong public policies to protect and conserve water, and as a public authority and an electric utility, NYPA has an interest in prudent water management. The goal of this program is to reduce the impact of NYPA’s operations on groundwater aquifers and surface water sources by (1) improving the efficient use of potable water in buildings and facilities, and (2) optimizing water utilization during electricity production consistent with NYPA’s obligations to water managing agencies.<sup>1</sup>

Based on gross square footage as well as the CBECS<sup>2</sup> industry benchmark for water consumption, NYPA buildings and facilities consume an estimated 165,000 gallons of water daily, or approximately 60 million gallons per year. Typical uses include cooling systems, bathroom and kitchen fixtures, and landscape irrigation.

Total water consumed by NYPA for electricity generation in 2017 was 1,879 million gallons, with a water consumption rate of 68.68 gallons per MWH for all generation and 58.20 gallons per MWH for fossil only. NYPA’s water withdrawal rate for all generation (hydro and fossil) in 2017 was 1,965,535 gallons per MWH.

<sup>1</sup> The International Joint Commission and the New York State Canals Corporation

<sup>2</sup> The U.S. Energy Information Administration’s Commercial Buildings Energy Consumption Survey

## GOALS | STRATEGIES | ACTIONS

		2019	2020	2021	2022	2023
<b>GOAL</b>	<b>REDUCE THE ENVIRONMENTAL IMPACTS OF NYPA’S CONSUMPTIVE USE OF WATER RESOURCES</b>					
<b>STRATEGIES</b>	<b>REDUCE POTABLE WATER USE INTENSITY OF BUILDINGS AND FACILITIES</b>					
	<b>OPTIMIZE WATER UTILIZATION DURING ELECTRICITY PRODUCTION (GALLONS/MWH)</b>					
<b>ACTIONS</b>	Utilize existing data to establish baselines for water consumption at all sites	●				
	Establish goals, targets and metrics for reducing consumptive water use	●				
	Install smart meters to track water consumption; identify locations/number based on consumption/environmental impacts	●	●			
	Assess water systems and identify opportunities to improve efficiency; prioritize projects based on impact and payback	●	●			
	Implement water conservation projects; track and report results		●	●	●	●

## WORKING GROUP | WATER EFFICIENCY

### PUBLIC & REGULATORY AFFAIRS

Sustainability

### HR & ENTERPRISE SHARED SERVICES

Facility Management

LAW | Licensing

### UTILITY OPERATIONS

Regional Managers

Site Project Teams

Engineering

Environment, Health & Safety



# SUPPLY CHAIN

## PROGRAM OVERVIEW

NYPA aims to reduce the upstream and downstream environmental impacts of its operations by embedding sustainability principles in its procurement processes. By improving the environmental performance of suppliers and products, NYPA can increase resource efficiency and asset longevity, reduce waste, and create savings. Moreover, greater transparency to NYPA's upstream environmental footprint will make it possible to measure and mitigate indirect GHG emissions.

NYPA will evaluate how suppliers are measuring, reporting and managing GHG emissions, resources and waste. NYPA will also assess the environmental lifecycle attributes of products, such as material and resource composition, disposal process and carbon footprint.

## PROGRESS TO DATE

The Sustainability group has partnered with Strategic Supply Management (SSM) to establish sustainability scoring criteria that will be embedded in NYPA's vendor and product selection process. As a member of the Electric Utility Industry Sustainable Supply Chain Alliance (EUISSCA), NYPA is taking part in the annual supplier survey to benchmark the environmental performance of strategic suppliers. SSM has moved to a digital catalog which identifies and promotes green products.

## EXECUTIVE ORDER

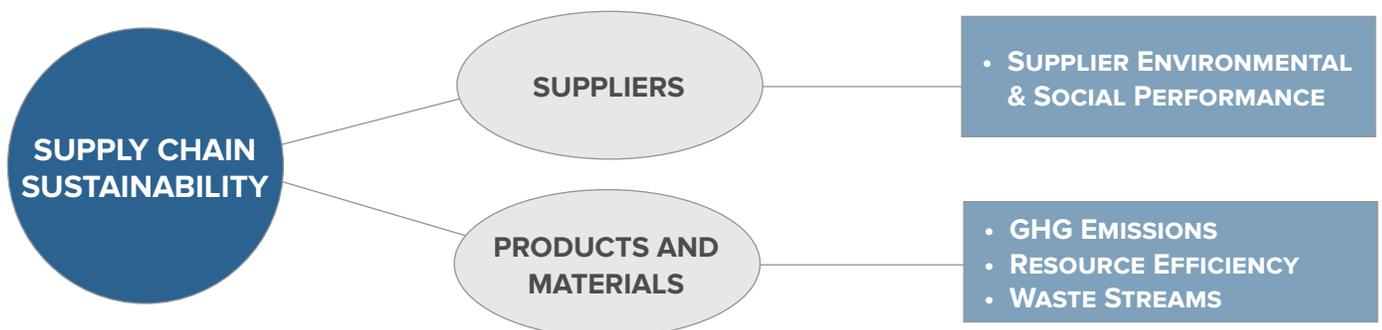
4

- Establishes Green Procurement and Agency Sustainability program
- Directs state agencies and authorities to green their procurement practices
- Creates green procurement list for products and services that meet environmental standards in 50 purchasing categories

## UPSTREAM FUGITIVE EMISSIONS

Methane has a global warming potential (GWP) that is 25 times greater than CO<sub>2</sub>. Fugitive methane emissions from the production, processing and transport of natural gas are a significant source of greenhouse gas emissions.

NYPA will participate in the Natural Gas Supplier Collaborative to promote responsible natural gas production and transportation practices and increase transparency in reporting.



GOALS	REDUCE THE ENVIRONMENTAL IMPACTS OF NYPA'S SUPPLIERS AND PURCHASED PRODUCTS				
STRATEGY	INTEGRATE SUSTAINABILITY PRINCIPLES INTO THE PROCUREMENT PROCESS				
ACTIONS	Develop sustainability code of conduct and set expectations and standards for vendors and contractors	●			
	Develop sustainable procurement policy that identifies environmentally-preferable standards for products	●			
	Prioritize product spend by environmental impact and define sustainability specifications for at least one high impact product per year	●	●	●	●
	Embed sustainability criteria in RFP scorecard for vendor and product selection	●			
STRATEGY	DEVELOP KEY PERFORMANCE INDICATORS AND TARGETS FOR SUPPLIER AND PRODUCTS				
ACTIONS	Use EUISSCA survey tool to determine baseline performance of top suppliers by spend; set performance targets for suppliers	●			
	Identify metrics and set targets for product selection	●			
	Assign weight to sustainability criteria in RFP scorecard; reassess weighting	●		●	
	Reassess targets, strategies and suppliers to be evaluated			●	
STRATEGY	ENGAGE SUPPLIERS TO DRIVE CONTINUOUS IMPROVEMENT IN SUSTAINABLE PRACTICES				
ACTIONS	Schedule webinars and workshops with suppliers to provide guidance on improving sustainability performance and NYPA's expectations		●	●	●
	Integrate sustainability into performance management scorecard for strategic suppliers and monitor performance				●
STRATEGY	UTILIZE LIFECYCLE APPROACH TO ANALYZE PRODUCTS AND PROCESSES WITH SMALLER ENVIRONMENTAL FOOTPRINTS AND TEST ALTERNATIVES				
ACTIONS	Conduct an SF <sub>6</sub> alternatives pilot project on circuit breakers through a collaboration with a strategic supplier		●	●	
	Assess feasibility of adopting sustainable transformer oils; conduct a pilot test if determined to be feasible		●	●	
	Research products with smaller environmental footprints and conduct product testing where applicable		●	●	●
STRATEGY	SUPPORT NEW YORK STATE GREEN PROCUREMENT GOALS				
ACTIONS	Install water coolers across sites to reduce water bottle purchases in support of Executive Order 18	●			
	Create green procurement guidelines and ensure NYPA green product lists meet EO4 specifications	●	●		
	Conduct pilot for green cleaning products	●	●		
	Track purchases to measure progress	●	●	●	●
STRATEGY	PARTICIPATE IN INDUSTRY ORGANIZATIONS TO PROMOTE RESEARCH OF ALTERNATIVE TECHNOLOGIES AND SHARE INDUSTRY BEST PRACTICES				
ACTIONS	Participate in Natural Gas Supply Collaborative to promote responsible natural gas production and transportation practices	●	●	●	●
	Participate in Electric Power Research Institute's Sulfur Hexafluoride Supplemental Program to test SF <sub>6</sub> alternatives	●	●		

**WORKING GROUP | SUPPLY CHAIN**

**PUBLIC & REGULATORY AFFAIRS**

Sustainability

**BUSINESS SERVICES**

Strategic Supply Management

**UTILITY OPERATIONS**

Regional Managers

Site Project Teams

Engineering

**COMMERCIAL OPERATIONS**

Energy Resource Management



# MATERIALS AND WASTE

## PROGRAM OVERVIEW

Global consumption is increasing at an alarming rate and rapidly depleting and degrading the earth’s resources. The goal of this program is to minimize the impacts of NYPA’s operations by improving resource efficiency. By reducing the need for raw materials, NYPA can reduce environmental impacts along the whole life cycle, including upstream and downstream greenhouse gas emissions.

NYPA’s activities range from office work to construction projects, and the waste streams across the sites are categorized based on their source as office or non-office. This program will expand efforts to reduce office waste and will also explore opportunities to reduce non-office waste. The scope of this plan is limited to non-hazardous waste.

## PROGRESS TO DATE

In 2017, NYPA conducted a site-wide audit of non-hazardous waste streams, with a focus on office waste. The results of the audit have informed strategies to reduce office waste, increase office diversion rates, and improve waste data accuracy and tracking. The Sustainability group has begun developing a data management tool to house waste stream data for internal benchmarking and external reporting.

Various initiatives are under way to reduce office waste. Strategic Supply Management is in the process of transitioning to an electronic inventory management system to eliminate paper use at warehouses. Drafting departments are testing smart boards to reduce paper use. The Sustainability group is working with facility teams to roll out centralized waste stations to encourage waste sorting and recycling, and is equipping kitchens with plates and silverware to reduce use of disposable items. Efforts to reduce kitchen waste have been supplemented by education on proper recycling practices and campaigns that incentivize reusable over single-use items.

### EXECUTIVE ORDER

4

- Sets an annual 10% reduction target for office waste generation
- Requires reporting of all solid waste generated and diverted from landfill

### EXECUTIVE ORDER

18

- Prohibits use of state funds to purchase cooler-sized and single-serve bottles of water
- Requires all executive agencies to report bottled water purchases annually

## WASTE STREAMS

OFFICE WASTE	
MUNICIPAL SOLID WASTE	LANDFILL
METAL, PLASTIC & GLASS	RECYCLED
PAPER & CARDBOARD	RECYCLED
ELECTRONICS	RECYCLED
LAMPS & BALLASTS	RECYCLED
BATTERIES	RECYCLED
NON-OFFICE WASTE	
CONSTRUCTION & DEMOLITION	LANDFILLED <sup>1</sup>
BULK METALS	RECYCLED
AUTOMOTIVE BATTERIES	RECYCLED
AUTOMOTIVE TIRES	RECYCLED
USED OIL	INCINERATED
WOOD	LANDFILLED <sup>2</sup>
YARD WASTE	COMPOSTED

<sup>1</sup> Certain types of construction & demolition waste, such as cement, are currently recycled or recovered.

<sup>2</sup> Wood disposal practices vary by site. Chemically treated wood is always sent for disposal. Untreated wood is sometimes reused or recycled.

**GOALS | STRATEGIES | ACTIONS**

		2019	2020	2021	2022	2023
<b>GOALS</b>	<b>REDUCE OVERALL WASTE GENERATED ACROSS OFFICE AND NON-OFFICE OPERATIONS</b>					
	<b>INCREASE WASTE DIVERSION AND RECOVERY RATES</b>					
<b>STRATEGY</b>	<b>IMPROVE ACCURACY OF WASTE DATA TRACKING AND REPORTING</b>					
<b>ACTIONS</b>	Finalize waste data collection policy and process	●				
	Segment waste streams into office and non-office categories at each site	●				
	Integrate waste data requirements into waste hauling contracts	●	●			
<b>STRATEGY</b>	<b>IDENTIFY AND COMMIT TO WASTE DIVERSION AND WASTE-TO-LANDFILL GOALS</b>					
<b>ACTION</b>	Establish baselines, identify metrics and set targets for waste stream totals and diversion rates	●				
<b>STRATEGY</b>	<b>REDUCE GENERATION OF OFFICE WASTE THROUGH PURCHASING AND REUSE STRATEGIES</b>					
<b>ACTIONS</b>	Transition to an electronic inventory management system at warehouses to reduce paper use	●	●			
	Establish office swap station for office supplies	●	●			
	Purchase and equip all kitchens with reusable supplies	●	●	●		
	Assess costs and benefits of using smart boards for drafting purposes; expand use if feasible		●			
	Install hardwired hand dryers and dispensers in bathrooms			●		
	Evaluate success of waste initiatives; identify additional opportunities to reduce paper and cardboard waste				●	●
<b>STRATEGY</b>	<b>IMPROVE WASTE SORTING CAPABILITIES AT EACH SITE</b>					
<b>ACTIONS</b>	Expand new office waste station roll outs across sites	●	●			
	Evaluate costs and benefits of installing additional recycling containers where diversion rates are low		●			
<b>STRATEGY</b>	<b>USE INVESTMENT RECOVERY STRATEGIES TO DIVERT NON-OFFICE MATERIALS FROM LANDFILL</b>					
<b>ACTIONS</b>	Conduct audit to assess investment recovery opportunities at each site	●				
	Develop site plans and establish processes to reduce non-office waste		●	●		
<b>STRATEGY</b>	<b>REDUCE ORGANIC WASTE SENT TO THE LANDFILL</b>					
<b>ACTION</b>	Assess opportunities for composting and anaerobic digestion; conduct pilot if feasible			●	●	●
<b>STRATEGY</b>	<b>IDENTIFY AND COMMIT TO A ZERO-WASTE TO LANDFILL PLAN</b>					
<b>ACTIONS</b>	Conduct assessment of costs, benefits, and requirements				●	
	Identify diversion rate milestones, targets, responsibilities and timeline for transition					●

**WORKING GROUP | MATERIALS AND WASTE**

**PUBLIC & REGULATORY AFFAIRS**

Sustainability

**BUSINESS SERVICES**

Strategic Supply Management

**UTILITY OPERATIONS**

Environment, Health & Safety

Site Project Teams

**HR & ENTERPRISE SHARED SERVICES**

Facility Management



# ECOSYSTEMS AND BIODIVERSITY

## PROGRAM OVERVIEW

Both the IPCC report and EO166 guidelines identify conservation and protection of land and water resources as necessary for climate change mitigation and adaptation. Strategies identified include ecosystem-based adaptation, ecosystem restoration, avoided degradation and deforestation, and biodiversity management. These strategies are also consistent with the objectives of the New York State Pollinator Protection Plan, the New York Natural Heritage Program, and state efforts to protect threatened and endangered species.

The goal of this program is to promote these strategies and demonstrate best practice, building on the successes of NYPA’s Right-of-Way (ROW) Integrated Vegetation Management (IVM) Program and wildlife habitat restoration projects. NYPA’s operations span across more than 80,000 acres of water and land. NYPA owns 12,000 acres of forested and non-forested areas, including facility grounds, parks, wildlife areas and rights of way. NYPA also manages 16,000 acres of privately owned land through ROW easements. This program will assess land management practices on land owned and/or used by NYPA and will identify opportunities to expand wildlife habitat, increase compatible vegetation density for carbon mitigation, and improve resilience to severe weather events. NYPA will communicate the importance of protecting healthy ecosystems and encourage adoption of sustainable land management practices by showcasing these efforts.

## PROGRESS TO DATE

As part of the state and federal process for the relicensing and permitting of NYPA’s hydroelectric generating facilities, NYPA has made a commitment to implement a variety of mitigation activities, and has successfully restored and improved the ecosystem health of wetlands and other wildlife habitats across NYPA-owned lands. NYPA’s industry leading ROW IVM Program selectively controls tall growing plant species while promoting low growth species such as shrubs, herbs, grasses, forbs, and ferns. This approach is supporting the development of a rich pollinator habitat along the ROWs while maintaining reliability-oriented vegetation management best practices.

## IMPORTANCE OF POLLINATORS

Pollination is a critical ecosystem service that is vital to the security of our food and associated human health. Declines in pollinator populations over the last decade are causing global alarm. The electric power industry is seeing increasing pressure from regulatory agencies, customers, and other stakeholders to consider pollinators in their operations. NYPA has the opportunity to enhance and expand pollinator habitat through well-designed and cost-effective actions.

## LAND OWNED OR MANAGED BY NYPA

SITE / LOCATION	ACRES
ST. LAWRENCE	10,200
NIAGARA	500
BLENHEIM-GILBOA	1,005
CLARK	160
500 MW & SCPPS	16
FLYNN	9
WHITE PLAINS	0.5
RIGHTS OF WAY	16,000
<b>TOTAL</b>	<b>27,891</b>

**GOALS | STRATEGIES | ACTIONS**

2019	2020	2021	2022	2023
------	------	------	------	------

<b>GOALS</b>	<b>PROTECT ECOSYSTEMS AND INCREASE RESILIENCY AND CARBON SEQUESTRATION ON LAND OWNED OR MANAGED BY NYPA OR IMPACTED BY NYPA OPERATIONS</b>				
	<b>COMMUNICATE IMPORTANCE OF PROTECTING HEALTHY ECOSYSTEMS AND PROMOTE SUSTAINABLE LAND MANAGEMENT PRACTICES</b>				
<b>STRATEGY</b>	<b>INVENTORY AND ASSESS LAND MANAGEMENT PRACTICES</b>				
<b>ACTIONS</b>	Inventory land coverage, habitat types, and species ranges using geographic information system (GIS) data and field surveys	●			
	Develop annual and long-term land management plans	●			
	Identify habitat improvement metrics	●			
	Review and revise existing policies or create new policies that support recommended practices	●	●		
	Work with industry experts and state partners to monitor threatened or endangered pollinators	●	●	●	●
	Seek Wildlife Habitat Council (WHC) and/or National Wildlife Federation (NWF) guidance and certification	●	●	●	●
<b>STRATEGY</b>	<b>ENHANCE AND EXPAND HABITAT FOR POLLINATORS AND OTHER SPECIES AND INCREASE VEGETATION DENSITY FOR CARBON SEQUESTRATION</b>				
<b>ACTIONS</b>	Identify mowed and low growth areas where practices can be modified to promote native habitat	●	●		
	Identify areas where biodiversity can be improved by managing invasive plants and promoting native plant species	●	●		
	Support remediation efforts in areas impacted by invasive species such as the Emerald Ash Borer	●	●	●	●
	Identify open areas for forestry compatible with local ecology	●	●		
	Develop methodology to estimate carbon stock	●	●	●	●
	Implement projects and actively monitor impacts	●	●	●	●
<b>STRATEGY</b>	<b>IMPROVE RESILIENCY TO SEVERE WEATHER EVENTS</b>				
<b>ACTIONS</b>	Identify strategies to protect areas prone to erosion or flooding	●	●		
	Implement projects and actively monitor impacts		●	●	●
<b>STRATEGY</b>	<b>PROTECT AQUATIC ECOSYSTEMS FROM INVASIVE SPECIES</b>				
<b>ACTION</b>	Support the efforts of state and local partners to manage invasive species of aquatic plants and animals		●	●	●
<b>STRATEGY</b>	<b>INCREASE ACCESS TO WILDLIFE AREAS AND SHOWCASE NYPA'S HABITAT RESTORATION EFFORTS</b>				
<b>ACTIONS</b>	Create native plant pollinator gardens near visitor centers and other buildings	●	●		
	Construct trails, walkways, and viewing platforms; install informational kiosks and other signage as needed	●	●	●	
	Identify opportunities to create grassland pollinator habitats for customer and large-scale renewable energy installations; implement projects where feasible	●	●	●	●

**WORKING GROUP | ECOSYSTEMS AND BIODIVERSITY**

**PUBLIC & REGULATORY AFFAIRS**

- Sustainability
- LAW**
- Licensing

**UTILITY OPERATIONS**

- General Maintenance | All Sites
- Environmental ROW Maintenance
- Environment, Health & Safety
- Engineering

**COMMERCIAL OPERATIONS**

- Project & Business Development
- Customer Business Development



# STAKEHOLDER ENGAGEMENT

## ■ EMPLOYEES

### PROGRAM OVERVIEW

Employee engagement and support are critical to the success of NYPA’s sustainability efforts. The objective of this program is to effectively communicate NYPA’s sustainability goals, encourage employee adoption of sustainable workplace practices, and strengthen understanding of the inherent value of sustainability in all their activities. Areas of focus include: waste, reuse and recycling, energy efficiency, solar energy, green commuting and electric vehicle adoption, green purchasing, and biodiversity and sustainable land management practices.

NYPA has been facilitating the transition to more sustainable workplace practices by providing the tools to make it easy. This includes installing charging stations to support EV commuting, installing water coolers to reduce purchases of bottled water, and installing waste stations to promote recycling.

The key strategies used to engage employees and influence behavior change are training, workshops, campaigns, and events.

- Training and Workshops | Provide training at all sites on sustainable technologies, products, processes and practices. Topics include electric vehicles, energy efficiency, green procurement, waste and recycling, and sustainable land management practices.
- Campaigns and Events | Engage employees on a broad range of sustainability topics through workplace campaigns and events, public campaigns and industry events. Topics include climate change, carbon footprint, transportation, responsible consumption, sustainable land management practices, and New York State sustainability goals, policies and programs.

### PROGRESS TO DATE

In the last two years, more than 100 training sessions have been held across sites on topics ranging from NYPA’s sustainability program to electric vehicles and recycling.

Campaigns and events are scheduled throughout the year. These include Green Your Commute, Daylight Hour, Refuse Single Use, Pollinator Week, National Drive Electric Week, and the EcoCinema series. NYPA uses a sustainability engagement software platform to promote the campaigns, and tracks participation levels to improve effectiveness.

- The NYPA WeSpire software platform was launched in April 2018. More than 40% of employees have registered, making NYPA’s launch the most successful WeSpire roll-out to date.

WESPIRE UPDATE SIX MONTHS POST-LAUNCH	
<b>690+</b> ACTIVE USERS	<b>40%</b> ENGAGEMENT RATE
<b>5,000+</b> ACTIONS COMPLETED	<b>1,800+</b> ENGAGEMENT STORIES POSTED
<b>40+</b> CAMPAIGNS LAUNCHED	<b>18%</b> NOTIFICATION RESPONSE RATE

## GOALS | STRATEGIES | ACTIONS

2019 2020 2021 2022 2023

GOALS	DRIVE ENTERPRISE-WIDE SUSTAINABILITY PERFORMANCE BY ENCOURAGING EMPLOYEES TO ADOPT SUSTAINABLE PRACTICES IN THE WORKPLACE					
STRATEGY	HOLD EMPLOYEE TRAINING ON SUSTAINABLE PRODUCTS, PROCEDURES AND PRACTICES					
ACTIONS	Provide green procurement training to ProCard holders	●	●	●	●	●
	Hold workshops on sustainable workplace practices for department and site administrators	●	●	●	●	●
	Provide training on EVs for Fleet users; hold EV Ride & Drive events at all sites	●	●	●	●	●
	Administer annual mandatory recycling training through Mosaic	●	●	●	●	●
	Conduct site-by-site assessments of workplace practices and identify opportunities for improvement		●	●		
	Hold best practice-sharing workshops for project teams on building energy efficiency, supply chain management, land management and other topics	●	●	●	●	●
STRATEGY	HOLD WORKPLACE CAMPAIGNS AND EVENTS, AND PARTICIPATE IN INDUSTRY CAMPAIGNS AND EVENTS					
ACTIONS	Develop and implement campaigns, including displays, exhibits, materials	●	●	●	●	●
	Hold Lunch & Learn events, guest speaker events, and expos at all sites	●	●	●	●	●
	Participate in other NYPA events with tabling and exhibits	●	●	●	●	●
	Create/update sustainability-related signage - all sites		●	●		
STRATEGY	USE SOFTWARE PLATFORM TO INCREASE PARTICIPATION AT ALL SITES					
ACTIONS	Promote campaigns and track participation levels	●	●	●	●	●
	Train sustainability partners at all sites to curate location-specific content	●	●	●		
	Build out new content areas for platform			●	●	
	Identify metrics to assess effectiveness of campaigns; analyze and report progress	●	●	●	●	●

## WORKING GROUP | EMPLOYEE ENGAGEMENT

### PUBLIC & REGULATORY AFFAIRS

Sustainability  
Community Relations  
Corporate Communications

### UTILITY OPERATIONS

General Maintenance  
Site Project Teams

### HR & ENTERPRISE SHARED SERVICES

Facility Management

# EXTERNAL STAKEHOLDERS

## PROGRAM OVERVIEW

EO166 directs state entities to lead by example in developing programs and strategies to address global warming, and emphasizes the importance of sharing best practices to accelerate change. This program identifies opportunities for NYPA to engage with the public on sustainability and promote New York’s climate strategy. NYPA will hold exhibits, workshops and events on sustainability-related topics at NYPA visitor centers, and will participate in and provide sustainability exhibits for other public events.

GOALS   STRATEGIES   ACTIONS		2019	2020	2021	2022	2023
<b>GOAL</b>	<b>DRIVE STATE-WIDE ENGAGEMENT AROUND SUSTAINABILITY TO ADVANCE STATE GOALS AND STRATEGIES</b>					
<b>STRATEGY</b>	<b>HOLD SUSTAINABILITY EXHIBITS, WORKSHOPS AND EVENTS AT NYPA VISITORS CENTERS</b>					
ACTIONS	Develop seasonal and topical exhibits and materials specific to NYPA sustainability goals, programs and accomplishments	●	●	●	●	●
	Hold public EV Ride & Drive events	●	●	●	●	
	Hold public workshops and speaker events on sustainability, climate change, resiliency and other topics			●	●	●
	Integrate sustainability messaging and signage at visitors centers		●	●		
<b>STRATEGY</b>	<b>INTEGRATE SUSTAINABILITY INTO NYPA EVENTS AND EXHIBITS</b>					
ACTIONS	Integrate sustainability messaging into NY State Fair, NY Auto Show and other exhibits		●	●	●	●
	Integrate sustainable practices into NYPA public events – areas include food, waste, and vehicles		●	●	●	●
<b>STRATEGY</b>	<b>SHARE NYPA BEST PRACTICES WITH CUSTOMERS AND STAKEHOLDERS</b>					
ACTIONS	Establish relationships with regional sustainability organizations; share best practices and foster collaboration	●	●	●	●	●
	Identify opportunities to share NYPA internal best practices and lessons learned with customers		●	●	●	●

## WORKING GROUP | EMPLOYEE ENGAGEMENT

### PUBLIC & REGULATORY AFFAIRS

Sustainability  
Community Relations  
Corporate Communications

### COMMERCIAL OPERATIONS

Clean Energy Business & Market Development  
Energy Efficiency  
Product & Business Development

### BUSINESS SERVICES

Strategy



# APPENDIX

## MEMBERS OF THE SUSTAINABILITY ADVISORY COUNCIL

### LEADERSHIP

Executive Sponsor	Senior Vice President, Public & Regulatory Affairs
Chair	Vice President, Environmental Justice & Sustainability
Manager	Director, Sustainability

### UTILITY OPERATIONS

Power Supply	Regional Manager, Central NY
Power Supply	Regional Manager, Western NY
Power Supply	Regional Manager, Northern NY
Power Supply	Regional Manager, Southeastern NY
Transmission	Regional Manager, Transmission
Engineering	Director, Mechanical Engineering
Environment, Health & Safety	VP, Environment, Health & Safety
Project Management	VP, Project Management
Enterprise Resilience	VP, Technical Compliance

### BUSINESS SERVICES

Finance	VP, Finance
Strategic Supply Management	VP, Strategic Supply Management
Strategy	VP, Strategy

### COMMERCIAL OPERATIONS

Clean Energy Business & Market Development	VP, Clean Energy Business & Market Development
Economic Development	VP, Economic Development
Energy Efficiency	VP, Energy Efficiency
Energy Resource Management	VP, Energy Resource Management
New York Energy Manager	VP, New York Energy Manager
Project & Business Development	VP, Project & Business Development

### HUMAN RESOURCES & ENTERPRISE SHARED SERVICES

Enterprise Shared Services	VP, Enterprise Shared Services
HR & Organizational Development	VP, Enterprise Shared Services

### LAW

Relicensing & Implementation	Special Counsel I, Relicensing & Implementation
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### PUBLIC & REGULATORY AFFAIRS

Community & Government Relations	VP, Community & Government Relations
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### RISK MANAGEMENT

Enterprise Risk Management & Corporate Insurance	Senior Director, Enterprise Risk & Corporate Insurance
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# ■ NYPA CORPORATE SUSTAINABILITY POLICY

**Title:** Sustainability Policy

**Document Type:** Company Policy

**Document Number:** CP 7-2

**Revision Date:** 8/25/2017

**President:** Quiniones, Gil | President & CEO

**Executive Owner:** Harriman, Kimberly | SVP Public & Regulatory Affairs

**Content Owner:** King, Kerry-Jane | Director Sustainability

## 1 - PURPOSE AND SCOPE

Sustainability is defined as an approach to development that seeks to meet the needs of the present without compromising the ability of future generations to meet their own needs. It uses a “triple bottom line” accounting framework with three parts: economic, social and environmental. Corporate sustainability is accordingly a business approach that strategically manages economic, social and environmental performance for long-term value creation.

NYPA has taken a leadership role in building a new, clean energy economy that will sustain the prosperity of New York and protect the environment for future generations. NYPA is committed to maintaining leadership in sustainability and to helping New York State achieve its Energy Plan goals by increasing energy efficiency, reducing greenhouse emissions, and increasing the percentage of renewable energy generation. NYPA has made sustainability integral to its Strategic Vision. The Strategic Vision incorporates sustainability principles into processes guiding NYPA’s investment decisions, procurement and operational practices and human resources policies, which will achieve efficient and cost-effective use of energy, resources, and assets while minimizing environmental impacts.

This Policy establishes NYPA’s Sustainability Program and defines responsibilities for planning, executing, monitoring and reporting. In support of the State Energy Plan and NYPA’s Strategic Vision, the Sustainability Program aims to reduce source energy use intensity and source greenhouse gas intensity and to improve resource efficiency across NYPA operations, including: generation and transmission facilities, buildings, vehicles and transportation, procurement and supply chain, materials and waste management, water efficiency, and land management. The Sustainability Program identifies and sets sustainability goals and targets that focus on energy efficiency, greenhouse gas reductions, and sustainable resource and asset management practices. The Sustainability Program’s goals and targets are achieved through long-term and annual action plans in a way that makes good business sense, improves the work environment and brings value to employees and the communities in which NYPA operates.

## 2 - APPLICABILITY

This Policy shall be adhered to by all NYPA personnel and departments.

### 3 - INITIALISMS (ACRONYMS) AND DEFINITIONS

#### Initialisms

**BTU:** British Thermal Unit

**EMC:** Executive Management Committee

**EO:** Executive Order

**GHG:** Greenhouse Gases (includes CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O and SF<sub>6</sub>)

**GWP:** Global Warming Potential

#### Definitions

**Source Energy:** Measure aggregating for fuels consumed. Incorporates all transmission, delivery, and production losses. Reported in British Thermal Units (BTU).

**Source Energy Use Intensity:** Average building energy use rate as a function of gross area, expressed as BTU per ft.<sup>2</sup>

**Source Greenhouse Gases:** Measure aggregating for all greenhouse gas (GHG) emissions, including fugitive emissions from the production, transmission and delivery of fuel for electricity generation. Reported in metric tons (Mt).

**Carbon Dioxide Equivalent (CO<sub>2</sub>e):** Measure used to compare source GHG emissions based on global warming potential (GWP), expressed in terms of GWP of one unit of CO<sub>2</sub>. Reported in metric tons (Mt).

**Source Greenhouse Gas or CO<sub>2</sub>e Intensity:** Average emission rate of GHG or CO<sub>2</sub>e from given source relative to intensity of specific activity; for example: grams CO<sub>2</sub>e per building/facility sq. ft.; grams CO<sub>2</sub>e per vehicle mile traveled; metric tons CO<sub>2</sub>e per gross Megawatt hour of generation.

### 4 - RESPONSIBILITY

The Sustainability Director is responsible for the maintenance of this document.

## 5 - POLICY IMPLEMENTATION

Sustainability Program implementation is a collaborative process. The Sustainability Group relies on the active participation of executives, designated as Key Stakeholders (see Section 5.2), for the development and execution of facility/department policies and procedures, identification of goals and targets, and development and implementation of action plans to ensure NYPA achieves its Sustainability Program goals.

### 5.1 The Senior Vice President, Public & Regulatory Affairs

The executive owner in charge of managing the overall requirements and the implementation of this policy. The Senior Vice President, Public & Regulatory Affairs is responsible for:

- 5.1.1 Oversight of NYPA's Sustainability Program, including goals, targets and metrics, action plans and reports.
- 5.1.2 Communication and coordination with Executive Management Committee (EMC) regarding Sustainability Program goals, targets, metrics, action plans and reports.

### 5.2 The Sustainability Director

The Sustainability Director has responsibility for overall development of the Sustainability Program. Responsibilities include:

- 5.2.1 Setting the direction, defining program requirements, and collaborating with Key Stakeholders to:
  - a) Develop NYPA-wide and departmental sustainability goals, targets, and metrics.
  - b) Develop long-term and annual sustainability action plans.
  - c) Identify sustainability standards and criteria for project design planning and implementation.
- 5.2.2 Communication and coordination with Executive Management Committee (EMC) regarding Sustainability Program goals, targets, metrics, action plans and reports.
- 5.2.3 Development and oversight of cross-departmental programs that support the Sustainability Program and coordination of cross-functional teams.
- 5.2.4 Establishing a sustainability committee to advise on the Sustainability Program and to support the integration of sustainability across NYPA.
- 5.2.5 Sustainability performance management, including conducting site visits to review progress, developing performance tracking tools, data collection and analysis, and internal and external reporting.
- 5.2.6 Development and oversight of employee engagement initiatives, including educational workshops and activities, and resources that support sustainable practices.
- 5.2.7 Preparation of internal reports (addressing metrics and facility/department performance) and external reports (including reports for New York State programs such as Clean Fleets NY, Executive Order (EO) 88 Build Smart NY, EO 4 State Green Procurement and Agency Sustainability, and EO 18 Restricting the Use of Bottled Water at State Facilities and Promoting Executive Agency Sustainability).
- 5.2.8 Participation in industry working groups and collaborative partnerships with state and federal agencies, utilities and other organizations to foster regional sustainability coordination and support for NYPA's Sustainability Program.

### 5.3 Key Stakeholders

Key Stakeholders include, but are not limited to, VP Environmental Justice & Sustainability, Regional Managers, VP Transmission, VP Engineering, VP Project Management, VP Operational Performance, VP Environment Health & Safety, VP Enterprise Shared Services, VP Procurement, VP Information Technology, VP Energy Services Implementation, VP Energy Management Center, VP Project & Business Development, VP HR & Organizational Development, and VP Corporate Communications.

Key Stakeholders have overall responsibility for the sustainability performance of their facilities/departments, which is tracked and reported against Sustainability Program metrics and targets and against the Strategic Planning balanced scorecard as part of NYPA's Strategic Vision implementation. Responsibilities include:

- 5.3.1 Develop sustainability goals, targets, metrics, and long-term and annual action plans, in collaboration with the Sustainability Director.
- 5.3.2 Identify and incorporate sustainability standards and criteria for project design planning and implementation, in consultation with the Sustainability Director.

- 5.3.3 Designate Content Owners to develop and maintain facility/department policies and/or procedures addressing Sustainability Program requirements, and approve and enforce facility/department policies and procedures to ensure compliance.
- 5.3.4 Designate Project Leads and provide oversight and guidance to ensure facility/department sustainability goals and targets are met. Responsibilities of Project Leads includes:
  - a) Support development of facility/department sustainability goals, targets, metrics, and long-term action plans.
  - b) Support development and coordinate implementation of facility/department long-term and annual action plans to ensure sustainability goals and targets are met, including: identify projects that will achieve facility/department goals and targets, ensure projects are budgeted and appropriately resourced, and report on status and results achieved.
- 5.3.5 Ensure the facility/department meets all sustainability reporting requirements and maintains supporting documentation, including tools to track reporting obligations (as approved or provided by the Sustainability Director).

**5.4 Strategy**

Shall work with the Sustainability Director to ensure the Sustainability Program goals, targets and metrics address implementation of NYPA's Strategic Vision and align with the goals, targets and metrics of the balanced scorecard.

**5.5 Office of Ethics and Compliance**

Shall be responsible for monitoring NYPA's overall compliance with sustainability-related policies and applicable laws and regulations by reviewing reports produced by the Sustainability Group. The Office of Ethics and Compliance shall communicate any ethics or compliance issues to the Sustainability Director.

**5.6 Program Goals, Targets, Metrics, and Action Plans**

The Sustainability Program sets goals, targets and metrics for sustainability performance. These goals and targets align with and support New York State goals and the requirements of relevant Executive Orders and programs, including EO88: Build Smart NY, Clean Fleets NY, EO4: Green Procurement and Agency Sustainability, and EO18: Restricting the Use of Bottled Water at State Facilities.

The Sustainability Program prepares long-term and annual action plans to ensure the goals and targets are met. The long-term plans are developed through the collaborative effort of the Sustainability Director, Key Stakeholders and Project Leads under the guidance and with the approval of the EMC. Annual facility/department action plans and targets are developed by Project Leads under the guidance and with the approval of Key Stakeholders and the Sustainability Director. The facility/department action plans are submitted to the Sustainability Group, which is responsible for consolidation of these plans into an annual company action plan. As part of long-term and annual action plans, baselines are established, metrics identified and targets set for all program target areas as appropriate.

The Sustainability Director and VP Strategy work together to ensure the Sustainability Program goals, targets and metrics are aligned with goals and metrics on the balanced scorecard and address implementation of NYPA's Strategic Vision. All approved targets align with and support New York State requirements and are achievable and appropriately budgeted and resourced.

**5.6.1 Program Target Areas**

The Sustainability Program aims to achieve source energy use intensity and source greenhouse gas intensity reductions and to improve resource efficiency across NYPA's operations and especially in the following target areas:

**5.6.1.1 Generation and Transmission Facilities**

Establish baselines, identify metrics and set targets to reduce the source energy use intensity and source greenhouse gas (CO2e) intensity of NYPA generation and transmission facilities where possible. Incorporate energy efficiency measures and other sustainable practices into design, construction, renovation, operation and maintenance, and deconstruction; these include measures to reduce energy consumption from auxiliary equipment process loads.

#### 5.6.1.2 Buildings

Meet the requirements of Build Smart NY, which requires NYPA to reduce source energy use intensity 20 percent by 2020 in buildings 20,000 square feet and greater.

Establish baselines, identify metrics and set targets to reduce the source energy use intensity and source greenhouse gas intensity of NYPA buildings, including offices, visitor centers, warehouses and maintenance buildings. Adopt high performance green building standards and incorporate sustainable practices into design, construction, renovation, operation and maintenance, and deconstruction. These include energy efficiency measures and renewable energy installations.

#### 5.6.1.3 Vehicles and Transportation

Meet the requirements of Clean Fleets NY. Under this program, NYPA has committed to electrify 50 percent of its light-duty administrative fleet by 2020. Establish baselines, identify metrics and set targets to reduce the source energy use intensity and source greenhouse gas intensity of NYPA vehicles. Incorporate high fuel efficiency and low emission requirements into fleet procurement practices, including right-sizing and electrification. Promote public transit and carpooling for business travel. Promote sustainable commuting alternatives for employees, including plug-in vehicles.

#### 5.6.1.4 Procurement and Supply Chain

Meet the requirements of EO4, which requires NYPA to adopt green procurement specifications wherever possible. Establish baselines, identify metrics and set targets for sustainable procurement and supply chain management. Identify standards for vendor operations that address environmental performance, social responsibility, reporting, and resiliency. Evaluate lifecycle impacts of products, including environmental impacts of production, transport, use and disposal. Integrate sustainability criteria into vendor and product selection and bid evaluation processes.

#### 5.6.1.5 Materials and Waste Management

Meet the requirements of EO4, which requires NYPA to reduce total office waste generated by 10 percent annually. Meet the requirements of EO18 prohibiting the purchase of bottled water except where potable water is not available. Establish baselines, identify metrics and set targets to reduce waste where possible. Conserve resources and minimize waste generation through adoption of procurement and waste management best practices, including promoting reuse. Establish processes to ensure all recyclable materials are diverted from the waste stream.

#### 5.6.1.6 Water Efficiency

Establish baselines, identify metrics and set targets for water efficiency. Identify and implement measures to reduce potable water use intensity at buildings and facilities. Make more efficient use of potable and non-potable water in electricity generation processes where possible.

#### 5.6.1.7 Land and Water Management and Biodiversity

Establish baselines, identify metrics and set targets for sustainable land and water management. Implement practices that protect wildlife and promote biodiversity, including habitat restoration, invasive plant management, and storm water controls.

#### 5.6.1.8 Employee Engagement

Create campaigns and initiatives across program target areas that align with and directly support Sustainability Program goals. Provide sustainability education and resources to employees at all facilities. Incorporate sustainability into NYPA values and daily practices, and recognize individuals and departments achieving sustainability objectives. Leverage NYPA communities of interest to create a location for employees to share ideas and organize events around sustainability. Support the formation of green teams at all facilities.

#### 5.6.1.9 Stakeholder Engagement

Develop collaborative partnerships with state and federal agencies, utilities and other organizations to foster regional sustainability coordination and support for NYPA's Sustainability Program.

## 5.7 **Sustainability Program Tracking and Reporting**

The Sustainability Group collects and analyzes all performance data, monitors progress towards sustainability targets, and works with Key Stakeholders, Content Owners and Project Leads to keep the Sustainability Program on track. The Sustainability Group reports performance results to Strategic Planning for inclusion in the balanced scorecard.

The Sustainability Group produces annual reports for internal and external stakeholders that include activities and results of the previous fiscal year. These reports may be published as part of the NYPA annual report or as an independent report and may include information on the energy efficiency, greenhouse gas emissions and water use associated with NYPA's electricity generation and transmission operations, as well as customer programs that promote sustainability.

The Sustainability Group prepares annual reports to meet specific New York State requirements, such as Clean Fleets NY, EO 88 Build Smart NY, EO 4 State Green Procurement and Agency Sustainability, and EO 18 Restricting the Use of Bottled Water at State Facilities and Promoting Executive Agency Sustainability.

## 6 - VIOLATIONS

NYPA is committed to this Sustainability Policy and expects all employees to support and help NYPA achieve Sustainability Program goals and targets. All NYPA Employees should report violations of this Policy to a supervisor, a human resources representative, or the Ethics and Compliance Office. They may also report such concerns anonymously through NYPA's Employee Concerns Line (1-877-TEL-NYPA).

Violations of this Policy and related policies and procedures by employees may result in disciplinary action up to and including termination. Violations of this Policy by contractors and other authorized third parties may result in the revocation of such party's access to NYPA's premises and/or electronic access to its systems, and the termination of such party's contract for services. In addition, where the conduct engaged in is illegal, violators may be subject to prosecution under applicable federal, state or local laws.

## 7 - REFERENCES

- 7.1 **Clean Fleets NY**
- 7.2 **EO 88: BuildSmart NY**
- 7.3 **EO 4: Green Procurement and Agency Sustainability**
- 7.4 **EO 18: Restricting the Use of Bottled Water**

## 8 - POLICY REVIEW AND EXPIRATION

This document will be reviewed and updated as business needs require. However, a mandatory review will be required on the anniversary date of the approved document.

**Revision Cycle: Every Other Year**

## 9 - ATTACHMENTS

N/A





**NY Power  
Authority**