



NY Power
Authority

Canal
Corporation

2021 SUSTAINABILITY REPORT

Powering the Fight
Against Climate Change



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Cover Section of Central Energy East Connect, a transmission project in Central NY in partnership with LS Power, to increase delivery of renewable energy to high-demand areas.

NYPA AND CANALS 2021 PATH TO SUSTAINABILITY



NYPA's Main Office, White Plains.

Climate change is one of the most complex challenges facing the world today and while it is a global issue, it is often felt on a local scale. As the largest state electric utility in the nation and operators of an iconic Canal System, NYPA and Canals' top priority is to address climate change to protect our planet, our community and our people.

OUR PLANET—We are taking a comprehensive approach to tackling climate change by reducing our emissions, hardening our infrastructure and enhancing the resilience of natural ecosystems under our stewardship.

OUR COMMUNITY—Helping our customers meet their economic and climate goals and facilitating sustainability programs in neighboring communities is essential to our clean energy future.

OUR PEOPLE—Supporting employees is paramount. They are the leaders and workers of today and for generations to come—for NYPA and Canals, and for the growth of New York State. Expanding their climate change knowledge, equipping them with the skills they need, and guarding their health and safety are the focus of our actions.

LEADING THE PATH TO SUSTAINABILITY

Climate change and our sustainability decisions play a substantial role in our every decision and action. We take guidance from the wise worldview of the Seventh Generation Principle of the Haudenosaunee philosophy that decisions and actions should result in a sustainable world for seven generations into the future.

This report sends a loud, clear and detailed statement that we can have a dramatic effect on our planet's destiny.

From modernizing our generation and transmission assets to expanding the use of renewable energy sources, helping our customers reduce their carbon footprint, preserving our environmental resources and training the energy workforce, we are committed to a better environment.

Through the disruption of the COVID-19 pandemic, we embraced the opportunity to recalibrate our sustainability efforts by pursuing innovation and technology to tackle climate change.

We are more determined than ever to make significant progress toward unlocking the future of decarbonization. Our groundbreaking goal of generating 100 percent carbon-free electricity by 2035 is five years ahead of the target set under the New York State Climate Leadership and Community Protection Act. Our portfolio continues to evolve and expand to make clean renewable energy available, accessible and affordable in greater amounts.

There is an inextricable connection between shifting to clean energy faster, educating our workforce on sustainability, supporting our customers and communities, and accomplishing [VISION2030](#)—our strategic plan built around the people of New York State. The underlying context for this year's sustainability report, guided by our [Sustainability Plan 2021-2025](#), shows that environmentally conscious operations, social responsibility and corporate governance are but different facets of the same story, same culture and same mindset.

Additionally, we continue to build a more diverse and inclusive workforce as a key pillar of our Environmental, Social and Governance commitment. As outlined in our Diversity, Equity & Inclusion Report, NYPA is advancing sustainable progress while also transitioning to a green economy.

Playing a predominant role in energy and environmental stewardship for our state has been core to our work for years, but there is more to do. As the leaders of NYPA and Canals, we are dedicated to looking seven generations ahead, and committed to decisions and actions that will have a profound and transformative effect for decades to come.

BOARD OF TRUSTEES



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2021 BY-THE-NUMBERS

We have mapped our 2021 achievements to the [2015 United Nations Sustainable Development Goals](#) (UN SDGs) most relevant to our strategic priorities and stakeholders.

88% of electricity generated from renewable hydropower

\$246M+ Invested in capital work for energy efficiency projects at customer facilities

58,286 MWh of customer savings achieved through implementation of energy efficiency measures

UN SDG 7

Ensure Access to Affordable, Reliable, Sustainable and Modern Energy for All

2,500+ employees trained in climate science

10 employees graduated from the Bard College MBA in Sustainability program

UN SDG 13

Take Urgent Action to Combat Climate Change and its Impacts

\$87M+ awarded to NYS certified minority and women owned businesses, which was recognized by the state with an A+ report card ¹

UN SDG 5

Achieve Gender Equality and Empower All Women and Girls

426,505 jobs created/maintained through our economic development electric power programs

UN SDG 8

Promote Sustained, Inclusive and Sustainable Economic Growth, Full and Productive Employment and Decent Work for All

\$207M invested in Smart Path, Smart Path Connect and Central East Energy Connect transmission projects to integrate more renewables

\$61M invested in modernizing our infrastructure through our Next Generation Niagara and Lewiston Pump-Generating Plant modernization projects

UN SDG 9

Build Resilient Infrastructure, Promote Inclusive and Sustainable Industrialization and Foster Innovation

\$39M agreement reached to install charging stations for MTA's electric bus fleet

5 TBtu energy savings milestone achieved in statewide BuildSmart 2025 program administered by NYP&A, equivalent to the annual electricity use of about 200,000 homes

UN SDG 11

Make Cities and Human Settlements Inclusive, Safe, Resilient and Sustainable

1,000 trees planted with customers, sequestering more than 10 tons of carbon

UN SDG 15

Protect, Restore and Promote Sustainable Use of Terrestrial Ecosystems, Sustainably Manage Forests, Combat Desertification, And Halt and Reverse Land Degradation and Halt Biodiversity Loss

¹ Equals 22% of NYP&A and Canals' total eligible MWBE spend which is calculated using established New York State criteria, including but not limited to, services to be performed, availability of certified suppliers and geographic location.

ABOUT OUR REPORTING ²

The 2021 Sustainability Report details our environmental, social and governance (ESG) performance and progress toward achieving the goals outlined in the Sustainability Plan 2021-25. It is designed to respond to stakeholder expectations and hold us accountable in leveraging sustainability for long-term value creation.

- > The report was prepared with reference to the Global Reporting Initiative (GRI) Standards
- > Our disclosures are aligned with the Sustainability Accounting Standards Board (SASB) Electric Utilities Standard
- > We highlight our alignment with the United Nations Sustainable Development Goals
- > We have also included our approach to integrating the Task Force on Climate-related Financial Disclosures (TCFD) and will continue to work on aligning our disclosures with TCFD as our reporting journey progresses
- > To reinforce our commitment to sustainability, we have the ambition to become among the first U.S. utilities and government entities to adopt the Integrated Reporting Framework and issue a 2022 integrated report

The Executive Management Committee (EMC) and Board of Trustees oversee sustainability performance management and reporting, which includes the review and approval of this report.

Data in this report were collected by internal stakeholders from facilities and assets owned and operated by NYPA and Canals. Estimations, exclusions and additions are noted where applicable.

OUR SUSTAINABILITY ROADMAP



VISION2030, our 10-year plan, drives our mission to lead the transition to a carbon-free, economically vibrant New York through customer partnerships, innovative energy solutions, and the responsible supply of affordable, clean and reliable electricity. It is a blueprint to achieve our vision of a thriving, resilient New York State powered by clean

energy. ESG, a foundational pillar of VISION2030, is central to our plan. Our ESG ambition is to deliver a **best-in-class sustainability strategy to meet the present and future needs of our stakeholders and ensure long-term environmental, social, governance and economic performance.**



Our Sustainability Plan 2021-25 identifies goals and strategies to address NYPA and Canals' 15 material ESG issues. The plan aligns with VISION2030 and was developed in collaboration with subject matter experts across the organization. As a living document, it will evolve with the changing environmental, social and governance context. We are creating annual ESG Action Plans to track progress across 55 goals identified in the plan and ensure the entire organization is participating in the plan's success.

² NYPA has posted various documents (including this report) on its website related to various climate action plans, information, policies and reports (collectively, along with such documents, the "Reports") prepared by NYPA. These Reports have not been prepared with a view to an investment decision by investors in any of NYPA's bonds and, therefore, are not suitable to serve as the basis for making any such investment. Instead, these Reports are provided to investors for general information only. NYPA makes no representation concerning the accuracy or completeness of the information contained in these Reports.

MATERIAL ESG ISSUES

We conducted a comprehensive [ESG materiality assessment](#) in 2020. The process resulted in the identification of 15 material ESG issues important to our stakeholders and our business.

E ENVIRONMENTAL

CLIMATE CHANGE & GHG EMISSIONS

Adaptation to and mitigation of climate change impacts and risks, and the capitalization of associated business opportunities, as well as NYPA's Scope 1 (direct), Scope 2 (energy indirect) and Scope 3 (other indirect) greenhouse gas emissions

RENEWABLE ENERGY & ENERGY STORAGE

Renewable energy capacity, generation, storage and consumption

ENERGY RELIABILITY

Reliability of NYPA's network and infrastructure for consistent and uninterrupted supply, including optimization and innovation of smart grid technologies and transmission systems

ENERGY EFFICIENCY & ELECTRIFICATION

Electrification and energy efficiency of NYPA and Canals' infrastructure, including buildings, facilities and vehicle fleet

ENVIRONMENTAL STEWARDSHIP

Management and minimization of water, waste, and air effluent and emissions, conservation of natural resources, promotion of biodiversity, and increased resilience and carbon sequestration on land owned or managed by NYPA and Canals

S SOCIAL

HEALTH & SAFETY

Promotion and management of physical and mental health and safety in the workplace, and prevention of harm in the communities in which NYPA and Canals operate

EMPLOYEE DEVELOPMENT

Attraction and retention of talent, and the development of NYPA and Canals employees

DIVERSITY, EQUITY & INCLUSION

Commitments and actions that build and maintain a diverse, equitable and inclusive culture in the workplace and across NYPA and Canals' value chain

COMMUNITY ENGAGEMENT

Interaction and communication with community members and organizations, customers and other stakeholders in the areas in which NYPA and Canals operate

ACCESS & AFFORDABILITY

Affordability and accessibility of services across customer types in the communities in which NYPA operates

ECONOMIC DEVELOPMENT

Creation of more resilient communities and promotion of economic growth and local employment

G GOVERNANCE

ENTERPRISE RISK & RESILIENCE

The identification, assessment, mitigation, monitoring and reporting of risks and impacts related to NYPA and Canals' activities, and the incorporation of risk management strategies to enhance enterprise resilience, including plans for emergencies and disasters, into both longterm planning and day-to-day operations

REGULATORY MANAGEMENT & COMPLIANCE

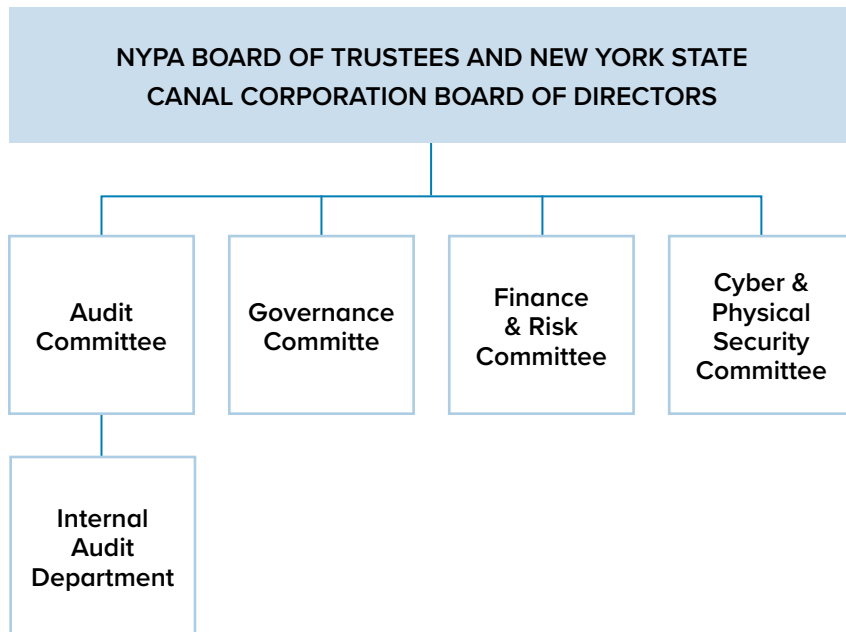
Management and compliance with relevant federal, New York State and local environmental and socioeconomic laws and regulations

CYBER & PHYSICAL SECURITY

Security of NYPA and Canals' network and infrastructure, as well as properties and personnel, including data protection and data breach risk minimization

SUPPLY CHAIN & PROCUREMENT PRACTICES

Sourcing practices for goods and services and the environmental and social impacts of NYPA and Canals' supply chain



SUSTAINABILITY GOVERNANCE

Our ability to effectively manage our ESG performance, and to be accountable to our stakeholders, depends on a robust approach to sustainability governance.

- > **Board of Trustees** provides vision and oversight on ESG priorities, and oversees policies, programs and performance relating to ESG and climate change
- > **Board Finance & Risk Committee** oversees enterprise risk management and the implementation of policies and actions to monitor and mitigate risks, including ESG and climate-related risks
- > **Executive Management Committee (EMC)** leads the management of ESG strategy and goal setting, supports board governance of ESG-related issues, including climate change, and ensures ESG goals are met
- > **EMC ESG Sponsors** work directly with the Sustainability Department to provide guidance on ESG strategy, goal setting, climate response and reporting
- > **Executive Risk and Resilience Management Committee** provides risk management oversight and monitors risk management programs and processes, including ESG and climate-related risks
- > **Internal Audit Department** provides independent audit and advisory services, including review of ESG and climate-related policies, programs and reporting
- > **Sustainability Department** leads implementation of the ESG foundational pillar. Provides oversight and reporting for ESG issues, including climate change. Gives regular updates to the board Finance & Risk Committee and the EMC. Convenes the Sustainability Advisory Council and collaborates across business units on ESG planning and reporting
- > **Sustainability Advisory Council (SAC)** serves as the cross-functional body to manage ESG and climate-related efforts and ensure successful implementation of the goals, strategies and initiatives outlined in the [Sustainability Plan 2021-25](#). The SAC consists of heads of all relevant departments
- > **Key Internal Stakeholders and Subject Matter Experts** provide input to ESG and climate-related activities to ensure relevance and applicability to NYPA business operations



OUR PLANET

VISION2030, our ten-year plan, has identified strategic priorities to help New York achieve its ambitious climate change goals—preserve and enhance hydropower, decarbonize natural gas plants, expand transmission to interconnect renewables, and partner with our customers to help them achieve their carbon reduction goals. Our Sustainability Plan supports VISION2030 and identifies additional ways NYPA can reduce its carbon footprint and protect against the impacts of climate change.

Section of Smart Path transmission project, Potsdam.

OUR PLANET

KEY MATERIAL ESG ISSUES HIGHLIGHTED

- E** Climate Change & Greenhouse Gas Emissions
- S** Energy Reliability
- G** Enterprise Risk & Resilience
- G** Cyber & Physical Security
- E** Renewable Energy & Energy Storage
- S** Energy Efficiency & Electrification
- S** Environmental Stewardship

NYPA is committed to helping achieve the state's climate and clean energy goals set forth in the Climate Leadership and Community Protection Act (CLCPA). We are actively mitigating and adapting to the impacts of climate change to ensure our assets and operations do not contribute to future climate impacts and continue to supply affordable clean power across New York. Strategies include:

- Expanding our transmission asset base for greater integration of renewable energy
- Investing in modernization of our hydroelectric power projects to generate clean reliable power
- Exploring alternative technologies to decarbonize our natural gas assets

- Increasing the efficiency and electrification of our buildings and vehicle fleet
- Assessing the physical impacts of climate change and developing adaptation strategies
- Prioritizing natural carbon sequestration on the lands we own and manage

These strategies will increase the reliability of our operations and help us prepare for a more distributed and uncertain operating environment. To reinforce these efforts and ensure we can anticipate, respond to and recover from unforeseen natural and manmade events, we are embedding ESG risks and resilience strategies in our business processes and culture.

TRANSMISSION TAKES CENTER STAGE WITH GENERATION

2030 CLCPA GOALS

85% Reduction in GHG Emissions by 2050

100% Carbon-free Electricity by 2040

70% Renewable Energy by 2030

9,000 MW of Offshore Wind by 2035

3,000 MW of Energy Storage by 2030

6,000 MW of Solar by 2025

22 Million Tons of Carbon Reduction through Energy Efficiency and Electrification

NYPA is committed to helping the state achieve the climate and clean energy goals set forth in the Climate Leadership and Community Protection Act (CLCPA) and to transforming New York State's energy infrastructure to a cleaner, more reliable, resilient system.

TRANSMISSION FOR DELIVERING RENEWABLES

NYPA aims to invest \$200-\$400 million annually to expand its transmission system by 2030. The transmission expansion will provide greater access to affordable, clean electricity, and help curb fossil fuel use and reduce greenhouse gas (GHG) emissions.

In March 2021, the Board of Trustees approved \$605M for [Smart Path Connect](#), a priority transmission project selected by the NYS Public Service Commission. This multifaceted project aims to expand delivery of renewable energy across the state and provides other benefits such as increasing power flow capacity, improving resilience and reducing congestion.

For the project, NYPA, in partnership with National Grid, is rebuilding 110 miles of transmission lines and upgrading substations in the North Country and Mohawk Valley to increase reliable movement of NYPA's clean hydropower and other renewables to high load areas. The project is in two separate segments as it "connects" to the top and bottom of NYPA's Smart Path Moses-Adirondack line, another NYPA transmission rebuilding project. Together, Smart Path Connect and Smart Path create a continuous upgraded transmission line from the North Country into Central New York.

In 2021, Smart Path reached the one-third completion mark and is scheduled to go into service in 2023, increasing NYPA's transmission capacity by 1,000 megawatts (MW) and allowing access to more clean electricity.

In Central New York, another project designed to move renewables to where the need is—Central Energy East Connect (CEEC)—also saw progress in 2021. This \$854M project, with LS Power, began construction in 2021.

NYPA ensures transmission and generation maximize their roles and work together to fight climate change.



Left Generating facilities at the Niagara Power Project - Robert Moses Niagara Power Plant in foreground and Lewiston Pump-Generating Plant at far right.

Right Construction Engineer II Patrick Roemer inspects turbine repairs at Lewiston Pump-Generating Plant.

GENERATION FOR FUTURE GENERATIONS OF NEW YORKERS

In 2021, 88 percent of NYPA's generation was from its hydropower facilities.³ NYPA's hydropower provides a carbon-free baseload supply that is a critical resource in New York State's carbon transition. Our extensive Life Extension and Modernization Programs are ensuring the continued efficient, reliable operation of our hydropower facilities well into the future.

³ According to NY ISO's 2021 Load and Capacity Report



The \$1.1 billion Next Generation Niagara program at the Niagara Power Project is the largest infrastructure program ever undertaken by NYPA. It is aligned with our asset management strategy to optimize performance, significantly extend operating life and improve resilience.

Digitalization, the use of the latest in digital technology to enhance monitoring, control and flexibility of our assets, is a foundational pillar of our strategy and one of the top priorities of Next Generation Niagara and the

ongoing modernization project at our Lewiston Pump-Generating Plant (LPGP).

Climate Week in September 2021 marked the completed digitalization of the first of 13 turbines at Niagara's Robert Moses Niagara Plant and the completion of the \$460 million modernization project at LPGP. These projects involved the overhaul of plant controls and aging mechanical systems, and deployment of sensors which transmit data to NYPA's monitoring and diagnostic center, known as the iSOC (Integrated Smart Operations Center), allowing remote monitoring and predictive analytics.

With a rated capacity of 2,675 MW, the Niagara Power Project is the largest producer of clean electricity in the state. By extending the life of our hydroelectric assets, infrastructure programs like Next Generation Niagara and others at our facilities statewide will make it possible for NYPA's generation to continue to support our customers and the creation and retention of jobs in New York State for decades to come.



NYPA ranks in the top 15 percent of cleanest U.S. electric power producers

DECARBONIZING OUR NATURAL GAS PLANTS

We are actively seeking ways to reduce greenhouse gas emissions from natural gas plants that are part of our generation portfolio. In 2021, NYPA began to assess the feasibility of replacing or augmenting our in-city Small Clean Power Plants (SCPPs) with battery storage. The assessment culminated in a study, produced in partnership with a coalition of Environmental Justice groups, which was [published](#) in tandem with a Request for Proposals for the potential use of the sites for bulk-scale battery storage. Proposals will be evaluated in 2022.

In another project at the SCPP in Brentwood, we built out the infrastructure for a demonstration project that tested the use of fuel mixtures of up to 35 percent green hydrogen. This is the first project in the U.S. where hydrogen is being blended

directly at the gas turbine to this level. Field testing began in 2021 and results will be published in the fall of 2022.

In 2021, NYPA also piloted the use of Responsibly Sourced Gas (RSG), natural gas sourced from certified suppliers who utilize the highest standards for production and transport to minimize leakage of methane emissions and other environmental and community impacts. RSG typically has a significantly lower methane leakage rate than gas that is not certified. Methane is a potent greenhouse gas with more than 25 times the global warming potential of CO₂ over a 100-year period.

ENERGY STORAGE

NYPA has committed to enabling 450 MW of energy storage by 2030, which includes 300 MW of utility scale projects and 150 MW of projects at customer sites. In 2021, work progressed on two utility-scale projects at NYPA facilities. They are the North Country Energy Storage Project, a 20MW installation adjacent to a NYPA substation in Franklin County, and a 100MW project at our Eugene W. Zeltmann Power Project in Astoria. These projects will store energy during off-peak times and discharge during peak periods, helping to improve grid reliability and reduce carbon emissions and transmission congestion.



Construction of new battery storage facility, adjacent to Willis Substation, part of NYPA's St. Lawrence-FDR Power Project.

TALK THE TALK & WALK THE WALK— ADDRESSING OUR RESPONSIBILITIES

NY Energy Manager, a NYPA office at SUNY Albany, monitors energy use data at participating BuildSmart 2025 customers and others to improve building energy performance, reduce environmental impact and manage energy costs.



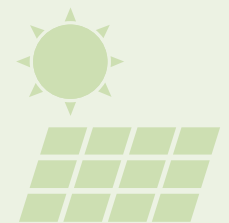
OUR BUILDINGS

In fall 2021, NYPA began work on an enterprise-wide Clean Energy Master Plan which will identify opportunities to increase the energy efficiency and electrification of our buildings and expand installation of on-site renewables. The plan will ensure we achieve the NYPA BuildSmart 2025 energy use reduction target of 0.12 trillion British thermal units (TBtu) by

2025 (FY2014-2015 baseline). Well on our way to achieving this goal, as of the end of 2021 NYPA had reached 0.057 TBtu in energy savings for projects at a minimum of 30 percent design. The statewide BuildSmart 2025 program has set an energy reduction target of 11 TBtu for all state buildings and facilities by 2025. The state program, which is administered by NYPA, is also almost at the midway mark.

NEW NYPA BUILDSMART PROJECTS IN 2021

- > Installation began on a 175 kilowatt (kW) solar array on the roof of our Zeltmann turbine building
- > Design was completed for the first three of six new chillers at our Niagara project
- > Design began for an HVAC system upgrade at the Blenheim-Gilboa administrative building





Left Pollinator Garden at Niagara Power Project.



Right NYPA Interim President & CEO Justin E. Driscoll, left, with New York State Energy Research & Development President & CEO Doreen Harris, at a fuel cell electric vehicle showcase at NYSERDA's Albany office.

OUR VEHICLES

Towards the end of 2021, we launched an electric vehicle (EV) infrastructure assessment to ensure the necessary charging infrastructure is in place to support our ambitious fleet electrification goals. The assessment will determine infrastructure requirements to electrify the light-duty fleet and expand our employee Workplace Charging Program and visitor EV charging through 2030. To date, more than 200 charging stations have been installed at NYPA facilities for fleet, employee and public use.

ENVIRONMENTAL STEWARDSHIP

NYPA takes a holistic and cross-functional approach to environmental stewardship that surpasses federal and state regulatory and policy requirements. We are committed to conserving and protecting the natural resources that our operations and neighboring communities depend on. We implement projects to reduce the environmental impacts of our air emissions, waste generation, water and land use.

Key 2021 initiatives include a potable water leakage prevention project at the Niagara facility, our Water Resiliency Roadmap and a strategic land management assessment to identify opportunities across NYPA land to increase ecosystem health, climate

BULL'S EYE GOAL

NYPA targets to electrify **50%** of its light-duty fleet by 2025 & **100%** by 2030



resilience and natural carbon storage. We also continued to implement habitat restoration projects that enhance the health and biodiversity of specific areas. We maintain more than 3,850 acres of restored wildlife habitat as part of our commitment with state and federal agencies. NYPA has been an accredited Right-of-Way Steward Utility for eight years – recognition of our continued application of best practices in Integrated Vegetation Management. In 2021, we developed a pollinator score card, which describes the pollinator habitat on the rights-of-way we manage. NYPA uses several internal and external mechanisms to evaluate the effectiveness of our programs, including EPRI Benchmarking, internal auditing and third-party verification.

MANAGING CLIMATE-RELATED RISKS & OPPORTUNITIES⁴

We intend to apply the guidance of the Task Force on Climate-Related Financial Disclosures (TCFD) to our climate strategy and activities and to communicating the most relevant information to our stakeholders. Reporting is a journey for NYPA, and we continue to work towards full TCFD disclosure. The foundational disclosures in this report describe our approach to climate-related issues, our ongoing climate impact evaluation efforts and climate-related plans.

OUR CLIMATE STRATEGY & GOVERNANCE

To NYPA, delivering a best-in-class sustainability strategy includes conducting a materiality assessment, identifying material ESG issues, and establishing goals and strategies to address the material issues. Our 2020 materiality assessment identified climate change as the issue of highest priority for NYPA.

Climate change is at the center of both VISION2030 and our Sustainability Plan 2021-25. These were developed in alignment with the cross-sector decarbonization pathways outlined in the Inter-governmental Panel on Climate Change's (IPCC) Special Report on Global Warming of 1.5 °C, the Climate Leadership and Community Protection Act (CLCPA) and New York State's other ambitious clean energy initiatives. Our target of achieving decarbonization of generated electricity by 2035 is five years ahead of the CLCPA goal of 100 percent net-zero by 2040.

It is our responsibility—within New York State, our industry and the global sustainability community—to manage our ESG impacts. Through implementation of VISION2030 and our Sustainability Plan, we strive to continue to provide clean, reliable energy for our customers as the risks and opportunities associated with climate change continue to escalate and evolve.

VISION2030 highlights opportunities for NYPA in transmission, renewable energy and energy services that can help the state and our customers meet ambitious sustainability goals. Climate change also presents physical, operational, environmental, regulatory and financial risks. NYPA's [governance approach](#) includes oversight and management of climate-related strategies and programs at all levels of the organization and ensures relevant climate-related risks are escalated as appropriate.

Our Risk team maintains a Risk Register and an Enterprise Governance, Risk and Compliance (EGRC) system that serves as the repository for enterprise, operational and project risks and includes risk mitigation plans, internal controls, and metrics. In 2021, an ESG enterprise risk category was created that identifies the Authority's risk appetite around ESG risks and maps to six other risks: Climate Change Adaptation, Community Relations, Diversity, Equity &

Inclusion, Environmental Incident Risk, Governance Risk, and Sustainability Risk, increasing visibility into our aggregated climate risk profile and ensuring alignment with NYPA's risk appetite.

NYPA's enterprise risk and resilience efforts are guided by the principles of ISO-31000 Risk Management and COSO-Enterprise Risk Management and support risk-informed decision-making across the organization. Risks are identified and managed at the Business Unit level and addressed at Executive Risk & Resilience Management Committee and Finance & Risk Committee meetings.

MEASURING OUR PERFORMANCE

Measuring our impact is key to mitigating risks and improving performance. NYPA tracks and reports on several climate-related metrics and targets identified in VISION2030 and the Sustainability Plan. We also disclose climate-related data to The Climate Registry (TCR), including Scope 1 greenhouse gas emissions from stationary combustion of fuels (power plants, significant building heating systems), vehicle fleet, corporate plane, and sulfur hexafluoride (SF₆) losses

⁴ This section aligns with TCFD. For additional information on our approach to integrating climate-related financial opportunities and risks, see pages 8, 17, and 41.

SCOPE 1 EMISSIONS⁶

2018	1,425,325.4 MT CO ₂ e
2019	1,369,772.3 MT CO ₂ e
2020 ⁷	1,539,119 MT CO ₂ e
2021 ⁷	1,410,674 MT CO ₂ e

associated with electrical equipment.⁵ Most of NYPA's Scope 1 GHG emissions come from our fossil fuel power plants, which provide critical and mandated generation capacity for the Southeast New York region.

We are planning to expand GHG emissions reporting to include Scope 2 emissions (purchased electricity, transmission line losses) and Scope 3 emissions (electricity sales from contracted and wholesale market purchases, upstream emissions of purchased fuels, business travel, employee commuting), and will establish a new baseline for total Scope 1, 2 and 3 emissions in 2022.

MANAGING THE PHYSICAL IMPACTS OF CLIMATE CHANGE— NYPA'S CLIMATE VULNERABILITY ASSESSMENT

Understanding the threat posed by climate change to NYPA's infrastructure is the first step to developing a climate resilience plan. In 2021, we initiated a climate vulnerability assessment with the US Department of Energy Argonne National Laboratory, scheduled for

completion late 2022. This study assesses how our ability to generate and transmit electricity may be affected by climate change. We are looking at different Representative Concentration Pathways (RCP 4.5 and RCP 8.5) that correspond with the target set in the Paris Accord (+1.5-2.5 °C in 2100) and with business as usual (+4.5 °C in 2100), and the impact that these two scenarios would have on our assets and operations at mid-century. Using state-of-the-art climate and infrastructure system modeling techniques, we will be able to develop high-resolution climate projections for our service territory that will then be used for transmission

grid load-flow analysis to evaluate system-level impacts, disruptions and cascading failures.

The findings from this study will help identify and prioritize climate adaptation and mitigation opportunities across our infrastructure and operations. Our climate resilience strategy will include asset management planning, engineering design and project development procedures. Beyond internal operations, we will also use the climate projection data to better support the climate realities of our customers and local communities.

CLIMATE RESILIENCE AT CANALS

Climate change poses a risk to Canals due to the impact of more frequent extreme weather events on aging infrastructure. We are improving our understanding of this risk and reducing it through our growing asset management, inspection and dam safety programs. In 2021, Canals formalized a new dam safety program, continued to develop a formal asset management program, conducted 317 formal structural inspections of various assets by licensed engineering professionals, and continued to explore collaborative partnerships.

NYPA's Reimagine the Canals campaign is focused on building resilient communities and infrastructure, and is helping to reduce flooding in various ways. Our ice jam mitigation project conducted two successful ice breaking pilot tests in 2021, partially mitigating significant ice formations and reducing the risk of flooding in the city of Schenectady, NY.

⁵ CLCPA requires that New York State reduce GHG emissions by 85% from 1990 levels and offset remaining emissions by reforestation, carbon sequestration in soils and other actions.

⁶ Includes CO₂, CH₄, N₂O, SF₆; emissions vary year over year due to changes in generation, fuel mix and directives from the grid operator.

⁷ 2020 and 2021 emissions data were pending verification from The Climate Registry at the time of this report's publication.



OUR COMMUNITY

In 2021, NYPA celebrated the 90th anniversary of the Power Authority Act, signed by Gov. Franklin D. Roosevelt with the purpose of providing reliable, affordable electricity to the people of New York State. NYPA's reliable, affordable and clean electricity and energy services support our customers, and we strive to manage our operations so that local communities also benefit. As an organization which became a NYPA subsidiary in 2017 and will mark its 200th anniversary in 2025, Canals joins NYPA in supporting our communities through customer and supplier partnerships and community engagement programs.

Kayakers on the Erie Canal near Lock 30 in Macedon during one of Reimagine the Canal's On the Canals free excursions.

OUR COMMUNITY

KEY MATERIAL ESG ISSUES HIGHLIGHTED

- S Economic Development**
- S Access & Affordability**
- E Renewable Energy & Energy Storage**
- G Cyber & Physical Security**
- S Community Engagement**
- G Supply Chain & Procurement Practices**

NYPA provides low-cost, clean, reliable power to government customers, municipal and rural cooperatives and eligible commercial, industrial and nonprofit customers across New York.

NYPA and Canals place special importance on our relationship with and responsibility to our customers, the communities surrounding our facilities and the larger state community.

We are assisting customers in achieving their sustainability goals through a variety of clean energy programs. These include energy efficiency and electrification projects, electric vehicle charging infrastructure, and solar and energy storage.

In 2021, NYPA entered into an agreement with the New York State Energy Research and Development Authority (NYSERDA), enabling NYPA to begin purchasing Tier 1 Renewable Energy Credits (RECs) for interested customers starting in 2025. Adding renewable energy to their supply mix is a cost effective way for customers to achieve carbon reductions.

We are also spurring economic growth and bolstering community livelihoods across the

state through our economic development programs. Our low-cost hydropower has supported the creation and retention of more than 400,000 jobs, including almost 1,500 green jobs, with 850+ newly committed green jobs in 2021.

NYPA and Canals engage with local communities in a variety of ways to garner support for our initiatives and ensure we are aligned with their needs. Activities include meetings with elected officials, community events at our visitors centers, outdoor recreation activities along the canals, and training programs for future leaders in science, technology, engineering and mathematics (STEM).

Our community network of 6,000 suppliers is essential for effective NYPA and Canals operations and maintenance, delivery of capital projects and implementation of our strategic vision. A significant portion of our annual spending is with local suppliers, helping to boost local economies across the state. We manage our supply chain through a rigorous procurement process and adhere to federal and state procurement guidelines. NYPA onboards and monitors approximately 900 new suppliers annually.



WORKING WITH OUR CUSTOMERS TOWARD THEIR SUSTAINABILITY GOALS

We are helping customers achieve their sustainability goals through a range of clean technology programs, including electric vehicle charging, LED street lighting, solar and energy storage.

Construction Program Engineer Alvaro Sarmiento at Metropolitan Transportation Authority depot where NYPA installed electric bus chargers, Manhattan.



TRANSPORTATION & GHG REDUCTIONS

Along with buildings and electricity generation, transportation is one of the largest sources of GHG emissions in New York State.⁸ NYPA has launched various initiatives with customers and stakeholders to reduce statewide emissions from transportation.

TRANSIT ELECTRIFICATION

In 2021, NYPA helped three of our customers start electrifying their bus fleets by supporting the installation of new charging infrastructure. Westchester County debuted six electric buses, and we installed new chargers at the bus depot. This is part of the county's effort to reach a 25

percent electric transit goal by 2025 and 100 percent by 2035. With the Metropolitan Transit Authority (MTA), we are implementing a \$39 million project to install 66 overhead chargers, supporting their goal of purchasing only electric buses starting in 2028 and having an all-electric bus fleet by 2040. We also assisted the Niagara Frontier Transportation Authority (NFTA) with design and construction of an \$8 million upgrade to their bus depot to prepare for the arrival of their first 20 electric buses in 2022.

The impact of these projects is significant. Compared to a traditional diesel bus, each electric bus will save approximately 5,000 gallons of fuel per year and avoid 53,000 lbs

⁸ According to the New York Department of Environmental Conservation (NYDEC), in 2019 28% of greenhouse gas emissions (CO₂, CH₄, N₂O) came from transportation, 32% from buildings, and 13% from electricity. (<https://www.dec.ny.gov/energy/99223.html#Report>).

CO₂e emissions when accounting for electricity usage.⁹ The projects will not only reduce pollution in customer communities but will help pave the way for economic growth and job creation in evolving green industries.

EVOLVE NY

NYPAs EVolve NY program is part of the state's plan to become a leader in electric vehicles. The program expands access to Direct Current Fast Charging (DCFC) stations, offers resources to educate consumers about electric vehicle benefits, and promotes

incentives for EV adoption. In 2021, fast charge hubs were added around the state, including locations in Amsterdam, Saratoga Springs and Fairport, and an additional ten chargers were added at the John F. Kennedy International Airport hub. Hubs were also installed at five Stewart's Shops, and three at Mirabito gas stations in Syracuse and Oneonta.

Most of these chargers are rated at 150 kilowatt (kW) or above to provide the truly high-speed charging used by EVs entering the market. Improving access to fast charge stations statewide

encourages greater EV adoption in more communities and expands travel opportunities for current EV owners.

SIDE BY SIDE SUPPORTING SOLAR

NYPAs is advising customers across the state on the development of customer-sited solar projects.

We are serving as the trusted energy advisor for our customer, the City of White Plains, as the city implements its Community Solar Portfolio. This work was highlighted in 2021 with the launch of nine projects that will triple the amount of solar produced in Westchester County. The system will enable White Plains institutions and residents to reduce their energy costs and carbon footprint. The city anticipates collecting about \$20M in rent from hosting these solar installations on top of its municipal facilities.

Left Solar panels on rooftop of City of White Plains sanitation garage.

Right: Senior Director John Markowitz demonstrates an EVolve NY electric vehicle charger.



⁹ Calculation based on: 20,000 miles per year per bus, 347 g CO₂e per mile, 2.02 kWh/mile efficiency, 105.9 g CO₂e/kWh and 40,400 annual kWh per bus. The average grid mix for upstate New York – generation sources that contribute to electricity in the region – is used for the comparative emissions (<https://www.epa.gov/egrid/power-profiler/#/NYUP>).

ACCESS AND AFFORDABILITY

We are dedicated to working with our customers to ensure that clean, affordable energy is accessible to low- and middle-income communities throughout the state and to facilitating economic development in underserved, disadvantaged and rural areas.

Our customers are facing various economic challenges such as cost of capital (interest rates), raw material inventory shortages caused by supply chain disruption, scarcity of labor supply and associated wage pressures. Despite increased market variability, NYPA continues to offer

long-term contracts and tailored rate structures to provide customers with continuity in budget predictability. See more information [here](#).

We manage our rates through programs such as ReChargeNY, WNY Hydropower and Preservation Power. These programs retain customers and attract new companies to the state.

As added value for our municipal system and rural coop customers in 2021, we launched the Cyber Collective Defense Consortium to enhance their security and the state grid.

Anchor Glass Container, a ReCharge NY power customer, Elmira.



2021 ECONOMIC DEVELOPMENT BY THE NUMBERS

1,725MW Allocated

\$22.7B Capital Investments Committed

426,505 Jobs Created/Retained

REIMAGINING COMMUNITY ENGAGEMENT

NYPA and Canals are driven by our commitment to being good neighbors, especially in historically disadvantaged and marginalized communities.

HELPING OUR NEIGHBORS WITH ENERGY EFFICIENCY

According to the U.S. Department of Energy, low-income households spend about nine percent of their budget on energy—three times more than middle-

Program Manager Matthew Caruso, left, instructs local resident at an Energy Education and Weatherization Workshop.



or higher-income families.¹⁰ NYPA's Environmental Justice (EJ) programs alleviate some of this burden by helping to reduce energy consumption, which also contributes to cleaner air.

- In 2021, NYPA completed an energy efficient lighting project for 1,100 residents at the Niagara Falls Housing Authority. The project installed nearly 1,000 LED lighting fixtures at four facilities and included an energy audit that identified additional energy savings opportunities.
- Eleven Adult Energy Literacy and Weatherization Workshops were held in 2021. The workshops teach low-income homeowners and renters simple and no-cost ways to conserve energy and lower utility bills—without compromising comfort or safety.

REIMAGINE THE CANALS

Reimagine the Canals, the \$300 million flagship New York State initiative administered by NYPA and Canals, is aimed at revitalizing and repurposing the state's historic Canal System, including the waterways, infrastructure, trails, buildings and ecosystems. NYPA's work to transform the canal system into a viable ecotourism destination and community resource is having positive socio-economic impacts along the canal corridor.

Reimagine launched its pilot Green Boats Program in 2021 to improve the experience of the thousands of tourists that travel along the canals each year and lower noise and emissions for canal side communities. The program incentivizes the conversion of fossil fuel-powered charter, tour and rental boats to electric propulsion. Our pilot project with Erie Canal Adventures converted one of their 42-foot charter boats from diesel to electric.

¹⁰ Department of Energy, Office of Energy Efficiency & Renewable Energy (<https://www.energy.gov/eere/spsc/low-income-community-energy-solutions>).

On the Canals (launched in 2020, as NY Canal Staycations) promotes Canal waterways and trails as attractive destinations by offering free recreational programs to the public. The 2021 On the Canals program engaged almost 4,500 participants in multiple activities including kayaking, cycling, birding, fishing, hydro-biking and boat tours.

Youngster enjoys creating a microgrid at John S. Dyson New York Energy Zone, Utica.



NY ENERGY ZONE BEGINS A POWERFUL JOURNEY

In May 2021, NYPA opened the John S. Dyson New York Energy Zone in Utica. The NY Energy Zone is the fourth and newest addition to our network of admission-free visitors centers. It serves, like all our visitors centers, as a tourist hub, a resource for local residents and schools, and an event

space. The Energy Zone's educational and engaging exhibits focus on the past, present and future of energy in New York State, and includes a state-of-the-art 3D movie theatre. NYPA is exploring partnerships and opportunities with local science and academic institutions to make the Energy Zone a major STEM resource in the Mohawk Valley.

KEY 2021 COMMUNITY ENGAGEMENT BY THE NUMBERS

52,235 people visited our four visitors centers across the state

5,053 students attended 269 visitors center tours

21,600 guests attended 27 community events

710 meetings were held with elected officials and stakeholders

ENVIRONMENTAL AND SOCIAL RESPONSIBILITY IN OUR SUPPLIER NETWORK

Managing the environmental and social impacts of our supply chain is a priority for NYPA, and we are striving to work with suppliers that align with our ESG values.

We are integrating sustainability into our supply chain by embedding sustainability criteria in procurement processes, strengthening our relationships with our suppliers, and monitoring and mitigating environmental and social risks. Environmental and social risks of existing and potential suppliers are tracked through our digital Supplier Risk platform and included in the bid evaluation process. To increase transparency, our annual supplier sustainability assessment is distributed to the suppliers that conduct the most business with NYPA, including all strategic suppliers, as measured by spending.

In 2021, as a step towards further integration of ESG, NYPA formalized a process requiring Request for Proposal (RFP) respondents to detail their sustainability governance and management processes in relevant proposals.

DIVERSE SUPPLIERS

Established to provide meaningful contracting opportunities to diverse suppliers, Supplier Diversity at the Authority predates New York State's adoption of Executive Law Article 15-A and 17-B. Supplier Diversity has since been revised to incorporate regulations for utilizing Minority and Women-Owned Enterprises (MWBE) and Service-Disabled Veteran Owned Businesses (SDVOBs), as applicable, in NYPA and Canals' procurement.

We are invested in working with New York State suppliers and ensuring diversity across our supply chain. To build capacity and access to diverse firms, we hosted 10 workshops for diverse suppliers in 2021 – all virtually. In a profile in [Diversity Professional](#), one NYPA supplier credited NYPA's Supplier Diversity with teaching them the importance of partnerships and relationship building for the success of their business.

NYPA advertises procurements statewide to ensure New York-based diverse suppliers have access to bidding opportunities. In addition, NYPA utilizes New York State's discretionary spending guidelines, when applicable, to engage locally based and diverse suppliers and promote economic inclusion. In 2021, NYPA's spending exceeded \$87 million with MWBE certified firms, over \$3 million with SDVOBs, and \$19 million with NYS small business enterprises.

PROPORTION OF 2021 SPENDING ON LOCAL (NYS) SUPPLIERS*

56% NYPA
94% Canals



** As percentage of total procurement budget*



OUR PEOPLE

At NYPA and Canals, our employees are our greatest asset. A diverse, equitable and inclusive corporate culture is ingrained in our core values and foundational to VISION2030.

OUR VALUES

We work for the greater good and a stronger, sustainable New York State

We hold ourselves to the highest standards of integrity, safety and excellence

We are resilient and use our ingenuity to make big things happen

We draw strength from our diversity—everyone contributes, everyone belongs

We work as one team, putting our trust and confidence in each other

Maintenance Crew from Section One of the New York State Canal Corporation place buoys in the Hudson River prior to the start of Navigation Season to the Champlain Canal.

OUR PEOPLE

KEY MATERIAL ESG ISSUES HIGHLIGHTED

- S Employee Development**
- G Regulatory Management & Compliance**
- S Diversity, Equity & Inclusion**
- S Health & Safety**

NYPA and Canal's commitment to our people is illustrated in our approach to Employee Development, Diversity, Equity & Inclusion, and Health & Safety. We offer a broad range of programs across these areas that include professional training and educational opportunities, performance management, and internal employee resource groups, which are all helping to make NYPA a more inclusive and resilient organization.

Employee Development is managed by Human Resources. A holistic and comprehensive curriculum provides employees with targeted skills training. Leveraging employee surveys and other forms of feedback to improve effectiveness, programs are continually adapted to provide the most relevant development experiences. Employee performance is addressed in meetings, reviews and development plans. The investment we make in our employees, their technical knowledge and management expertise, is retained by the organization through our Knowledge Transfer Program.

The resilience of our workforce is grounded in mental well-being programs and our award-winning workplace health and safety culture. NYPA and Canal's Health & Safety Program is managed by regional Environment Health & Safety (EH&S) staff, with our corporate EH&S department supporting the site programs. To keep our Health & Safety Program running strong, we conduct Internal Audits in addition to third-party EH&S audits every three years. In 2021, these audits were expanded to include contractors working on NYPA projects.

NYPA and Canals training programs range from compliance-based training to skill development and management courses. NYPA tracks mandatory employee training and required reporting to ensure we are operating with a well-trained workforce within regulatory guidelines. Our electronic inventory tool enables the Office of Ethics & Compliance to ensure we maintain compliance by assigning ownership to each of the approximately 300 training/reporting profiles.

A PATH FOR BUILDING A LEADING WORKFORCE

Ensuring our employees understand and embrace our strategic vision is key to our success. We are investing in education to increase sustainability and climate literacy across the organization.

SUSTAINABLE U: LET'S GET CLIMATE SMART!

In 2021, NYPA and Canals embarked on a multi-phase comprehensive climate science educational program, called SustainAble U: Let's Get Climate Smart!. It underscores climate as a top priority at NYPA and Canals.

Employees participated in interactive discussions and learned from leading climate science experts. The program engaged all NYPA and Canals' 2,500-plus employees with online training and delivered more than 400 live classes.

SustainAble U was developed in partnership with a team of subject-matter experts from Cornell University, Clarkson University and the SUNY College of Environmental Science & Forestry, who provided extensive expertise and access to valuable resources.



SUSTAINABLE U: *Let's Get Climate Smart!*

GOALS

- > Strengthen climate literacy
- > Introduce a systems-thinking “sustainability mindset” to better understand and address climate change
- > Reinforce efforts to address climate change through VISION2030 and the Sustainability Plan 2021-2025
- > Highlight our leading role in achieving the goals of the CLCPA



Executive Vice President & Chief Financial Officer Adam Barsky, left, and Executive Vice President & Chief Human Resources and Administrative Officer Kristine Pizzo, participate in NYPA and Canals All-Hands Meeting.

The five-unit curriculum covered the basics of earth systems and climate science, causes of modern climate change, science-based solutions for climate mitigation and adaptation, and NYPA's climate strategies which are embedded in VISION2030 and our Sustainability Plan. The program began with an introductory unit titled *COVID, Climate and Equity: Adopting a Sustainability Mindset* that explored the intersection of climate change, the pandemic and the social justice crisis through systems thinking.

BARD MBA IN SUSTAINABILITY

NYPA has developed a partnership with Bard College in the Sustainability MBA Program. Ten NYPA employees graduated with a Bard College MBA in Sustainability in June 2021, and a second cohort of 13 employees started in September. This comprehensive program explores all aspects of business leadership through the lens of sustainability and empowers graduates to find innovative solutions to sustainability challenges within their work at NYPA.

TRAINING TO LEAD

We encourage NYPA and Canals employees to take courses in new skills that can improve the way we work. In 2021, we certified approximately 500 employees in Six Sigma, Lean Foundations, Project Management and Agile best practices. On average in 2021, NYPA employees participated in 50 training hours and Canals employees undertook 30.5 hours.

MANAGEMENT & LEADERSHIP DEVELOPMENT PROGRAMS

- > **DRIVE Blue** for managers as team builders
- > **LEAD Blue** for leadership development and adaptability
- > **Six Sigma**
- > **Lean Foundations**
- > **Project Management & Agile Training**

THERE'S MORE THAN ONE PATHWAY TO GROWTH



Cover of the BETTER TOGETHER:
A JOURNEY OF DIVERSITY, EQUITY
& INCLUSION program.

NYPA and Canals are committed to making our workplace culture inclusive, leading the state in diversifying the labor force, and advancing DEI in the utility industry. NYPA's Office of Civil Rights and Inclusion, working with our Environmental Justice department and Supplier Diversity group, uses a dedicated budget and various inputs, including external benchmarking, internal surveys, workforce data analysis, employee complaints and exit interviews, to advance the DEI strategy.

In 2020, we reviewed our existing efforts and formalized our commitment to our people and the community in the holistic [Ten-Point Diversity, Equity and Inclusion \(DEI\) Plan](#). In 2021, NYPA released [BETTER TOGETHER: A JOURNEY OF DIVERSITY, EQUITY & INCLUSION](#) and identified key performance indicators to track and measure progress against our DEI commitments.

A PATH FOR EMPLOYEES

NYPA and Canals professional and career development programs support the future success of employees from historically underrepresented groups. Our DEI programs embrace Black, Hispanic-Latino and Asian employees on all levels and enable them to make meaningful contributions while improving their experiences in the organization.



Scenes from the Pathways kickoff event in October.

In 2021 we introduced four new programs:

- Pathways, a six-month cohort program, guides participants as they explore topics tailored to the unique needs of employees in historically underrepresented groups. The program includes cohort learning, skill application, peer coaching



and mentoring. To increase access, interested employees self-nominate, bypassing management approval. There were 17 participants in 2021.

- The Executive Leadership Program gives executives within two levels of the C-suite access to expert facilitated virtual workshops and fireside chats with notable leaders.

- Management Accelerator instructs early to mid-career leaders with digital modules and virtual webinars that explore leadership mindset topics and practical tools to address common behavior patterns.
- DECIDE provides training to managers to help them identify and avoid unintended bias in decision-making and become more effective and confident team leaders.



Left Regional Manager & Senior Vice President Saul Rojas introduces youngsters from Astoria Houses to a new community greenhouse lab, funded by NYPA, for STEM education.

Right Superintendent II Angel Rivera gives a tour through the Niagara Power Project to the P-TECH STEM College & Career Academy students, from BeSolar High School in Buffalo

A PATH FOR FUTURE CLEAN ENERGY LEADERS

Understanding the need to attract top talent and diversify the pool of future clean energy workers, NYPA partnered with the nationally recognized program Pathways in Technology Early College High School (P-TECH) which provides STEM career awareness and preparation to historically disadvantaged and marginalized students.



In 2021, NYPA and P-TECH initiated a six-week paid summer internship program for 14 high school students from underserved communities in New York City, the Mohawk Valley and Western New York—regions with key NYPA facilities. P-TECH students completed customer energy audits, solar feasibility assessments and NYPA fleet electrification research.

Other programs run by our EJ team are also helping to create pathways for STEM training and workforce

development. In 2021, a comprehensive energy curriculum toolbox for educators was added to our webpage and 20,000 NYC students used NYPA's Green Classrooms Hydroponic Labs.

By helping to develop local talent in the communities we serve, NYPA and Canals are working to establish a robust workforce pipeline. Our programs not only advance our DEI pillar but provide students with opportunities to develop new skills and gain valuable experience.

MAKING THE PATH HEALTHY AND SAFE

Ensuring the health and safety of employees, customers, neighboring communities and contractors has always been paramount to our business. Our Health & Safety Program complies with regulatory requirements¹¹ and adheres to best management practices¹². Exemplary work has resulted in a performance at or near our stringent targets for the OSHA DART (Days Away, Restricted or Transferred) rate.

	2019	2020	2021
NYPA DART Rate	0.76	0.39	0.59
Canal DART Rate	4.05	5.07	4.37

As COVID-19 continued through 2021, NYPA and Canals adapted and refined our response to the pandemic and sought creative ways to help mitigate its impact. New H&S policies were added, including COVID-19 Pandemic De-escalation and a Covid Vaccine and Testing Mandate. COVID related resources, including our COVID Document Library, increased substantially in 2021, supporting greater procedural control, increased education and communication, more stringent safety procedures and real-time reporting.

In another important step taken to combat COVID-19, high-quality air filtration and purification units were installed in high occupancy areas at all our NYPA and Canal facilities. These units use high efficiency particulate air filters and high intensity UVC lighting to disinfect the air.

Beyond physical health, mental well-being is also a priority at NYPA. Under the Be Mindful Initiative, in 2021 NYPA and Canals employees were offered free access to a user-friendly mindfulness and guided meditation app. An Adaptive Personal Resilience workshop, promoting compassion and teamwork, was also offered to employees.

Since 1994, NYPA has been ranked by the APPA among the top three utilities in its class.



Received American Public Power Association [National Safety Award of Excellence](#).

NYPA was Awarded [WELL Health-Safety Rating](#) at 20 of our facilities.

Temperature reading prior to injection of COVID-19 vaccine available to employees at NYPA's main office, White Plains.



¹¹ Including the Public Employee Safety & Health, Occupational Safety and Health Administration (OSHA), and Coast Guard

¹² Including the National Institute for Occupational Safety & Health, National Fire Protection Association, and the Institute of Electrical and Electronics Engineers



NEW YORK
STATE OF
OPPORTUNITY

NY Power
Authority

Canal
Corporation

DISCLOSURES INDEX



Performance Data

GRI 2-7 - Employees ¹

Head count of active employees as of December 31, 2021

	Female	Male	Total
NYPA Employees (number)			
Permanent	473	1495	1968
Provisional	1	5	6
Temporary	15	39	54
Full-time	482	1513	1995
Part-time	7	26	33
Total	489	1539	2028
Canals Employees (number)			
Permanent	66	352	418
Provisional	0	6	6
Temporary	10	57	67
Full-time	76	415	491
Part-time	0	0	0
Total	76	415	491

GRI 405-1 - Diversity of Governance Bodies

Board of Trustees and EMC composition as of December 31, 2021

	Female	Male	Total
NYPA & Canals Governance Members (number)			
Under age 30	0	0	0
Age 30-50	3	1	4
Over age 50	3	10	13
Total	6	11	17

GRI 2-30 - Collective Bargaining Agreements

Employee composition as of December 31, 2021

	Female	Male	Total
Employees Covered by Collective Bargaining Agreements (%)			
NYPA	19	32	29
Canals	80	93	91

¹ In the Disclosures Index, "employees" refers to active permanent, provisional, and temporary employees, full-time and part-time, unless otherwise indicated.

GRI 405-1 - Employee Diversity

Employee composition as of December 31, 2021

	Female				Male				Total
	Under age 30	Age 30-50	Over age 50	Total	Under age 30	Age 30-50	Over age 50	Total	
NYPA Employees (number)									
American Indian or Alaskan Native (Not Hispanic or Latino)	0	1	0	1	1	5	4	10	11
Asian (Not Hispanic or Latino)	3	40	15	58	10	102	44	156	214
Black or African American (Not Hispanic or Latino)	5	23	35	63	5	33	25	63	126
Hispanic or Latino	7	20	10	37	8	50	36	94	131
Two or More Races (Not Hispanic or Latino)		4	1	5	3	3	1	7	12
White (Not Hispanic or Latino)	34	158	133	325	102	569	538	1209	1534
Total	49	246	194	489	129	762	648	1539	2028
Canals Employees (number)									
Black or African American (Not Hispanic or Latino)	0	2	1	3	1	3	3	7	10
Hispanic or Latino	0	0	3	3	1	7	4	12	15
Native Hawaiian or Other Pacific Islander (Not Hispanic or Latino)	0	0	0	0	0	0	1	1	1
White (Not Hispanic or Latino)	10	25	35	70	45	147	203	395	465
Total	10	27	39	76	47	157	211	415	491

NYPA Diversity Indicators

Category		WPO/SENY Employees (%) ¹	CNY/NNY/WNY Employees (%) ¹	Total Employees (%)	Utility Benchmark (%) ²	NYS Population (%) ³
Race / Ethnicity	American Indian or Alaskan Native (Not Hispanic or Latino)	0.0	100.0	0.6	0.0	0.2
	Asian (Not Hispanic or Latino)	93.4	6.6	10.5	1.7	8.4
	Black or African American (Not Hispanic or Latino)	76.8	23.2	6.2	7.5	13.7
	Hispanic or Latino	87.5	12.5	6.3	3.4	17.9
	Two or More Races (Not Hispanic or Latino)	90.9	9.1	0.5	1.0	2.2
	White (Not Hispanic or Latino)	37.9	62.1	75.8	84.7	57.7
	Total People of Color ⁴	85.0	14.9	24.2	22.2	42.2
Gender	Female	66.6	33.4	24.2	24.6	48.4
	Male	43.8	56.2	75.8	75.7	51.6

1. White Plains Office (WPO) is NYPA's administrative office, located in Westchester County; Southeastern New York (SENY) facilities include the small clean power plants and Zeltmann Power Project; Central New York (CNY) facilities include the Albany office, Clark Energy Center, Blenheim-Gilboa Pumped Storage Hydro Project and small hydro facilities; Northern New York (NNY) facilities include St. Lawrence-FDR Power Project; Western New York (WNY) facilities include the Buffalo office and Niagara Power Project. Populations in the regions where WPO/SENY are located are more diverse than those in CNY/NNY/WNY. See the U.S. Census Bureau for detailed 2020 county maps.

2. From PriceWaterhouse Coopers 2020 Benchmark Survey of 59 public and private utilities and the Women in the Workplace 2021 report.

3. NYS employable population is defined as 16 years and older. Source: EEO Tabulation 2014-2018 (5-Year American Community Survey Estimates) prepared by New York State Department of Labor, Division of Research and Statistics.

4. People of Color defined as self-identified for race/ethnicity for American Indian, Asian, Black or African American, Hispanic or Latino and Two or More Races.

5. Representation amongst employees that have been identified as successors.

6. Data come from survey issued every two years that measures level of engagement with organization and manager. Percentile score benchmarks NYPA's engagement against other organizations.

		Female	Male	POC	White
DEI Performance Indicators	Candidate Offers (%)	34.3	65.7	38.5	61.5
	Candidate Hires (%)	33.0	67.0	37.6	62.4
	Staff on Mentorship (%)	52.9	47.1	100.0	-
	Representation in Succession Pipeline (%) ⁵	23.6	76.4	23.8	76.2
	Rates of Voluntary Turnover (%)	44.0	56.0	44.0	56.0
	Rates of Engagement (percentile score) ⁶	53.0	57.0	53.0	57.0

GRI 403-9 and SASB IF-EU-320a.1 - Work-Related Injuries

Categories	2019	2020	2021
NYPA Health & Safety Performance			
Employee DART rate	0.76	0.39	0.59
Total employee recordable injury rate	1.22	0.49	1.28
Total employee fatality rate	0	0	0
Number of near misses	439	466	517
Canals Health & Safety Performance			
Employee DART Rate	4.05	5.07	4.37
Total employee recordable injury rate	5.40	6.19	5.58
Total employee fatality rate	0	0	0
Number of near misses	Data not available	Data not available	Data not available

NYPA and Canals' MWBE and SDVOB Spend

NYPA and Canals' total identified MWBE spend and total identified SDVOB spend are based upon established New York State criteria, including but not limited to, services to be performed, availability of certified suppliers and geographic location.

CATEGORIES	2019	2020	2021
Percent of total identified MWBE spend with New York State certified suppliers (%)	23	24	22
Percent of total identified SDVOB spend with New York State certified suppliers (%)	70	63	65

GRI 303-3, GRI 303-5 and SASB IF-EU-140a.1 - Water Withdrawal and Consumption

Municipal water is not included in the data points below.

Categories	2019	2020	2021
Total volume of water withdrawn (billion kiloliters)	208.69	211.63	197.57
Water withdrawn from surface water (billion kiloliters)	208.69	211.63	197.57
Water withdrawn from ground water (kiloliters)	679,822	884,334	206,116
Water withdrawn in regions with high or extremely high baseline water stress (%)	0.000326	0.000418	0.000104
Total volume of water consumed (kiloliters)	6,740,837	6,863,514	6,472,783
Water consumed in regions with high or extremely high baseline water stress (%)	6.05	7.73	2.16

Water Recycled and Reused

Categories	2019	2020	2021
Total volume of water recycled and reused by NYPA (billion kiloliters)	208.69	211.63	197.56
Total volume of water recycled and reused as a percentage of the total water withdrawal (%)	99.99	99.99	99.99

GRI 306-3, 306-4, 306-5 - Waste Generated, Directed to Disposal, and Diverted from Disposal

Non-hazardous wastes are not included in reporting scope for 2021 or prior years. NYPA is currently evaluating ways to track non-hazardous wastes in the future.

Categories	2019	2020	2021 ¹
NYPA Hazardous Waste (Metric Tons)			
Total weight of hazardous waste	6.9	5.0	267.0
Reuse	0.0	0.0	3.2
Recycling	0.0	1.0	58.4
Recovery, including energy recovery	0.0	0.0	164.7
Incineration (mass burn)	6.6	4.1	38.4
Landfill	0.3	0.0	0.4
Other ²	0.0	0.0	1.9
Canals Hazardous Waste (Metric Tons)			
Total weight of hazardous waste	Data not available	7.9	5.3
Incineration (mass burn)	Data not available	0.0	3.1
Recovery, including energy recovery	Data not available	0.1	0.0
Landfill	Data not available	7.8	2.2

1. Increase in quantity of hazardous waste reflects expansion of scope of wastes reported. The 2021 total includes all NYS hazardous wastes regulated by 6 NYCRR Part 370. Prior years included only hazardous wastes that counted towards hazardous waste generator status.

2. Wastes in the 'Other' category were received by an intermediate facility prior to their final disposal method of recycling, incineration, or energy recovery.

GRI 305-1, 305-4, and SASB IF-EU-000.D - GHG Emissions

Greenhouse Gases included: CO₂, CH₄, N₂O, SF₆

Emissions vary year over year due to changes in generation, fuel mix, and directives from the grid operator.

Categories	2019	2020 ¹	2021 ¹
Total Scope 1 emissions (MT CO ₂ e)	1,369,772	1,539,119	1,426,813
Total power generated (MWh)	27,426,477	28,611,838	26,918,953
Emissions intensity (MT CO ₂ e/ MWh)	0.0499	0.0538	0.0530

1. 2020 and 2021 emissions data were pending verification from The Climate Registry at the time of this report's publication.

GRI 305-7 and SASB IF-EU-120a.1 - Nitrogen Oxides (NO_x), Sulfur Oxides (SO_x), and Other Significant Air Emissions

Reportable emissions from our Southeastern New York fossil plants only. Emissions vary year over year due to changes in generation, fuel mix, and grid operator directives.

Categories	2019	2020	2021
NO _x (excluding N ₂ O) (kg)	154,388	161,038	121,330
SO _x (kg)	10,923	9,382	14,074
Volatile Organic Compounds (VOC) (kg)	8,642	14,163	9,915
Hazardous Air Pollutants (HAP) (kg)	11,425	12,752	12,088
Particulate Matter - Total PM (kg)	75,347	67,137	75,163

SASB IF-EU-240a.1 & IF-EU-240a.4 - Electric Rates and Rate Comparisons

NYPA Customer Segments	NYPA Rates (\$/MWh)	Utility/Market Rate Estimates (\$/MWh)	Context
Residential	N/A	N/A	NYPA does not serve residential customers.
Hydro Cost-Based	12.88	32.91	Hydro is a stable low-cost generation source, subject to less market fluctuation than other generation sources.
Hydro Economic Development ¹	42.59	57.16	Hydro is a stable low-cost generation source, subject to less market fluctuation than other generation sources.
Hydro Industrial ¹	33.25	27.71	NYPA ties the rate to commodity pricing so that when the customer's revenue is low, rates will be low.
NYC Governmental ¹	73.93	83.98	NYPA provides power at cost and with dedicated resources built into the customer's portfolio.
Westchester County Governmental ¹	50.97	72.94	NYPA provides power at cost and with dedicated resources built into the customer's portfolio.

¹ Rates include market costs that are passed through to customers as incurred by NYPA, as applicable.

IF-EU-240a.4: Representative Risks and Opportunities Arising from External Factors, and Actions NYPA is taking that affect Affordability

Reference [Our Community](#) for more information.

External Factor ¹	Risks	Opportunities	NYPA Actions
Economic hardships	Inability to pay electric bills	<ul style="list-style-type: none"> • Build strong relationships with communities and customers • Promote business growth and economic resilience 	<ul style="list-style-type: none"> • Offer tailored rate structures • Execute long-term contracts • Provide customer and community energy efficiency programs and services that lower bills (and reduce greenhouse gas emissions)
Carbon transition	Transition towards microgrids, wind and solar, reducing NYPA's competitive advantage and increasing rates	<ul style="list-style-type: none"> • Expand customer clean energy services programs 	<ul style="list-style-type: none"> • Expand transmission to interconnect renewables • Continue generating clean reliable energy for NYS (hydropower) • Provide building and vehicle energy efficiency, electrification and renewable energy services to customers
Physical impacts of climate change	Physical impacts to infrastructure and inability to meet customer needs	<ul style="list-style-type: none"> • Invest in innovation, efficiency and growth to meet changing customer and stakeholder needs 	<ul style="list-style-type: none"> • Conduct climate vulnerability assessment and spillway analysis • Harden NYPA assets • Enhance biodiversity and climate resilience of NYPA land • Expand clean energy services offerings

1. This list of external factors is not exhaustive.

2021 GRI Index

This is NYPA and Canals' second year reporting with reference to the Global Reporting Initiative (GRI) Standards. Data included in this disclosure may differ from data otherwise included in the report or other disclosures in order to conform to GRI reporting requirements.

GRI #	GRI Disclosure	Location & Notes
GRI 2: General Disclosures 2021		
2-1	Organizational details	About Our Reporting
2-2	Entities included in the organization's sustainability reporting	About Our Reporting
2-3	Reporting period, frequency and contact point	About Our Reporting 01-01-2021 to 12-31-2021 Annual
2-4	Restatements of information	None.
2-5	External assurance	This report did not undergo external assurance.
2-6	Activities, value chain, and other business relationships	About Us NYPA and Canals secure suppliers to support critical operations, maintenance and capital projects, as well as bulk electric system, power plant, canal system, railway and energy efficiency projects. Over 6000 contractors, consultants and equipment suppliers, among others, are engaged to support both NYPA, and Canals. The estimated monetary value of payments made to suppliers is \$806,724,208.00 for NYPA and \$47,133,990.00 for Canals, based upon 2021 annual spend on the procurement contracts.
2-7	Employees	Performance Data
2-8	Workers who are not employees	As projects warrant, non-employees (consultants and contractors) are hired to augment design work, inspection, and construction activities.
2-9	Governance structure and composition	Sustainability Governance NYPA 2021 Annual Report
2-10	Nomination and selection of the highest governance body	NYPA 2021 Annual Report pg. 30

2021 GRI Index

GRI #	GRI Disclosure	Location & Notes
2-11	Chair of the highest governance body	Leadership Statement
2-12	Role of the highest governance body in overseeing the management of impacts	Sustainability Governance
2-13	Delegation of responsibility for managing impacts	Sustainability Governance
2-14	Role of the highest governance body in sustainability reporting	Sustainability Governance
2-22	Statement on sustainable development strategy	Leadership Statement
2-23	Policy commitments	<p>Compliance-related activities are overseen by the EMC and the Board of Trustees’ Audit Committee, Governance Committee, and Finance & Risk Committee, reinforcing the commitments of NYPA and Canals’ leaders to institutionalize a culture of compliance across the organization.</p> <p>NYPA has a company Sustainability Policy as well as numerous other company policies and procedures that address our material ESG issues. These include eGRC Governance, Health & Safety Program, Reasonable Accommodations, Anti-Retaliation, Workplace Violence, Equal Employment Opportunity, Anti Harassment, and Anti Discrimination, Environmental, Internal Controls, NERC Critical Infrastructure Protection (CIP), Risk & Resilience, Cyber Security, Guidelines for Procurement Contracts, Expenditure Authorization Procedure, Strategic Supply Management, Supplier Diversity, Environmental Health & Safety Compliance Audit Program, Internal Audit Charter, Physical Security Policy, Ethics and Compliance Program, Crisis Management, Reliability Standards Compliance, and Asset Management. Company policies are also supplemented by department level policies and procedures as well as NYPA’s Code of Conduct. Additional information on policy commitments relating to specific material ESG issues can be found throughout the report.</p>
2-24	Embedding policy commitments	To ensure compliance on a corporate-wide level, the Office of Ethics and Compliance (OEC) maintains a Compliance Repository, an electronic inventory of mandatory external reporting and training requirements affecting NYPA, Canals and its employees. The Repository contains detailed information about reports required to be developed and submitted to external parties, as well as training required to be provided to employees. There are approximately 300 profiles affecting NYPA and Canals. Designated Compliance Liaisons are required to review and update the Compliance Repository twice annually to confirm that the content is accurate, revise actual reporting dates, add new reporting or training requirements or delete old items that are no longer applicable.

2021 GRI Index

GRI #	GRI Disclosure	Location & Notes
2-24	Embedding policy commitments <i>(continued)</i>	<p>The OEC initiates annual individual reviews of the repository by Business Unit Heads, who certify that the information under their responsible area is accurate. NYPA's attorneys are requested to validate the applicability of the requirements assigned to them and assure these obligations remain applicable to NYPA and Canals. In April 2021, the OEC developed and issued new training content focused on the Compliance Repository with the goal of helping Compliance Liaisons to better understand their roles related to maintaining and tracking reporting and training requirements in compliance with statutory and regulatory mandates.</p> <p>The Repository is a critical component of NYPA and Canals' Corporate Compliance Program, which directly supports the missions of NYPA and Canals and VISION2030.</p> <p>NYPA also has an Employee Code of Conduct which provides clear expectations for responsible and professional workplace conduct. NYPA has developed and delivered a number of programs aimed at increasing upstander behavior and familiarity with the Equal Employment Opportunity (EEO) process including an EEO Complaint Procedure and Know Your Rights (EEO) FAQ and Training materials.</p>
2-25	Processes to remediate negative impacts	<p>NYPA provides different channels to report grievances, and has various processes and Key Performance Indicators in place to remediate negative impacts. For example, the Strategic Supply Management department has established a Supplier Relationship Management (SRM) Division as a mechanism for suppliers to provide feedback. Other examples include NYPA's 24/7 call center for public fast chargers (Evolve NY charging network) and E-Mobility Plugshare Score. NYPA processes are also overseen by regulatory agencies, such as the Northeast Power Coordinating Council (NPCC) Regional Standards Committee (RSC), which has a Potential Non-Compliance hotline to report NERC non-compliance issues, and the NYS Anti-Discrimination Investigations Division, and other Federal, State, and Local Oversight bodies (Equal Employee Opportunity Commission and NYS Human Rights Commissions).</p>
2-26	Mechanisms for seeking advice and raising concerns	<p>The Human Resource Department is available to all employees to provide advice or address concerns. All employees may report to the Office of Ethics and Compliance regarding any issues relating to ethics or failure to comply with rules, regulations and laws. Union employees can also report grievances pursuant to their collective bargaining agreement and may seek assistance from Labor Relations Managers. All employees may report discrimination via the Equal Employee Opportunity (EEO) Complaint process set forth in the EEO policy: internally via the NYS Anti Discrimination Investigations Division, and externally to Federal, State and Local oversight bodies (Equal Employee Opportunity Commission and Human Rights Commission). NYPA also has an external Employee Concerns Line (877-TEL-NYPA) for employees to report allegations or concerns related to statutory and regulatory compliance and adherence to policies and procedures.</p>

2021 GRI Index

GRI #	GRI Disclosure	Location & Notes
2-26	Mechanisms for seeking advice and raising concerns <i>(continued)</i>	<p>NYPA's Discrimination and Harassment Investigation Executive Review Committee prescribes administrative action where NYPA's Office of Civil Rights and Inclusion (OCRI) investigation of allegations of Employment-Related Protected-Class Discrimination results in (1) an unsubstantiated determination against the Respondent in the case; and (2) the identification of other conduct or policy violation results in the recommendation of further administrative action. There is also a cross-departmental Investigative Trends Committee which meets quarterly with an update to the Governance Committee to review investigations, related data and activities enterprise-wide.</p>
2-27	Compliance with laws and regulations	<p>NYPA was in compliance with environmental laws and/or regulations in 2021, having received no financial penalties. NYPA has an internal EH&S audit program where potential non-compliances and internal control improvements are identified and addressed via a corrective action program.</p> <p>For NERC Reliability Standards, as mandated by FERC, NYPA has established internal controls to ensure compliance with applicable Standard requirements. Through NYPA's oversight and management of our Reliability Standards Compliance Program, NYPA identified and self-reported to our regulators instances of non-compliance: 2019: 6; 2020: 7, 2021:1. As part of the self-reporting process, NYPA developed and implemented mitigation plans which were approved and accepted by our regulator. None of the instances of non-compliance from these reporting years incurred monetary fines.</p>
2-28	Membership associations	<p>NYPA is an active member of the American Public Power Association (APPA), the Electric Power Research Institute (EPRI) and the Large Public Power Council (LPPC).</p> <p>Other memberships and partnerships are referenced throughout the report where relevant, and in GRI 2-29 below.</p>
2-29	Approach to stakeholder engagement	<p>We view engaging our stakeholders as integral to the success of our operations. Through all our work—from planning and developing infrastructure projects, to customer service and community engagement—we involve key stakeholders to ensure their perspectives are heard, their expectations are understood and, where possible, their needs are met. We communicate through regular channels, such as community programs, workshops, town hall meetings, surveys, policy dialogues and industry conferences.</p> <p>Representative stakeholders include the people of New York State, NYPA and Canals employees, State and local communities, community organizations, customers, suppliers, contractors and business partners, regulators and elected officials, industry organizations and peers, investors and strategic partners, rating agencies, and membership associations.</p> <p>NYPA participates in membership associations including APPA, EPRI, LPPC, National Hydropower Association, Electric Utility Industry Sustainable Supply Chain Alliance, and the NYS Economic Development Council.</p>

2021 GRI Index

GRI #	GRI Disclosure	Location & Notes
2-30	Collective bargaining agreements	Performance Data Percentage of employees covered by collective bargaining agreements: NYPA: 2019: 30%; 2020: 29%, 2021: 29% Canals: 2019: 91%; 2020: 93%, 2021: 91%
GRI 3: Material Topics 2021		
3-1	Process to determine material topics	In 2020, we conducted a comprehensive assessment of our material ESG topics which included a benchmarking analysis of peer practices, industry trends, state regulations and initiatives, and sustainability frameworks and standards. Stakeholders were mapped and prioritized using AccountAbility's AA1000 Stakeholder Engagement Standard to ensure a robust and inclusive process. NYPA and Canals employees, our Executive Management Committee and the Sustainability Advisory Council were engaged throughout the assessment. The process resulted in the identification and prioritization of 15 material ESG topics deemed to be important to key stakeholders and to have a potentially significant impact on our business.
3-2	List of material topics	Material ESG Issues
3-3	Management of material topics	Our Planet Managing Climate Related Risks and Opportunities Our Community Our People
GRI 201: Economic Performance 2016		
201-2	Financial implications and other risks and opportunities due to climate change	Our Planet
GRI 203: Indirect Economic Impacts 2016		
203-1	Infrastructure investments and services supported	NYPA makes significant investments in the development of customer-sited solar and storage, implementation of energy efficiency projects at customer facilities, and installation of electric vehicle charging infrastructure at customer and public locations. These efforts positively impact our stakeholders, community and climate by reducing energy consumption, greenhouse gas emissions and other air emissions, creating green jobs, and supporting community development.

2021 GRI Index

GRI #	GRI Disclosure	Location & Notes
203-1	Infrastructure investments and services supported <i>(continued)</i>	NYPA's Reimagine the Canals initiative is investing \$300 million in the New York State Canal System, and will yield positive impacts for communities and local economies by promoting outdoor recreation and fishing, encouraging canalside living, and expanding regional tourism. Many of our capital projects are still in design so it is too early to assess the community impact, but programs such as Canal Excursions, Public Fishing, and Ice Breaking have made very positive impacts on Canal communities. Our fishing project has had two successful annual pilots and the program will continue in 2022. Our third season of Canal Excursions to promote recreation and tourism along the Canal also continues in 2022. The Canastota Pocket Neighborhood is in development. The irrigation project is on hold while we assess the condition of the canal embankments in the west. Reimagine the Canals projects are all pro bono, meaning we are receiving no revenue.
GRI 204: Procurement Practices 2016		
204-1	Proportion of spending on local suppliers	Local is defined as New York State. Our significant locations of operation are all within New York State. Proportion of spending on local suppliers as percentage of total procurement budget: NYPA: 2019: 67%; 2020: 53%; 2021: 56% Canals: 2019: 89%; 2020: 90%; 2021: 94%
GRI 302: Energy 2016		
302-1	Energy consumption within the organization	Data not available at time of publication. Data will be provided when available.
302-4	Reduction of energy consumption	Our Buildings Energy reductions are calculated at the project level, typically supported by an ASHRAE analysis. NYPA is developing a Clean Energy Master Plan in 2022 that will identify additional energy efficiency opportunities across both NYPA and Canals, in addition to identifying an energy reduction target for Canals.
GRI 303: Water and Effluents 2018		
303-1	Interactions with water as a shared resource	With respect to the hydroelectric generating facilities, each power project utilizes a certain amount of water to generate power for users statewide. The project is required to meet state standards, regulated by the NYS Department of Environmental Conservation, through the issuance of a 401 Water Quality Certificate that verifies compliance with state water quality requirements. Water passes through the project via an intake structure, flows through the project and returns to the river once utilized to generate power. Additionally, NYPA's fossil fuel plants utilize water for cooling that is returned to the environment through evaporation in cooling towers.

2021 GRI Index

GRI #	GRI Disclosure	Location & Notes
303-1	Interactions with water as a shared resource <i>(continued)</i>	<p>These systems also discharge back into the environment by blowdowns which are monitored and regulated by State Pollution Discharge Elimination System Permits (SPDES). In cases where these discharges are to Publicly Owned Treatment Works, those blowdowns are monitored and regulated by New York City Department of Environmental Protection Commissioners orders.</p> <p>Water withdrawal and consumption is reported annually in accordance with New York State water withdrawal regulations. Annual reviews are conducted of SPDES permit-required Best Management Practices (BMP) Plans. These BMP Plans are updated to address any permit exceedances or upsets. Discharge Monitoring Reports (DMRs) are filed monthly for locations with SPDES permits. These reports include pollutant concentrations, mass loading and flows for each regulated outfall as needed and specified. An internal environmental performance report is issued monthly by the EH&S department.</p> <p>Goals have been established for environmental incidents for all regions and activities. An environmental performance report is issued monthly. This report includes water related metrics for water quality as it pertains to permit parameters. The target for each region and activity is reviewed and approved on an annual basis.</p> <p>NYPA funds research through its participation in Electric Power Research Institute (EPRI) programs. The review of the participation in programs and approval of supplemental studies is conducted by the NYPA EPRI steering committee, composed of senior leadership which includes the head of the Technology Development and Innovation department. Members of NYPA staff advise EPRI on water-related topics of concern for further research. NYPA will participate in an EPRI project on an emerging water contaminate perfluorooctane sulfonate (PFOS). The study will evaluate fate and transport, sampling and monitoring methods.</p> <p>A Water Resiliency Roadmap was developed in 2021 in collaboration with the EPRI. The report outlines opportunities for water-related activities and engagement, which will be explored in 2022.</p>
303-3	Water withdrawal	Performance Data
303-5	Water consumption	Performance Data
GRI 304: Biodiversity 2016		
304-2	Significant impacts of activities, products and services on biodiversity	NYPA continues to use best management practices to limit environmental impacts, including minimizing the transport of invasive species during large-scale transmission projects and ROW maintenance activities. No significant impacts on biodiversity, pollution-related incidents, introduction of invasive species, reduction in species or habitat conversion have been recorded or observed during the reporting period.

2021 GRI Index

GRI #	GRI Disclosure	Location & Notes
304-3	Habitats protected or restored	NYPA continues to maintain more than 3,850 acres of restored wildlife habitat as part of its commitment with State and Federal Agencies. We plan to expand our habitat restoration efforts in the future.
GRI 305: Emissions 2016		
305-1	Direct (Scope 1) GHG emissions	Performance Data Managing Climate Related Risks and Opportunities
305-2	Energy indirect (Scope 2) GHG emissions	NYPA does not currently track Scope 2 emissions. We plan to disclose Scope 2 emissions for 2022 in 2023 and set a baseline in the future.
305-3	Other indirect (Scope 3) GHG emissions	NYPA does not currently track Scope 3 emissions. We plan to disclose Scope 3 emissions for 2022 in 2023 and set a baseline in the future.
305-4	GHG emissions intensity	Performance Data
305-7	Nitrogen oxides (NO _x), sulfur oxides (SO _x), and other significant air emissions	Performance Data
GRI 306: Waste 2020		
306-3	Waste generated	Performance Data
306-4	Waste diverted from disposal	Performance Data
306-5	Waste directed to disposal	Performance Data
GRI 308: Supplier Environmental Assessment 2016		
308-1	New suppliers that were screened using environmental criteria	In order to participate in a NYPA/ Canals procurement, suppliers must be onboarded within our systems. All suppliers, including but not limited to contractors, consultants and equipment vendors, are added to the Authority's Supplier Risk platform to monitor various risks, including those stemming from environmental issues in the supply chain. Any environmental risks identified for suppliers participating in active procurements are included in the evaluation process. NYPA onboards and monitors approximately 900 new suppliers annually.

2021 GRI Index

GRI #	GRI Disclosure	Location & Notes
GRI 401: Employment 2016		
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Besides best-in-class health, welfare, wellness and time off benefits, NYPA and Canals offer access to a pension plan.
GRI 403: Occupational Health and Safety 2018		
403-6	Promotion of worker health	Health and Safety
403-9	Work-related injuries	Performance Data
GRI 404: Training and Education 2016		
404-1	Average hours of training per year per employee	NYPA: 2019: 46.3 hrs; 2020: 25.5 hrs; 2021: Males - 54.4 hrs, Females - 36.5 hrs, Overall average - 50.0 hrs Canals: 2019: 25.6 hrs; 2020: 8.7 hrs; 2021: Males - 31.4 hrs, Females - 25.5 hrs, Overall average - 30.5 hrs
404-3	Percentage of employees receiving regular performance and career development reviews	The overall percentage of full-time NYPA employees receiving regular performance reviews was 93% in 2019, 91% in 2020, and 96% in 2021. In 2021, the percentage of eligible full-time employees receiving regular performance reviews was 92% for females and 97% for males. Canals currently does not have a formal performance review process but is in the process of developing a comprehensive plan.
GRI 405: Diversity and Equal Opportunity 2016		
405-1	Diversity of governance bodies and employees	Performance Data
GRI 406: Non-discrimination 2016		
406-1	Incidents of discrimination and corrective actions taken	We do not report number of incidents of discrimination in this report because these data are confidential. The Office of Civil Rights & Inclusion houses our Equal Employment Opportunity (EEO) safeguards and aims to hold all NYPA and Canals employees accountable and discourage hostile workplace treatment and discrimination. The EEO policies provide clear guidelines for the rights and responsibilities of employee channels for reporting incidents of discrimination, as well as the investigation of such complaints as mandated by New York State. We have an open-door policy for in-person meetings and can be contacted directly by phone or email. Our Labor Relations and Human Resources team is available to support employees with workplace disputes as well. There is a third-party, confidential and toll free hot-line available to employees for complaints and comments. The represented workforce may also pursue workplace issues via the grievance process in accordance with their respective collective bargaining agreements.

2021 GRI Index

GRI #	GRI Disclosure	Location & Notes
GRI 413: Local Communities 2016		
413-1	Operations with local community engagement, impact assessments, and development programs	<p>We conduct regular community engagements and have development programs in place in the communities in which we operate. We conduct impact assessments when required by law or requested by customers.</p> <p>Key 2021 accomplishments include: 52,235 visitors to visitors centers across the state; 269 education tours for 5,063 students; community functions held by 34 organizations at the visitors centers; 710 meetings with elected officials and stakeholders; 69 presentations to various community/business organizations on NYPA-related topics reaching 800 people; 14 educational events in schools and at other education forums reaching 1,400 students/adults; 27 community events with NYPA displays and exhibits reaching 21,600 people.</p>
GRI 414: Supplier Social Assessment 2016		
414-1	New suppliers that were screened using social criteria	In order to participate in a NYPA/ Canals procurement, suppliers must be onboarded within our systems. All suppliers including but not limited to contractors, consultants and equipment vendors, are added to the Authority's Supplier Risk platform to monitor various risks, including those stemming from social issues in the supply chain. Any social risks identified for suppliers participating in active procurements are included in the evaluation process. NYPA onboards and monitors approximately 900 new suppliers annually.
GRI 418: Customer Privacy 2016		
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	NYPA tracks this information internally and reports out where required for regulatory/compliance purposes. These data are sensitive and therefore not reported publicly.

SASB Electric Utilities & Power Generators

Table 1. Sustainability Disclosure Topics & Accounting Metrics

Topic	Accounting Metric	Category	Code	Response
Greenhouse Gas Emissions & Energy Resource Planning	(1) Gross global Scope 1 emissions, percentage covered under (2) emissions-limiting regulations, and (3) emissions-reporting regulations	Quantitative	IF-EU-110a.1	(1) 1,426,813.1 MT CO ₂ e, (2) 97.9%, (3) 99.7% New York participates in the Regional Greenhouse Gas Initiative (RGGI), the first mandatory market-based program in the United States to reduce greenhouse gas emissions. All NYPA's Southeast New York generating facilities are subject to RGGI.
	Greenhouse gas (GHG) emissions associated with power deliveries	Quantitative	IF-EU-110a.2	2,584,206 MT CO ₂ e This is the sum of emissions directly associated with NYPA-owned power generation and power contractually purchased from Astoria Energy II. NYPA does not deliver this power to retail customers. NYPA plans to expand its GHG inventory and calculate emissions from market purchases and transmission line losses in future years.
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Discussion and Analysis	IF-EU-110a.3	Our Planet
	(1) Number of customers served in markets subject to renewable portfolio standards (RPS) and (2) percentage fulfillment of RPS target by market	Quantitative	IF-EU-110a.4	Not applicable. New York State does not have a Renewable Portfolio Standard. New York does have a Clean Energy Standard issued by the Public Service Commission, but NYPA is not subject to the jurisdiction of the Public Service Commission.

SASB Electric Utilities & Power Generators | Table 1. Sustainability Disclosure Topics & Accounting Metrics

Topic	Accounting Metric	Category	Code	Response
Air Quality	Air emissions of the following pollutants: (1) NO _x (excluding N ₂ O), (2) SO _x , (3) particulate matter (PM ₁₀), (4) lead (Pb), and (5) mercury (Hg); percentage of each in or near areas of dense population	Quantitative	IF-EU-120a.1	Performance Data Note: Data in the Performance Data tables are for total particulate matter (PM). The emissions of PM ₁₀ , which is a subset of total PM, for 2021 were 13,020 kg. Percentage of each in or near areas of dense population: 2019: 100%, 2020: 100%, 2021: 100%
Water Management	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with high or extremely high baseline water stress	Quantitative	IF-EU-140a.1	Performance Data
	Number of incidents of non-compliance associated with water quantity and/or quality permits, standards, and regulations	Quantitative	IF-EU-140a.2	In 2021, NYPA had 7 incidents of noncompliance associated with water quantity and/or quality permits, standards, and regulations including individual State Pollutant Discharge Elimination System (SPDES) permits for operational facilities, construction SPDES permits, as well as any deviation from the Article VII Certificate Conditions and Environmental Management & Plan (EM&CP) narrative compliance requirements. Only 2 of the 7 incidents occurred at facilities and activities directly operated by the company. In 2021, Canals had zero environmental incidents or noncompliances that resulted in a formal enforcement action.
	Description of water management risks and discussion of strategies and practices to mitigate those risks	Discussion and Analysis	IF-EU-140a.3	Completed Water Resiliency Roadmap in collaboration with EPRI in 2021. Reviewing opportunities presented for implementation in support of VISION2030.

SASB Electric Utilities & Power Generators | Table 1. Sustainability Disclosure Topics & Accounting Metrics

Topic	Accounting Metric	Category	Code	Response
Coal Ash Management	Amount of coal combustion residuals (CCR) generated, percentage recycled	Quantitative	IF-EU-150a.1	We do not own or have specified coal generation contracts.
	Total number of coal combustion residual (CCR) impoundments, broken down by hazard potential classification and structural integrity assessment	Quantitative	IF-EU-150a.2	We do not own or have specified coal generation contracts.
Energy Affordability	Average retail electric rate for (1) residential, (2) commercial, and (3) industrial customers	Quantitative	IF-EU-240a.1	Performance Data
	Typical monthly electric bill for residential customers for (1) 500 kWh and (2) 1,000 kWh of electricity delivered per month	Quantitative	IF-EU-240a.2	Not applicable, NYPA does not directly serve residential customers.
	Number of residential customer electric disconnections for non-payment, percentage reconnected within 30 days	Quantitative	IF-EU-240a.3	Not applicable, NYPA does not directly serve residential customers.
	Discussion of impact of external factors on customer affordability of electricity, including the economic conditions of the service territory	Discussion and Analysis	IF-EU-240a.4	Our Community Performance Data
Workforce Health & Safety	(1) Total recordable incident rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR)	Quantitative	IF-EU-320a.1	Performance Data

SASB Electric Utilities & Power Generators | Table 1. Sustainability Disclosure Topics & Accounting Metrics

Topic	Accounting Metric	Category	Code	Response
End-Use Efficiency & Demand	Percentage of electric utility revenues from rate structures that (1) are decoupled and (2) contain a lost revenue adjustment mechanism (LRAM)	Quantitative	IF-EU-420a.1	Not applicable, NYPA does not have a decoupled rate structure.
	Percentage of electric load served by smart grid technology	Quantitative	IF-EU-420a.2	Data are not available. As a generation and transmission company, NYPA installs smart grid technology to support integration of distributed generation and increase generation and transmission efficiency across the transmission system—not tied to specific loads.
	Customer electricity savings from efficiency measures, by market	Quantitative	IF-EU-420a.3	2019: 82,071 MWh 2020: 27,110 MWh 2021: 58,286 MWh
Nuclear Safety & Emergency Management	Total number of nuclear power units, broken down by U.S. Nuclear Regulatory Commission (NRC) Action Matrix Column	Quantitative	IF-EU-540a.1	Not applicable. NYPA does not own or operate nuclear power generation.
	Description of efforts to manage nuclear safety and emergency preparedness	Discussion and Analysis	IF-EU-540a.2	NYPA and Canals do not own or operate nuclear power generation. NYPA does have an Emergency Management program for NYPA assets such as our hydroelectric facilities and dams.
Grid Resiliency	Number of incidents of non-compliance with physical and/or cybersecurity standards or regulations	Quantitative	IF-EU-550a.1	Due to FERC restrictions, this information cannot be released.
	(1) System Average Interruption Duration Index (SAIDI), (2) System Average Interruption Frequency Index (SAIFI), and (3) Customer Average Interruption Duration Index (CAIDI), inclusive of major event days	Quantitative	IF-EU-550a.2	Not applicable, NYPA does not provide distribution services.

SASB Electric Utilities & Power Generators

Table 2. Activity Metrics

Activity Metric	Category	Code	Response
Number of: (1) residential, (2) commercial, and (3) industrial customers served	Quantitative	IF-EU-000.A	(1) NYPA does not directly serve residential customers. (2, 3) NYPA has 1,069 customers, including governmental agencies, municipal/rural electric cooperatives, businesses, neighboring states and investor-owned utilities
Total electricity delivered to: (1) residential, (2) commercial, (3) industrial, (4) all other retail customers, and (5) wholesale customers	Quantitative	IF-EU-000.B	<p>Direct Sales to Commercial and Industrial Customers (includes sales to 787 companies and not-for-profit organizations): 8,576,000 MWh</p> <p>Sales to Municipal Electric Systems, Rural Electric Cooperatives, and Other Public Customers (includes sales to 47 municipal electric utility systems, 4 rural electric cooperative systems, and more than 100 public agencies in NYS, 7 neighboring states, and 9 host communities): 15,360,000 MWh</p> <p>Sales to Utilities and the New York Independent System Operator for Resale (includes sales to the Long Island Power Authority, New York Electric and Gas Corporation, Rochester Gas and Electric Corporation, and the NYS ISO. Portions were designated for resale to residential and farm customers or to business and not-for profit customers in the state.): 13,005,000 MWh</p>
Length of transmission and distribution lines	Quantitative	IF-EU-000.C	<p>Transmission lines: 1,456.1 circuit-miles</p> <p>Distribution lines: Not applicable. NYPA is a generation and transmission owner only.</p>
Total electricity generated, percentage by major energy source, percentage in regulated markets	Quantitative	IF-EU-000.D	<p>2021 Net Generation: 26,918,953 MWh</p> <p>Hydropower: 88%,</p> <p>Fossil: 12%</p>
Total wholesale electricity purchased	Quantitative	IF-EU-000.E	Total wholesale electricity purchased excluding electricity consumed at generating facilities: 7,289,000 MWh

FAST FACTS

2,500+ employees

2,028 NYPA

491 Canals

Customers: NYPA **1,069** –
For power & energy efficiency
Canals & NYPA Tens of Thousands—
For tourism, recreation & education

16 generating facilities producing up to
25% of New York State’s electricity

1,456 circuit-miles of transmission lines

524 miles of Canal waterways, 150 miles
of the Empire State Trail

80,000+ acres of owned and managed
water and land

ABOUT US

New York Power Authority

The New York Power Authority (NYPA) has its main administrative office in White Plains, NY. The Authority owns and operates five major generating facilities, eleven small electric generating units located at seven facilities, and four small hydroelectric facilities, with a total installed capacity of approximately 6,051 MW, and 1,400 circuit-miles of transmission lines, including major 765-kV and 345-kV transmission facilities. We provide clean energy and innovative energy services to our customers. NYPA is a corporate municipal instrumentality of New York State that serves the public without the use of tax revenue or state credit. We finance construction of our projects through bond sales to private investors and repay bondholders with proceeds from our operations.

NYPA’s power customers include:

- Large and small commercial and industrial businesses
- Municipal and rural cooperative electric systems
- Government entities across the state

- Not-for-profit organizations
- New York State wholesale electricity market, administered by the New York Independent System Operator

New York State Canal Corporation

The New York State Canal Corporation (Canals), a subsidiary of NYPA, oversees the operation, maintenance and promotion of the New York State Canal System.* Canals is responsible for the premier waterway and trail system that honors the historic legacy of the Erie Canal and the adjoining Champlain, Oswego and Cayuga-Seneca canals, while offering unique recreational and tourism opportunities, and promoting sustainable economic development throughout the canal corridor.

** In this report, “NYPA and Canals” refers to both the New York Power Authority and its subsidiary, the New York State Canal Corporation. Organization-specific focus areas, goals and strategies are indicated, where relevant.*



NY Power
Authority

Canal
Corporation

FORWARD-LOOKING STATEMENT

Statements in this report, including the message from NYPA's interim president and CEO, about future performance, plans, expectations, objectives and forecasts and other statements that are not purely historical, are forward-looking statements. These forward-looking statements reflect our current expectations; however, such statements involve risks and uncertainties. Actual results could differ materially from current expectations. These forward-looking statements represent our expectations only as of the date of this report, and NYPA assumes no duty to update them to reflect new information, events or circumstances. Some of the factors that could cause actual results to differ materially are discussed in NYPA's Financial Report for the year ended December 31, 2021 and other reports filed with New York State, available [here](#). These documents also provide additional information on historical and other factual data contained in this report.

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NYPA.GOV | CANALS.NY.GOV

Back Cover

View of NYPA's St. Lawrence-FDR Power Project including Frank S. McCullough, Jr., Visitors Center and Boat Launch at Hawkins Point, foreground; part of Robert Moses Power Dam, right, and Switchyard, left, Massena.