









**NEW YORK POWER AUTHORITY  
2022 GREEN BOND REPORT**

Series 2020 A (Tax-Exempt)	Series 2022 A (Tax-Exempt)				
<p><b>Issue Date: May 12, 2020</b></p> <p><b>Par Amount: \$1.1 Billion</b></p> <p><b>Green Bonds: \$791.6 Million</b></p> <p><b>Green Bonds Final Maturity: 2060</b></p>	<p><b>Issue Date: April 5, 2020</b></p> <p><b>Par Amount: \$608.3 Million</b></p> <p><b>Green Bonds: \$608.3 Million</b></p> <p><b>Green Bonds Final Maturity: 2061</b></p>				
<table border="1"> <thead> <tr> <th data-bbox="391 821 1013 873">Eligible Green Project Categories</th> <th data-bbox="1029 821 1203 873">UN SDG</th> </tr> </thead> <tbody> <tr> <td data-bbox="391 873 1013 1060">  <p><b>Renewable Energy and Energy Efficiency</b></p> </td> <td data-bbox="1029 873 1203 1060">  </td> </tr> </tbody> </table>		Eligible Green Project Categories	UN SDG	 <p><b>Renewable Energy and Energy Efficiency</b></p>	
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**Organizational Overview**

The mission of the Power Authority of the State of New York (“NYPA” or the “Authority”) is 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.” The mission statement adheres to maintaining NYPA’s core operating businesses while also moving to support the energy goals of New York State, codified in the Clean Energy Standard, New York State Climate Leadership and Community Protection Act (“CLCPA”), our enhanced authority under the Power Authority Act as a result of the changes enacted in 2019, and the Accelerated Renewable Energy Growth and Community Benefit Act.

NYPA is the largest state electric utility in the country, operating 16 generating facilities and more than 1,460 circuit miles of transmission lines. Power generation is at the heart of NYPA’s mission and at the core of our business. We produce approximately 70% of New York State’s renewable electricity and 25% of the state’s total electricity. In 2022, 85% of NYPA’s power generation came from clean, renewable hydro- power. Our clean generation sources help make New York a national energy leader. We provide customers with the lowest-cost electricity in New York State, without NYPA receiving any



tax money or state credit. Our customers include large and small businesses, not-for-profit organizations, community-owned electric systems, rural electric cooperatives, and government entities. Our customers provide jobs, education, healthcare, and important services to the citizens of New York.

## **Summary of Green Bond Framework**

NYPA’s Green Bond Framework (the “Framework”) was developed in 2020. It sets out guidelines for NYPA’s Green Bond issuances in accordance with the 2018 International Capital Markets Association (“ICMA”) Green Bond Principles:

1. Use of Proceeds
2. Process for Project Evaluation and Selection
3. Management of Proceeds
4. Reporting

In planning a major debt issuance to fund its Capital Budget, NYPA developed the Framework under which it would issue Green Bonds and use the proceeds to finance and/or refinance, in whole or in part, existing and/or future projects that refurbish, upgrade, and modernize its power transmission system. The Framework defines eligible projects in the area of electric transmission infrastructure.

Consistent with our Green Bond Framework, we committed to publishing an annual use of proceeds report highlighting allocation of proceeds, and project examples. This third Green Bond Report follows the publication our second annual report in April 2021.

Sustainalytics, an independent provider of sustainability research to institutional investors, issued the second-party opinion on the Framework and its alignment with the Green Bond Principles. Sustainalytics has also reviewed this report and confirmed its alignment with ICMA’s Green Bond Principles. The second Green Bond Report provides details on allocation of proceeds, and examples of projects we have invested in.

## **2020 Allocation of Bond Proceeds**

In May 2020, NYPA issued \$1.2 billion in Revenue Bonds, including \$1.1 billion of Series 2020 A Tax-Exempt Bonds and \$114 million Series 2020 B Taxable Bonds. The Authority designated \$791.5 million from Series 2020 A Bonds maturing on November 15, 2025, November 15, 2055, and November 15, 2060, and bearing interest at a rate of 4% as Green Bonds due to the environmental benefits of the projects financed with the portion of the Series 2020 A Bonds. Standard & Poor’s Rating Services (“S&P”) and Fitch Ratings (“Fitch”) assigned a rating of AA to the Series 2020 A Tax-Exempt Bonds and



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Series 2020 B Taxable Bonds. Moody’s Investors Service (“Moody’s”) assigned a rating a Aa2 to the Series 2020 A Tax-Exempt bonds and Series 2020 B Taxable Bonds.

This historic Green Bond financing, selected as Bond Buyer’s Northeast Region Deal of the Year, represented the largest Green Bond transaction for any public power utility at the time and NYPA’s inaugural certified Green Bond issuance with an independent second party opinion.

### **Eligible Projects**

Environmentally beneficial, long-term transmission upgrade and modernization projects currently underway through the State include improvements that will directly assist in meeting the objects of the New York State Climate Leadership and Community Protection Act Chapter 106, as well as their critical importance to ensuring the overall resiliency and flexibility of the NYISO electric grid by optimizing the use of innovative, eco-friendly technologies that contribute to the economic development of the region.

The Authority’s internal process in evaluating and selecting projects was based on the four-year Capital Plan detailed in its 2020 Capital Budget. NYPA’s Treasury team selected specific projects from the Plan that are specified within the Framework and that would make the largest impact on advancing its sustainability goals. The majority of the projects financed by NYPA’s 2020 Series A Green Bonds are fully or predominantly dedicated to transmitting hydroelectric power, such as transmission line upgrades or improvements to switching facilities. Additionally, one project relates to the installation of advanced monitoring and “smart” sensing equipment. Such transmission assets dedicated to renewable energy and smart grid investments to improve resiliency and efficiency are designated to be eligible green projects without further qualification. Specifically, NYPA defined the following projects to be the focus of investment of the Series 2020 A Green Bonds proceeds:

### **2020 Series A & B Green Bond Project Descriptions**

- 1 A life extension and modernization (LEM) project at the Niagara Switchyard to replace Bays 10, 14, 16, 20, 21, 22 and 25 Breakers, MOD’s, Manual Disconnects, HVIT’s, Tubular Bus Aerial Cable and Autotransformer No. 1. The switchyard and majority of its installed equipment including autotransformers, oil-filled circuit breakers, disconnect switches, potheads, and other related equipment were installed in the early 1960’s and are becoming increasingly prone to failures, challenging to maintain and environmental risks.



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- 2 Part of NYPA's Smart Generation & Transmission (Smart G&T) Strategic Initiative, focus is on the installation of smart sensors to improve the transmission grid by continuously monitoring assets. Sensors are planned to be installed on transformers, breakers, battery banks, exciters, reactors, regulators, cables, and capacitors, for increased reliability and enhanced decision-making.
- 3 A project to perform life extension and modernization (LEM) actions at the Plattsburgh, Sarana and Willis substations in northern NY. This program is a multiyear project aimed at maintaining availability, increasing reliability and ensuring regulatory compliance. This project will replace the substations' circuit breakers, disconnect switches, instrument transformers, station service equipment, relaying and provide an updated control rooms.
- 4 The STL Robert Moses Breaker and Relay Replacement Program is a multiyear program with the goal of selectively upgrading components of NYPA's existing transmission system. The switchyard 115kV busses support Alcoa (MAL4, 5, 6), Alcoa East (MAE1,2; previously MRG 1,2), Med Grasse River (MED4, 5), and Reynolds (MAE3, previously MR3) transmission line operations. The 230kV busses support Massena (MMS1, 2), Ontario Hydro's St. Lawrence Transformer Station (L33P, L34P), (MA1, 2) and Willis (MW1, 2) transmission line operations. To ensure continued reliability and regulatory compliance the following equipment is scheduled to be replaced: Bay 1500 & 1400 Breakers and Relays and Capacitor Bank Installation. Transmission Life Extension and Modernization (T-LEM) is a multiyear program that will upgrade NYPA's existing transmission system to maintain availability, increase reliability, and ensure regulatory compliance. The project at Massena Substation includes the replacement or upgrade of 765kV SF6 Breakers, CCVTs, VTs along with 13.8kV switchgear, station service equipment and insulators and all pieces of equipment that have reached their end of life, require excessive costs to maintain and pose reliability threats to the system.
- 5 PV-20 is a single circuit 115kV transmission line running from Plattsburgh substation to Cumberland Head substation. It is approximately 7.5 miles long. The submarine cable portion consists of four (4) original 500 kcmil cables installed in 1958 (one spare), and three (3) additional 1000 kcmil cables installed in 1970.
- 6 The Marcy Switchyard (located at Clark Energy Center) Life Extension and Modernization Program is a multiyear program with the goal of selectively upgrading components of NYPA's existing transmission system. The Clark Energy Center 765 kV busses support Massena (MSU1) and auto transformers 1, 2 and spare 1-2X which in turn service the Marcy 345 kV yard. The Clark Energy Center 345 kV yard supports the Marcy FACT system, and Coopers Corner (UCC2-41 and New Scotland



(UNS-18) transmission line operations. The Marcy 345 kV Switchyard has been in service over 30 years and a majority of the original equipment is still in service. The following equipment will be replaced as part of the Marcy Switchyard LEM Program to ensure continued reliability and regulatory compliance: 765kV Breakers 7402, 7414, & 7302 and 345kV Circuit Breakers 3308 & 3302.

### **Replacement Projects Overview**

In April 2022, the Authority issued \$608 million Green Transmission Project Revenue Bonds, Series 2022 A in adherence to the Framework, as a Separately Financed Project (“SFP”). The Authority determined that the MA1 and MA2 and Marcy to New Scotland projects, which were originally included as part of the Series 2020A bond financing, were instead selected for inclusion as part the Series 2022 A SFP financing because of their ability to be backed solely by SPF project revenues, allowing NYPA to account for and finance these transmission investments separately from its General Bond Resolution. Therefore, the Authority replaced these projects with the following green projects that were reviewed and approved by Sustainalytics in the 2021 Green Bond Report:

- 1 The Y-49 Life Extension and Modernization project is a prospective capital improvement, refurbishment and repairs to the facilities associated with the Y-49 circuit. Work scope includes HPFF Cable re-conductoring of the Nassau segment of the circuit (Conductor size to 3000kcmil, addition of 9 manholes), GIS refurbishment of East Garden City and South Transition Station, refurbishment of HPFF and SCFF Pump houses, upgrade of existing Leak Detection System\UPRATE Dynamic Rating System, repair\replacement of Primary and Secondary relay communications fiber bundles, East Garden City shunt reactor replacement, completion of electromechanical to microprocessor protection upgrade and installation of a protective enclosure above East Garden City and South Transition Station GIS.
- 2 The L33P and L34P Phase Shifter project is the jointly funded engineering, purchase, and installation of a new Phase-shifter with integrated voltage regulator associated with the L33P and L34P 230 kV transmission lines. The L33P & L34P Overhead Re-Conductoring, also a partnership with HydroOne (Ontario Canada Transmission Owner and Interconnect with NY), will re-conductor the L33P (Energized 09/20/58) and L34P and overhead ground wire associated with Project 2155 for the replacement of the respective Phase Shifters.



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- 3 Fraser SVC Control and Relay Upgrade: The Fraser SVC Control system needs to be upgraded to a Mach 3.0 and the relay protection schemes need to be upgraded to current technology relays. The cooling skid also needs upgrading to current standards. The new system will be NERC/CIP compliant.
- 4 The Plattsburgh AT 1 Replacement is for Auto #1 replacement that failed. To date, an internal inspection has been performed revealing the magnitude of the damage that occurred internal to the transformer during the failure.
- 5 TLEM Tower Coating Upgrades WNY & CNY upgrades the coating systems on the electrical towers system-wide to protect the galvanized steel surfaces from corrosion. For the Niagara region (WNY), a yearly maintenance program has been established to systematically repaint/recoat the roughly 3,200 towers spanning circuits UCC2-41, EF24-40, EF/UCC, CE-1, CE-2, PC-1, PC-2, RP-1, RP-2, NR,-2, SR-1, NS-1 and PA-27.
- 6 The TLEM Tower Coating Upgrades CNY is a project for the STL Region Tower Painting and will provide for a yearly maintenance program of systematic repainting/recoating of the towers of circuits EF/UCC, GF-5, UCC2-41, CCRT34-42 and RFK-305. The program will be supported by yearly flyover and O&M inspections and involves 663 towers in the Marcy South Region.
- 7 RMPD AT 2 Replacement is due to RMPD Auto #2 failure. During a 13.8KV fault, Auto #2 took a significant amount of damage internally as well as to the bushings while in the process of feeding fault current. RMPD AT1 Replacement project are the replacement and associated station upgrades surrounding the replacement of Moses Autotransformer 1.
- 8 Power/Control Tunnel Water Mitigation will remediate and prevent further sitewide water infiltration into the control and power tunnels, which would increase the rate of deterioration, aging, corrosion, and risk of failure with extended unplanned outages.





**Management of Proceeds**

Upon receipt of the Series 2020 A Green Bond proceeds, NYPA transferred approximately \$353 million into the Operating Fund to reimburse expenditures for the identified green projects that occurred from June 2017 to May 11, 2020.

The Authority deposited the remaining proceeds of its Green Bonds into separate accounts, and continues to manage the allocation process using its existing internal tracking system until proceeds are allocated to the spending requirements identified.

**Use of 2020 Series A Green Bond Proceeds, 2022 Spend**

<b>Project Name</b>	<b>Actual Spend Jan - Dec 2022</b>
Transmission LEM (NIA)	19,247,922.41
Sensor Deployment (Transmission)	6,014,283.81
TLEM - STL Remote Substations	5,164,354.78
Breaker & Relay Replacement (STL)	5,482,432.94
Transmission LEM (CEC)	246,462.59
Transmission (Massena)	8,755,552.12
Communications Backbone	24,151,773.26
Transmission Power Flow Control	162,322.53
Protective Relay Replacement	2,297,665.36
North Country Zone D Energy Storage	10,987,668.33
765kV MOD Replacement (CEC)	1,161,057.06
230 kV Structure Replacement Phase II	583,579.78
Y-49 LEM	32,179,687.54
L33P & L34P Phase Shifter	6,343,978.03
Fraser SVC Control and Relay Upgrade	4,698,949.34
Replacement of Plattsburg Auto #1	4,364,918.81
TLEM Tower Coating Upgrades WNY	4,313,446.23
RMPD AUTO #2	4,002,784.19
RMPD AT1 Replacement	3,842,918.52
TLEM Tower Coating Upgrades CNY	10,615.15
Power/Control Tunnel Water Mitigation	432,330.31
L33P & L34P Overhead Re-Conductoring	1,017.15
<b>2022 Grand Total</b>	<b>\$144,445,720.24</b>



## **2022 Series A Green Bond Issuance**

In April 2022, NYPA issued \$608 million in tax-exempt Green Transmission Project Revenue Bonds, Series 2022 A. The bonds were issued for the purpose of financing certain transmission projects (the "2022 A SFP Transmission Projects") identified under the Authority's General Resolution Authorizing Transmission Project Revenue Obligations, adopted December 7, 2021.

The financing of the Series 2022 A SFP Transmission Projects was undertaken by the Authority as a Separately Financed Project as permitted under the Authority's General Resolution Authorizing Revenue Obligations, dated February 24, 1998, as amended and supplemented (the "General Resolution").

## **2022 Series A Green Bond Projects Overview**

The "Smartpath" MA1 and MA2 and "Central East Energy Connect" Marcy to New Scotland projects, which are described below and were initially included in the Series 2020 A Revenue Bond issuance, were instead selected for inclusion in the SFP financing because of their ability to be backed solely by project revenues, allowing NYPA to account for and finance these transmission investments separately from its General Bond Resolution.

- 1 The Smart Path Project to extend the file of the Moses-Adirondack lines (MA-1 and MA-2) by rebuilding the lines at 345 kV on double-circuit steel monopoles with 1033 ACSR conductor. These lines were built by the Department of Defense in 1942 to transmit power from hydro generating facilities at Taylorville on the Beaver River just north of the Adirondack Substation to Alcoa in Massena. In the early 1950s, the Authority purchased the two 115kv lines and later upgraded the lines to 230kV during the construction of the St. Lawrence – F.D.R. Power Project in the late 1950s. The lines were also extended from Alcoa to Barnhart Island (North Extension) and from Taylorville to the new Adirondack Substation (South Extension).





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- 2 Central East Energy Connect, a new 345kV double circuit line ~86mi from existing Edic (E) to existing New Scotland (NS) station -2 new 345 kV lines ~5 miles single-circuit looping the existing 345 kV E to NS #14 line to new Rotterdam (R) 345kV station. R 230kV station to be retired - 2 new 345/115 kV transformers connecting R 115kV yard to the new 345kV yard -rebuild ~6 miles of the R to NS 345 kV Tline to -Remove R to NS 115kV Tline -New Princetown 345kV yard -Terminal upgrades E and Marcy -Decom. Porter and R 230kV lines.

**Management of Proceeds**

Upon receipt of the Series 2022 A Green Bond proceeds, NYPA transferred approximately \$95 million into the General Resolution Operating Fund to reimburse expenditures for the identified green projects that occurred from May 2019 to April 2020.

The Authority deposited the remaining proceeds of its Series 2020 A Green Bonds into separate accounts and continues to manage the allocation process using its existing internal tracking system until proceeds are allocated to the spending requirements identified.

Pending allocation, proceeds are held in liquid instruments including cash, money market funds and/or government securities as permitted by the company’s investment policy.

**Use of 2022 Series A SFP Green Bond Proceeds, 2022 Spend**

<b>Series 2022A SFP Total Spend</b>	
<b>Project Name</b>	<b>Actual Spend (Jan-Dec 2022)</b>
Smart Path	115,560,390.85
Central East Energy Connect	90,769,314.02
<b>Totals</b>	<b>\$ 206,329,704.87</b>



## **Governance**

For the duration of all NYPA’s Green Bonds issuance programs, NYPA will monitor and track (i) use of proceeds (project type, capacity and location) for each Green Bond issued, (ii) allocated and outstanding amounts and contractual maturity dates and (iii) that the use of proceeds of the Green Bonds are in alignment with NYPA’s Green Bond Framework.

## **Reporting**

In accordance with our Green Bond Framework, this report is being posted to the Electronic Municipal Market Access (EMMA) website of the Municipal Securities Rulemaking Board, accessible at [www.emma.msrb.org](http://www.emma.msrb.org) along with other of the Authority's fiscal year ending December 31, 2022 filings. Fiscal year-end filings include the Authority's Audited Financial Statements. These are published annually and available on NYPA’s website ([www.nypa.gov](http://www.nypa.gov)).

The Authority received a second-party Opinion (from Sustainalytics) on its bond issuance in May 2020 and a second party Assurance Letter, also from Sustainalytics, on its assertion of the use of funds and adherence to the Framework, in April 2021. The Authority expects a second party Assurance Letter on its assertion of the use of funds in calendar year 2022 and adherence to The Framework, in April 2023.

The Authority received a pre-issuance second-party Opinion from Sustainalytics on its bond issuance in May 2022 and a second party Assurance Letter, also from Sustainalytics, on its assertion of the use of funds and adherence to the Framework, in April 2022. The Authority expects a second party Assurance Letter on its assertion of the use of funds in calendar year 2022 and adherence to the Framework, in April 2023.

New York Power Authority shall continue to disclose allocation and impact information such as allocated amounts, project location, and project capacity, as well as broader reporting about its alignment to State environmental objectives. Reporting is considered to be one of the core components of the green bond market and NYPA prioritizes these actions.