

New York Power Authority

Type of Engagement: Annual Review

Date: 23 April 2024

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Introduction

The Power Authority of the State of New York Power Authority (NYPA) issued green bonds in 2020, 2022 and 2023 (the “Green Bonds”) aimed at financing transmission infrastructure to support the integration of renewable energy into its electricity grid. In March 2024, NYPA engaged Sustainalytics to review the projects financed with proceeds from the Green Bonds (the “Nominated Projects”) and provide an assessment as to whether the projects meet the use of proceeds criteria and the reporting commitments outlined in the New York Power Authority Green Bond Framework.¹ Sustainalytics provided a Second-Party Opinion on the Framework in May 2020.² This is Sustainalytics’ fourth annual review of allocation and reporting of the instruments issued under the Framework, following a previous review in April 2021,³ April 2022⁴ and July 2023.

Evaluation Criteria

Sustainalytics evaluated the Nominated Projects based on whether they:

1. Meet the use of proceeds and eligibility criteria defined in the Framework; and
2. Reported on at least one key performance indicator (KPI) for each use of proceeds category defined in the Framework.

Table 1: Use of Proceeds Categories, Eligibility Criteria and Associated KPIs

| Use of Proceeds Category | Eligibility Criteria ⁵ | Key Performance Indicators |
|--------------------------|--|--|
| Renewable Energy | Retrofitting and upgrading energy transmission infrastructure to support the integration of low carbon energy sources. | Project type, capacity and location of the projects financed |
| Energy Efficiency | Installation of “smart sensors” to improve the transmission grid. | |

Issuer’s Responsibility

NYPA is responsible for providing accurate information and documentation relating to the details of the funded projects, including descriptions of projects, amounts allocated and project impact.

¹ NYPA, “New York Power Authority Green Bond Framework”, (2020) at: <https://nypa.gov/-/media/nypa/documents/document-library/financials/nypagreen-bond-framework.pdf?la=en>

² Sustainalytics, “New York Power Authority Green Bond Framework Second-Party Opinion”, (2020), at: https://mstar-sustops-cdn-mainwebsite-s3.s3.amazonaws.com/docs/default-source/spos/nypa-green-bond-framework-second-party-opinion.pdf?sfvrsn=c939eaf7_3

³ Sustainalytics, “New York Power Authority Annual Review”, (2021), at: [https://www.sustainalytics.com/corporate-solutions/sustainable-finance-andlending/published-projects/project/new-york-power-authority/new-york-power-authority-green-bond-annual-review-\(2021\)/new-york-power-authoritygreen-bond-annual-review-\(2021\)](https://www.sustainalytics.com/corporate-solutions/sustainable-finance-andlending/published-projects/project/new-york-power-authority/new-york-power-authority-green-bond-annual-review-(2021)/new-york-power-authoritygreen-bond-annual-review-(2021))

⁴ Sustainalytics, “New York Power Authority Annual Review”, (2022), at: [https://www.sustainalytics.com/corporate-solutions/sustainable-finance-andlending/published-projects/project/new-york-power-authority/new-york-power-authority-green-bond-annual-review-\(2022\)/new-york-power-authoritygreen-bond-annual-review-\(2022\)](https://www.sustainalytics.com/corporate-solutions/sustainable-finance-andlending/published-projects/project/new-york-power-authority/new-york-power-authority-green-bond-annual-review-(2022)/new-york-power-authoritygreen-bond-annual-review-(2022))

⁵ Sustainalytics notes the eligibility criteria noted above is a summary of the criteria noted in the Framework in tandem with the investment criteria confirmed by the issuer in Sustainalytics’ SPO published in 2020.

Independence and Quality Control

Sustainalytics, a leading provider of ESG research and ratings, conducted the verification of the use of proceeds from NYPA's Green Bonds. The work undertaken as part of this engagement included collection of documentation from NYPA and review of said documentation to assess conformance with the New York Power Authority Green Bond Framework.

Sustainalytics relied on the information and the facts presented by NYPA. Sustainalytics is not responsible nor shall it be held liable for any inaccuracies in the opinions, findings or conclusions herein due to incorrect or incomplete data provided by NYPA.

Sustainalytics made all efforts to ensure the highest quality and rigor during its assessment process and enlisted its Sustainability Bonds Review Committee to provide oversight of the review.

Conclusion

Based on the limited assurance procedures conducted,⁶ nothing has come to Sustainalytics' attention that causes us to believe that, in all material respects, the reviewed projects do not conform with the use of proceeds criteria and reporting commitments in the New York Power Authority Green Bond Framework.

Detailed Findings

Table 2: Detailed Findings

| Framework Requirements | Procedure Performed | Factual Findings | Error or Exceptions Identified |
|--------------------------|---|--|--------------------------------|
| Use of Proceeds Criteria | Verification of projects to determine alignment with the use of proceeds criteria outlined in the Framework. | All projects reviewed complied with the use of proceeds criteria. | None |
| Reporting Criteria | Verification of projects to determine if impact was reported in line with the KPIs outlined in the Framework. | All projects reviewed reported on at least one KPI per use of proceeds category. | None |

⁶ Sustainalytics' limited assurance process includes reviewing documentation relating to details of projects, as provided by the issuing entity, which is responsible for providing accurate information. These may include descriptions of projects, estimated and realized costs, and reported impact. Sustainalytics has not conducted on-site visits to projects.

Appendices

Appendix 1: Allocation and Reported Impact

NYPA raised USD 791.5 million in green bond through the Series 2020 A and B bond issuance in May 2020; USD 608.3 million through the Series 2022 A issuance in April 2022; and USD 734.2 million through the Series 2023 A issuance in November 2023. Table 3 details the updated green bond allocation figures for the Series 2020 A and B issuance, Table 4 details the allocation figures for the Series 2022 A issuance, and Table 5 details the green bond allocation figures for the Series 2023 A issuance; for allocations made between January 2023 and December 2023.

Table 3: Allocation and Reported Impact in 2023 (January to December) from 2020 Series A and B proceeds

| Project Name | Project Description | Net Proceeds Allocation (USD) |
|--------------------------------------|---|-------------------------------|
| Fraser SVC Control and Relay Upgrade | 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 and CIP compliant. | (1,579,815.88) ⁷ |
| Y49 Nassau Seg. Reconductoring | The Y-49 Life Extension and Modernization project is a prospective capital improvement and refurbishment with repairs to the facilities associated with the Y-49 circuit. Work scope includes HPFF cable reconductoring of the Nassau segment of the circuit (conductor size to 3000kcmil, addition of nine manholes), GIS refurbishment of East Garden City and South Transition Station, refurbishment of HPFF and SCFF pump houses, upgrade of the existing leak detection system and UPRATE Dynamic Rating System, repair or replacement of primary and secondary relay communications fibre 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 | 37,622,440.59 |
| Sensor Deployment (Transmission) | Part of the 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 | 3,519,324.13 |

⁷ NYPA has communicated to Sustainalytics that the proceeds allocated to the Fraser SVC Control and Relay Upgrade project have been reallocated to other projects, maintaining 100% allocation of the 2020 green bond proceeds to eligible projects, as of 31 December 2023.

| | | |
|---------------------------------|--|---------------|
| Transmission LEM (CEC) | The Marcy Switchyard (located at Clark Energy Center) Life Extension and Modernization Program is a multiyear programme with the goal of selectively upgrading components of the 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 and 7302 and 345kV circuit breakers 3308 and 3302. | 315,394.19 |
| TLEM: STL Remote Substations | A project to perform life extension and modernization (LEM) actions at the Plattsburgh, Sarana and Willis substations in northern New York state. 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 room. | 2,196,426.42 |
| TLEM Tower Coating Upgrades CNY | The TLEM Tower Coating Upgrades CNY is a project for the STL Region Tower Painting and will provide for a yearly maintenance programme of systematic repainting and recoating of the towers of circuits EF and UCC, GF-5, UCC2-41, CCRT34-42 and RFK-305. The programme will be supported by yearly flyover and O&M inspections and involves 663 towers in the Marcy South Region. | 6,983.94 |
| Transmission LEM (NIA) | 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. | 22,994,911.05 |
| TLEM Tower Coating Upgrades WNY | TLEM Tower Coating Upgrades WNY upgrades the coating systems on the electrical towers system-wide to protect the galvanized steel surfaces from corrosion. | 3,744,368.81 |

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|---------------------------------------|---|--------------|
| | For the Niagara region (WNY), a yearly maintenance programme has been established to systematically repaint and 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. | |
| Power/Control Tunnel Water Mitigation | 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. | 401.50 |
| L33P & L34P Overhead Re-Conductoring | 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. | 1,043.52 |
| Breaker & Relay Replacement (STL) | The STL Robert Moses Breaker and Relay Replacement Program is a multiyear programme with the goal of the 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 and 1400 breakers and relays and capacitor bank installation. Transmission Life Extension and Modernization (T-LEM) is a multiyear programme that will upgrade the NYPA's existing transmission system to maintain availability, increase reliability, and ensure regulatory compliance. The project at the 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. | 4,831,657.32 |
| RMPD AUTO #2 | RMPD AT 2 Replacement is due to RMPD Autotransformer No. 2 failure. During a 13.8KV fault, Autotransformer No. 2 took a significant amount of damage internally and to the bushings while in the process of feeding fault current. | 2,301,897.76 |

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| Replacement Of Plattsburg Auto #1 | The Plattsburgh AT 1 Replacement is for the Autotransformer No. 1 replacement that failed. To date, an internal inspection has been performed revealing the magnitude of the damage that occurred internally to the transformer during the failure. | 3,071,037.14 |
| L33P & L34P Phase Shifter | The L33P and L34P Phase Shifter project is the jointly funded engineering, purchase, and installation of a new phase-shifter with an integrated voltage regulator associated with the L33P and L34P 230 kV transmission lines. | 862,669.00 |
| RMPD AT1 Replacement | 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. | 1,531,930.14 |
| Total Allocation between January 2023 and December 2023 (USD) | | 81,420,669.63 |

Table 4: Allocation and Reported Impact in 2023 (January – December) from the 2022 Series A Green Bond Issuance

| Project Name | Project Description | Expenditure between January 2023 and December 2023 (USD) |
|-----------------------------|---|---|
| Smart Path | The Smart Path Project aims 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). | 27,093,009.42 |
| Central East Energy Connect | Central East Energy Connect, a new 345kV double circuit line approximately 86 miles from existing Edic (E) to existing New Scotland (NS) station -2 new 345 kV lines ~5 miles single circuit looping | 58,489,444.51 |

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|--|---|----------------------|
| | 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. | |
| Total Allocation between January 2023 and December 2023 (USD) | | 85,582,453.93 |

Table 5: Allocation and Reported Impact in 2023 (January – December) from the 2023 Series A Green Bond Issuance

| Project Name | Project Description | Expenditures between January 2023 and December 2023 (USD) |
|--|--|--|
| Smart Path | The Smart Path Project aims to extend the file of the MosesAdirondack 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). | 230,787,815.34 |
| Total Allocation between January 2023 and December 2023 (USD) | | 230,787,815.35 |

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