



**NY Power  
Authority**

**Canal  
Corporation**

**MINUTES OF THE JOINT MEETING  
OF THE FINANCE COMMITTEE  
November 19, 2019**

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Minutes of the joint meeting of the New York Power Authority and Canal Corporation's Finance Committee held at the Clarence D. Rappleyea Building, 123 Main Street, White Plains, New York at approximately 9:47 a.m.

**Members of the Finance Committee present were:**

Tracy B. McKibben - Chair  
John R. Koelmel  
Dennis Trainor

Michael Balboni - Excused

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**Also in attendance were:**

Eugene L. Nicandri	Vice Chairman - NYPA
Gil Quinones	President and Chief Executive Officer
Justin Driscoll	Executive Vice President and General Counsel
Adam Barsky	Executive Vice President and Chief Financial Officer
Joseph Kessler	Executive Vice President and Chief Operations Officer
Kristine Pizzo	Executive Vice President and Chief Human Resources & Administrative Officer
Sarah Salati	Executive Vice President and Chief Commercial Officer
Robert Piascik	Senior Vice President and Chief Information Officer
Lee Garza	Senior Vice President – Financial Operations
Yves Noel	Senior Vice President – Strategy and Corporate Development
Karen Delince	Vice President and Corporate Secretary
Daniella Piper	Vice President – Digital Transformation / Chief of Staff
Joseph Leary	Vice President – Community and Government Relations
Patricia Lombardi	Vice President – Project Manager
Doug McMahon	Vice President – Head of e-Mobility & Grid Flexibility
Anne Reasoner	Vice President – Budgets & Business Controls
Scott Tetenman	Vice President – Finance
Thakur Sundeep	Controller
Mary Cahill	Manager – Executive Office
Lorna Johnson	Senior Associate Corporate Secretary
Sheila Quatrocci	Associate Corporate Secretary
Michele Stockwell	Project Coordinator – Executive Office
Lori DeMichele	Board Travel Specialist

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Chairperson Tracy McKibben presided over the meeting. Corporate Secretary Delince kept the Minutes.

**Introduction**

*Chairperson Tracy McKibben welcomed committee members and the Authority's senior staff to the meeting. She said that the meeting had been duly noticed as required by the Open Meetings Law and called the meeting to order pursuant to Section B(4) of the Finance Committee Charter.*

1. **Adoption of the November 19, 2019 Proposed Meeting Agenda**

On motion made by member John Koelmel and seconded by member Dennis Trainor the agenda for the meeting was adopted.

2. **Motion to Conduct an Executive Session**

***I move that the Finance Committee conduct an executive session to discuss the financial and credit history of a particular corporation pursuant to §105f of the Public Officers Law.*** On motion made by member Dennis Trainor and seconded by member John Koelmel an Executive Session was held.

3. **Motion to Resume the Meeting in Open Session**

***I move to resume the meeting in Open Session.*** On motion made by member Dennis Trainor and seconded by member John Koelmel, the meeting resumed in Open Session.

Chairperson McKibben said no votes were taken during the Executive Session.

**4. CONSENT AGENDA**

On motion made by member John Koelmel and seconded by member Dennis Trainor, the Consent Agenda, which comprised the following meeting minutes, was unanimously approved.

- a. Approval of the Joint Regular Meeting Minutes held on May 21, 2019**
- b. Approval of the Joint Special Meeting Minutes held on July 16, 2019**
- c. Approval of the Joint Special Meeting Minutes held on September 25, 2019**



**5. DISCUSSION AGENDA:**

**a. Energy Efficiency & Customer-sited Renewables  
Business Line Operating Plan Update**

Ms. Sarah Salati provided an update on the Authority's Energy Efficiency & Customer-sited Renewables Business Line Operating Plan (Exhibit 5a-A).

**NYPA's Energy Efficiency Program**

In addition to the governor's policies for energy efficiency, NYPA has very strong goals for energy efficiency that have been set out by the Climate Leadership and Community Protection Act.

The Authority have authorized funding of more than \$3 billion to support the financing and implementation of energy efficiency projects over the last two decades. These energy efficiency projects support the Authority's customers in reducing energy consumption, which results in financial savings. Additionally, it supports the reduction in greenhouse gas emissions, one of the Authority's overarching policy goals.

The projects are funded by NYPA providing financing during the construction process. These funds are recoverable to NYPA. The customers can either pay back with a lump-sum payment for the financing of those projects or enter into long-term financing agreements. NYPA charges an administration or project management fee to cover the cost of the project and engineers that are overseeing a large portfolio of projects every year.

The Energy efficiency pipeline has grown substantially based on strong customer demands. The value of projects being implemented have increased over time, typically between \$300 and \$400 million of capital projects annually.

In order for NYPA to undertake these projects, authorization from the Board is required to dedicate funds towards these programs, the implementation of the energy efficiency projects, as well as approval for implementation or general contractors to implement the projects. Specifically, the contracts with NYPA's implementation or general contractors are about to expire; therefore, it is important for the Authority to have these contracts in place in order to move forward with the program.

**Program Funding Summary**

Since 2015, the last time the Trustees approved funding for these programs, and based on the expenditures and open Purchase Orders, the remaining authorization for these projects is \$830 million.

Based on the portfolio and the energy efficiency pipeline that has grown substantially, the five-year forecast for energy efficiency projects is about \$1.67 billion, in addition to the run rate that NYPA is expending for its projects annually.

To this end, staff will be requesting that the Finance Committee recommend the Board's approval of \$1.5 billion to be spent towards financing the forecasted spend needed to help meet customer demand for projects over the next five to seven years, as well as the increased policy goals and laws set out by the state.

**i. Energy Efficiency Program – Authorization to Expand Program Funding and Award Services Contracts to Support the Program**

The President and Chief Executive Officer submitted the following report:

**“SUMMARY**

The Trustees will be requested at their December 11, 2019 meeting to approve additional funding in the amount of \$1.5 billion, in aggregate, for both Governmental Customer Energy Efficiency Program ('GCEEP') and Statewide Energy Efficiency Program ('Statewide EEP') to support additional future energy efficiency projects for eligible program participants across New York State ('NYS'). The increased funding would be in addition to the \$2.73 billion and \$1.15 billion previously approved by the Trustees for the GCEEP and Statewide EEP, respectively. These funds will bring the GCEEP to \$3.48 billion and Statewide EEP to \$1.9 billion. For the avoidance of doubt, this is not a request for approval for additional financial funding. The Trustees previously approved a request for additional financial funding in support of the Authority's Customer Energy Efficiency Programs at their September 25, 2019 meeting.

The Trustees will also be requested to authorize the award of contracts (as described below) to nineteen firms to provide energy audit, design, engineering, procurement, construction management, installation, design build, and energy performance contracting services. The aggregate total for all nineteen contracts is \$1.5 billion. The term of each contract will be seven years. These nineteen contracts will be used to support both GCEEP and Statewide EEP, and funding of these contracts will be allocated from the aforementioned \$3.48 billion GCEEP and \$1.9 billion Statewide EEP. These funds will generally be recovered directly from program participants except for certain types of grants.

The Finance Committee is requested to recommend to the Trustees the approval of the additional funding in the amount of \$1.5 billion, in the aggregate, for both GCEEP and Statewide EEP. The Finance Committee is also requested to recommend to the Trustees the authorization of the nineteen (19) contract awards in the aggregate amount of \$1.5 billion for a term of seven years to the firms named in this report.

**BACKGROUND**

Section 2879 of the Public Authorities Law and the Authority's Guidelines for Procurement Contracts require the Trustee approval of procurement contracts involving services to be rendered for a period in excess of one year. In accordance with the Authority's Expenditure Authorization Procedures, the award of non-personnel services or equipment contracts in excess of \$3 million require the Trustee approval.

In June 2005, the Trustees approved initial funding of \$500 million under the GCEEP to support energy projects for the Authority's governmental customers located in New York City and Westchester County. Subsequent requests for funding were approved in an aggregate amount of \$2.23 billion to support projects under the GCEEP for a total of \$2.73 billion. In addition, in December 1997, the Trustees approved initial funding of \$30 million under the Statewide EEP to support energy projects for program participants throughout New York State, not including New York City and Westchester County governmental customers. Subsequent requests for funding were approved in an aggregate amount of \$1.12 billion to support projects under the Statewide EEP for a total of \$1.15 billion.

Both Governor Cuomo and the Mayor of the City of New York have identified reduced energy use, sustainability, and efficient operation of public facilities as one of the top priorities of their respective administrations. The Authority supports its customers statewide in meeting these goals and initiatives with the GCEEP and Statewide EEP.

## DISCUSSION

On May 4 and May 11 of 2018, the Authority held supplier days at the Authority's White Plains Office ('WPO') to provide details about the Lean Supply Chain Model program. As part of this program, the Authority engaged suppliers that provide an array of products and services that would support multiple business lines across the Authority. Qualified suppliers would be invited to participate in future request for proposals.

On May 11, 2018, the Authority advertised in the New York State *Contract Reporter* a Request for Qualification ('RFQ') (Q18-6448DK) soliciting company profile, qualifications, fiscal information, and references. A total of 167 suppliers expressed interest in the RFQ. On June 24, 2018, fifty-seven (57) suppliers submitted detailed responses.

A cross-departmental evaluation team was formed to evaluate the proposals. In December 2018, the Authority informed the 57 suppliers that they were deemed qualified to provide one or more services outlined in the RFQ and would be notified of future RFP's that aligned with the supplier's qualifications. Based on a combination of supplier capabilities and interests, the 57 suppliers from the RFQ were down-selected to 36 suppliers.

The Authority identified that there was a need to expand its supplier base to support the Energy Efficiency Program. The Energy Efficiency Program provides energy efficiency and renewable energy services to customers meeting the eligibility criteria under the Public Authorities Law, Section 1005. Energy efficiency services provided through the Energy Efficiency Program include investment grade audits ('IGA'), design, engineering, and installation services related to a wide variety of energy technologies and renewables.

On January 29, 2019, the Authority held a pre-bid conference at WPO to inform suppliers of the upcoming Request for Proposal ('RFP') seeking suppliers interested in providing an array of services in support of the Energy Efficiency Program statewide. Previously qualified firms attended the pre-bid conference. On February 4, 2019, the Authority issued an RFP (Q19-6616KS-I) to thirty-six (36) of the 57 previously qualified suppliers. Bidders had the options to provide proposals for a combination of services within regions in New York State. The services and regions are listed below:

### Services:

- ❑ Option A: Audit Services
- ❑ Option B: Retro-Commissioning Services
- ❑ Option C: Design/Engineering (Small to Medium Facilities)  
Design/Engineering (Large Facilities)  
Design/Engineering (Clean Water/Wastewater processes)
- ❑ Option D: Construction Management (Small to Medium Facilities)  
Construction Management (Large Facilities)  
Construction Management (Clean Waste / Water Water Projects)
- ❑ Option E: Construction Trade Management
- ❑ Option F: Turnkey (Small to Medium Facilities)  
Turnkey (Large Facilities)  
Turnkey (Clean Waste / Water Water Projects)

- ❑ Option G: Design Build/ ESPC Services
- ❑ Option H: Additional Services

Regions:

- ❑ Region 1 includes New York City
- ❑ Region 2 includes Westchester, Nassau, Suffolk, Rockland, Putnam, Dutchess, Orange, Sullivan, and Ulster Counties.
- ❑ Region 3 includes counties north of Region 2, east of Oswego, Onondaga, Cortland, and Broome Counties, excluding Oswego, Onondaga, Cortland and Broome Counties.
- ❑ Region 4 includes Oswego, Onondaga, Cortland and Broome Counties and all counties west of these four counties.

On February 20, 2019, a second bidders' conference was held at WPO to provide information regarding pricing structure. Nineteen (19) firms attended the second conference. Six (6) addendums were issued.

On March 21, 2019, twenty-three (23) of the 36 qualified firms submitted proposals for one or more of the aforementioned options. Of the remaining 13 firms, six (6) suppliers declined to bid, while seven (7) suppliers did not submit proposals.

Commercial evaluations of all bids were conducted by Strategic Supply Management to ensure the firms' financial viability and determine if any exceptions requested were acceptable. Minority/Women-owned Business Enterprises ('M/WBE') commitments for all suppliers are 15% each for regions 1 and 2, and 10% each for regions 3 and 4. Service-Disabled Veteran-Owned Business ('SDVOB') commitments for all suppliers are 6% for regions 1 and 2, and 3% for regions 3 and 4.

Based upon a thorough evaluation of the proposals, reference checks, and evaluation score, the Authority staff recommends the award of contracts to the following nineteen (19) bidders for a term of seven years: AECOM USA, Inc., Arcadis of New York, Barile Gallagher Associates Consulting Engineers, Bette & Cring, LLC, CDM Constructors Inc., Dynamic Mechanical Contractors, Inc., Energy Systems Group, The Fulcrum Group, Guth DeConzo Consulting Engineers, Imperia Engineering Partners LLC, John W. Danforth Company, LaBella Associates Inc., LIRO Engineers, Macan Deve Engineers, Noresco, LLC, O'Brien & Gere Engineers Inc., Pres Energy Services, Wendel Energy Services LLC, and Willdan Energy Solutions. Allocation of funding will be made based upon assigned work.

Throughout the evaluation process, multiple rounds of pricing negotiations were held with suppliers that allowed for a reduction in overall pricing by approximately six percent (6%).

FISCAL INFORMATION

The additional funding will be provided from the Authority's Operating Fund monies transferred from time to time to the Capital Fund and/or from the proceeds of the Authority's Commercial Paper Notes (as such terms are used in the Authority's General Resolution Authorizing Revenue Obligations dated February 24, 1998, as amended and supplemented ('Bond Resolution')) or other financing instruments, as deemed applicable. In addition, projects may be funded, in part, with monies from Petroleum Overcharge Restitution ('POCR') funds. Funding will be allocated as projects are assigned based on each firm's performance and workload, subject to the Approval Limits for Execution of Commitments in the Authority's Expenditure Authorization Procedures. All Authority costs, including Authority overheads and the costs of advancing funds, but excluding the POCR and certain types of grants, will be recovered.

RECOMMENDATION

It is requested that the Finance Committee recommend that the Trustees approve \$1.5 billion in additional funding for Governmental Customer Energy Efficiency Program ('GCEEP') and Statewide Energy Efficiency Program ('Statewide EEP'). It is also requested that the Finance Committee recommend that the Trustees approve nineteen (19) contract awards in the aggregate amount of \$1.5 billion for a term of seven years to the following firms; AECOM USA, Inc., Arcadis of New York, Barile Gallagher Associates Consulting Engineers, Bette & Cring, LLC, CDM Constructors Inc., Dynamic Mechanical Contractors, Inc., Energy Systems Group, The Fulcrum Group, Guth DeConzo Consulting Engineers, Imperia Engineering Partners LLC, John W. Danforth Company, LaBella Associates Inc., LIRO Engineers, Macan Deve Engineers, Noresco, LLC, O'Brien & Gere Engineers Inc., Pres Energy Services, Wendel Energy Services LLC, and Willdan Energy Solutions.

For the reasons stated, I recommend the approval of the above-requested action by adoption of the resolution below."

*Ms. Sarah Salati provided highlights of staff's recommendation to the Committee.*

On motion made by member John Koelmel and seconded by member Dennis Trainor, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

**RESOLVED, That the Finance Committee recommends that the Trustees authorize the President and Chief Executive Officer, the Chief Operating Officer, Chief Commercial Officer, the Senior Vice President – Clean Energy Solutions, the Vice President – Engineering & Construction Management, the Vice President – Business Development, and or such officer designated by the President and Chief Executive Officer to execute agreements and other documents between the Authority, the Governmental Customers Energy Efficiency Program ("GCEEP") and the Statewide Energy Efficiency Program ("Statewide EEP") participants and to execute agreements and other documents with contractors, such agreements having such terms and conditions as the executing officer may approve, subject to the approval of the form thereof by the Executive President and General Counsel, to facilitate the implementation of the GCEEP and Statewide EEP that the authorized funding level for each program be increased by \$750M respectively, as listed below:**

<b><u>Commercial Paper Program / Capital Fund / POOR</u></b>	<b><u>GCEEP Authorization</u></b>	<b><u>Statewide EEP Authorization</u></b>
<b>Previously Authorized</b>	<b>\$2.73 billion</b>	<b>\$1.15 billion</b>
<b>Additional Funding</b>	<b><u>\$750 million</u></b>	<b><u>\$750 million</u></b>
<b>Total Amount Authorized</b>	<b><u>\$3.48 billion</u></b>	<b><u>\$1.9 billion</u></b>

**AND BE IT FURTHER RESOLVED, That the Finance Committee recommends that the Trustees, in accordance with the Guidelines for Procurement Contracts adopted by the Authority and the Authority's Expenditure Authorization Procedures, authorize that an aggregate \$1.5 billion be allocated**

among the two programs, GCEEP and Statewide EEP, to perform services which include energy audits, design, engineering, procurement, construction management, installation, design build, and energy services performance contracting services:

<u>Commercial Paper Program/</u>	<u>Ceiling</u>	<u>Termination Date</u>
<u>Capital Fund/POCR</u>		
AECOM USA, Inc., Arcadis of New York, Barile Gallagher Associates Consulting Engineers, Bette & Cring, LLC, CDM Constructors Inc., Dynamic Mechanical Contractors, Inc., Energy Systems Group, The Fulcrum Group, Guth DeConzo Consulting Engineers, Imperia Engineering Partners LLC, John W. Danforth Company, LaBella Associates Inc., LIRO Engineers, Macan Deve Engineers, Noresco, LLC, O'Brien & Gere Engineers Inc., Pres Energy Services, Wendel Energy Services LLC, and Willdan Energy Solutions.	\$1.5 billion (Aggregate)	7-year term (on or about December 31, 2026)

**b. Utility Operations Capital Expenditure Authorization Requests:**

**i. Moses-Adirondack Smart Path Reliability Project  
Capital Expenditure Authorization Request and  
Update on Contract Awards for Construction Services**

The President and Chief Executive Officer submitted the following report:

**SUMMARY**

The Trustees will be requested at their December 11, 2019 meeting authorize capital expenditures in the amount of \$341.2 million to complete the Moses – Adirondack Smart Path Reliability Project ('Project').

The total estimated Project cost is \$483.8 million. From 2015 to 2018, the Trustees have previously approved capital expenditures in the amount of \$142.6 million for this Project.

The Finance Committee is requested to recommend to the Trustees the approval of the capital expenditures in the amount of \$341.2 million to complete the Project. The Finance Committee is also being provided an update on the Request for Proposals from qualified suppliers to provide services for the reconstruction of the lines.

**Background**

In accordance with the Authority's Capital Planning and Budgeting Procedures, capital expenditures in excess of \$6 million require the Trustees' approval.

The existing Moses-Adirondack 1&2 Lines ('MA 1&2 Lines') originate in the St. Lawrence Moses Substation in Massena, New York. From the Moses Substation, the lines generally traverse in a south and southwestern direction for approximately 86 miles, terminating in the Adirondack Substation in Croghan, New York. The MA 1&2 Lines are on double-circuit steel lattice structures for the first eight miles, and the remaining 78 miles are supported by single-circuit wooden H-frame structures. The two circuits were originally constructed by the United States Department of Defense in 1942 and acquired by the Authority in 1953. The portion of the lines supported by the wooden H-frame structures have reached the end of their useful life, require frequent maintenance, and are at risk for catastrophic failure.

The Project will replace the 78 miles of wooden transmission structures with new single-circuit monopole structures that can support 345kV transmission but will operate at 230kV until the full length of the transmission system is upgraded. The new structures will be located within the Authority's existing right-of-way. Construction will be sequenced to minimize outages on the MA 1&2 Lines and the 765kV Massena Substation – Utica Line ('765kV MSU Line'). Optical ground wire will also be installed along the entire transmission line over both circuits to facilitate the Authority's Communications Backbone Program.

The Project was originally presented to the Trustees in 2015 for approval and subsequent Project scope change in 2017. At their October 2, 2018 meeting, the Trustees authorized additional capital expenditures to continue obtaining environmental permits, licensing certificates, final engineering work, Environmental Management & Construction Plan ('EM & CP') construction support services, and material procurement for the Project. In addition, several contract awards have been authorized by the Trustees in 2018 and 2019.

The Article VII Certificate for the Project was submitted on April 5, 2018 and is expected to be issued by the New York State Public Service Commission mid-November. The EM & CP will be submitted shortly after receipt of the Article VII Certificate. After the EM & CP permit is issued it is anticipated that construction will begin in March 2020. The Project is estimated to be in-service mid-2023.

## DISCUSSION

### Funding Authorization

This Project will provide a statewide reliability benefit in support of the New York Independent System Operator's System Restoration Program ('Blackstart'), access to renewable integration and low-cost generation, as well as a reduction in costs to consumers due to maintenance and unexpected outages on the MA 1&2 Lines.

The Finance Committee is requested to recommend the Trustees' approval of the remaining expenditures for construction, material procurement, construction management support and Authority direct and indirect costs to continue the implementation of the Project. The procurement and contracting strategies were developed to mitigate risk and provide the most cost-effective solution to the Project. At this time, contracts and proposals have been issued or received for over 90% of the Project work. As contracts are finalized and permits are received, the Project team will work to remain within the \$483.8 million estimate.

The remaining expenditures are estimated as follows:

	Total Estimated (\$000)	Previously Authorized (\$000)	Current Request (\$000)	Balance to be Authorized (\$000)
Preliminary Engineering/Licensing	\$12,317.8	\$12,281.7	(\$281.7)	\$0
Engineering and Design	\$6,038.4	\$5,697.9	(\$1,896.9)	\$0
Procurement/Constructions	\$423,141.2	\$113,595.2	\$304,274.8	\$0
Authority Direct/Indirect	\$42,302.7	\$11,046.8	\$39,082.3	\$0
Total Authorization Requested	\$483,800.1	\$142,621.6	\$341,178.5	\$0

### Construction Contractor RFQ, RFP and Contract Awards

A Request for Qualifications ('RFQ'), No. Q18-6416MR, was issued on April 2, 2018 to solicit information from qualified companies, enabling the Authority to evaluate the capabilities and capacity of each company to support the Project. Results of the RFQ were six Qualified Suppliers, to which Requests for Proposals ('RFP') for specific Scopes-of-Work ('SOW') pertaining to the Project were issued.

As such, the Authority issued RFP No. Q18-6544MR, on September 29, 2018 to the six Qualified Suppliers, all of whom are listed to have viewed and responded to the Ariba event. The RFP requirements included, but not limited to, the bidder's plans to engineer and execute the civil, foundation and structure works; furnishing of all supervision, labor, materials and/or equipment; and perform all operations required for safe and environmentally compliant demolition, reconstruction and restoration of the Project.

In addition to standard requirements such as the bidder's safety performance, financial health, capabilities, capacity and experience, quality management plan, schedule, pricing and other requirements, the bidders were requested to propose value engineering solutions alternative designs and other solutions to optimize the demolition and construction of the Project and ultimately reduce the overall construction cost. Specific goals and requirements for Minority and Women-Owned Business Enterprises



('M/WBE'), Service-Disabled Veteran-Owned Small Businesses ('SDVOB') and Local Subcontracting were included.

On November 30, 2018, five bidders, EOF Transmission Line Constructors JV, J.W. Didado Electric, LLC, KHMA Moses to Adirondack, a Joint Venture, Michels Power, a Division of Michels Corporation, and PAR Electrical Contractors, Inc. submitted construction services proposals, including their proposed plans, resources and cost for support development of EM&CP.

On January 23, 2019, three personal services contracts were awarded, pursuant to the Authority's Expenditure Authorization Procedures, to support the Authority in the development of the Project's EM&CP to:

- Kiewit, Henkels & McCoy and Aldridge Joint Venture
- Michels Power, a Division of Michels Corporations
- PAR Electrical Contractors, Inc.

On August 13, 2019 a Post Bid Addendum to the aforementioned RFP was issued to the three pre-qualified vendors. Proposals were received on October 10, 2019 and are currently being evaluated by the Evaluation Committee. Approval for the contract award will be sought pursuant to the Authority's Expenditure Authorization Procedures, including the Trustees' approvals, as needed.

A Limited Notice to Proceed may also be issued in early January to support initial construction activities.

#### FISCAL INFORMATION

Payment associated with this Project will be made from the Authority's Capital Fund and will be recovered under the Authority's FERC approved formula rate. Amounts in excess may require approvals in accordance with the New York Independent Service Operator ('NYISO') tariff.

#### RECOMMENDATION

It is requested that the Finance Committee recommend that the Trustees authorize capital expenditures in the amount of \$341.2 million to complete the Moses-Adirondack Smart Path Reliability Project.

For the reasons stated, I recommend the approval of the above-requested action by adoption of the resolution below."

*Mr. Joseph Kessler provided highlights of staff's recommendation to the committee.*

On motion made by member Dennis Trainor and seconded by member John Koelmel, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

**RESOLVED, That the Finance Committee recommends that the Trustees, in accordance with the Authority's Capital Planning and Budgeting Procedures, approve capital expenditures in the amount of \$341,178,500 for continuation of the Moses-Adirondack Smart Path Reliability Project; and be it further**

**RESOLVED, That the Authority will use Capital Funds, which will include proceeds of debt issuances, to finance the capital costs of the Moses-Adirondack Smart Path Reliability Project:**

<u>Capital</u>	<u>Expenditure Authorization</u>
Moses-Adirondack Smart Path Reliability Project - Phase II	<u>\$341,178,500</u>

**ii. Smart Generation and Transmission Strategic Initiative –  
Communications Backbone Program – Phase III  
Capital Expenditure Authorization Request**

The President and Chief Executive Officer submitted the following report:

**“SUMMARY**

The Trustees will be requested at their December 11, 2019 meeting to approve capital expenditures in the amount of \$52.72 million for Phase III of the Communications Backbone Program (‘Program’). Phase III of the Program includes engineering, procurement, and construction services for final installation of fiber optic cables on existing transmission towers in Northern and Central NY, a redundant Microwave System in South Eastern NY, and a Microwave link connecting the Fitzpatrick Power Plant.

The total estimated Program cost is \$153 million. The Trustees approved \$19.78 million in March 2017 and \$77.5 million in October 2018. This request will release the final balance of the capital expenditures for the Program.

The Finance Committee is requested to recommend to the Trustees the approval of the capital expenditures in the amount of \$52.72 million for Phase III of the Program.

**BACKGROUND**

In accordance with the Authority’s Capital Planning and Budgeting Procedures, capital expenditures in excess of \$6 million require the Trustees’ approval.

The Program is a foundational element of the Authority’s Smart Generation & Transmission (‘Smart G&T’) Strategic Initiative. The goal of the Program is to establish a dedicated, redundant communications network that builds on the Authority’s existing infrastructure and is integrated into the long-term asset strategy while leveraging available infrastructure from independent dark-fiber service providers to reduce dependency on commercial telecommunication providers.

Once completed, the Authority will have a dedicated, robust, secure, and scalable communications network that supports:

1. Replacement of legacy point-to-point circuits that will inevitably need to be retired.
2. Increased data flow from a host of intelligent end-point devices deployed throughout the Authority’s generation and transmission assets.
3. Enabling capabilities of key components of the Strategic Vision including the Integrated Smart Operating Center (‘iSOC’) and the Emergency Energy Control Center.
4. Improved analytics to promote improved business and operational decisions.

The redundant network will leverage existing infrastructure and new installations including fiber Optical Ground Wire (‘OPGW’) and Optical Attached Cable (‘OPAC’), which will be installed on the Authority’s existing transmission towers. A new redundant Microwave system, similar to Northern NY, will be installed in South Eastern NY leveraging existing Authority infrastructure as well as tower leasing sites for optimum communication and stability.

## DISCUSSION

The total estimate for the Program remains at \$153 million, which was previously presented at the October 2018 Trustee meeting. The balance of the capital expenditures will be utilized to complete the following work:

1. Installation of OPGW on the following segments:
  - Moses – Willis – Plattsburgh
  - Utica to Cooper's Corner
2. Additional Microwave Systems installed at the following locations:
  - Richard M. Flynn Power Plant, Brentwood, Gowanus, Harlem River, Kent, Eugene W. Zeltmann Power Plant, Pouch, Sprain Brook and White Plains Office.
  - Fitzpatrick to Utica
3. Leasing sites, as needed, for redundancy and optimal communications between Authority sites

Capital expenditures in the amount of \$100,305,375 were previously approved for implementation of Phases I and II and planning for Phase III. Approval of this request will bring the total authorized to date, to \$153,030,162.

The Program cost for Phase III is broken down as follows:

Engineering Design	\$ 1,632,118
Material Procurement & Construction/Installation	\$ 46,297,509
Authority Direct and Indirect Expenses	<u>\$ 4,795,158</u>
<b>TOTAL</b>	<b>\$ 52,724,786</b>

At this time, the Program remains on budget and on schedule with Phase III anticipated for completion in 2021. A majority of the remaining work is outage-dependent, which may impact the schedule. The projected spending for Phase III is included in the Proposed Four-Year Budget and Financial Plan.

## FISCAL INFORMATION

Payment associated with this Project will be made from the Authority's Capital Fund and will be recovered under the Authority's FERC approved formula rate.

## RECOMMENDATION

It is requested that the Finance Committee recommend that the Trustees approve \$52.72 million for Phase III of the Communications Backbone Program.

For the reasons stated, I recommend the approval of the above-requested action by adoption of the resolution below."

*Mr. Joseph Kessler provided highlights of staff's recommendation to the committee.*

On motion made by member Dennis Trainor and seconded by member John Koelmel, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

**RESOLVED, That the Finance Committee recommends that the Trustees authorize capital expenditures in the amount of \$52.7 million for Phase III of the Communications Backbone Program in accordance with, and as recommended in, the foregoing memorandum of the President and Chief Executive Officer; and be it further**

**RESOLVED, That the Authority will use Capital Funds, which will include proceeds of debt issuances, to finance the capital costs of the Smart Generation & Transmission Initiative Communications Backbone Program – Phase III;**

<u>Capital</u>	<u>Expenditure Authorization</u>
Smart Generation & Transmission Initiative Communications Backbone Program - Phase III	<u>\$52,724,786</u>

**iii. Transmission Life Extension and Modernization Program –  
St. Lawrence Breaker and Relay Replacement Program – Phase 2  
Capital Expenditure Authorization Request**

The President and Chief Executive Officer submitted the following report:

**“SUMMARY**

The Trustees will be requested at their December 11, 2019 meeting to approve capital expenditures in the amount of \$44,234,000, for Phase 2 of the St. Lawrence Breaker and Relay Replacement Program ('Project').

The total estimated Project cost is \$110 million. Capital Expenditures for Phase 1, in the amount of \$65,766,000, were previously approved by the Trustees in December 2012. Approval of this request will release the final balance of the capital expenditures expected for the Program.

The Finance Committee is requested to recommend to the Trustees the approval of the capital expenditures in the amount of \$44,234,000 for Phase 2 of the Project.

**BACKGROUND**

The Transmission Life Extension and Modernization ('TLEM') is a multiyear program that will upgrade the Authority's existing transmission system to maintain availability, increase reliability, and ensure regulatory compliance. The TLEM Program encompasses transmission assets in the Central, Northern, and Western Regions and has been divided into several projects at an estimated cost of \$726 million.

This Project includes equipment upgrades at the St. Lawrence Robert Moses Switchyard. Based on field assessments, data analysis and the expected service life of similar equipment, circuit breakers and disconnect switches have reached the end of their useful life, have limited manufacturer support and are in need of replacement.

**DISCUSSION**

Phase 1, which was completed in 2016, included the replacement of thirty-one oil circuit breakers, protection cut over of fourteen power circuit breakers and the procurement of all protective relaying panels associated with the future replacement of the Substation Automation Monitoring and Control ('SAMAC') system.

This Phase 2 expenditure request includes the replacement of thirteen oil circuit breakers, cut over of nine gas-insulated power circuit breakers, and replacement of all the 230kV breakers and line disconnect switches.

The projected spending for Phase 2, which is anticipated to be completed in 2021, is included in the Proposed Four-Year Budget and Financial Plan.

The total cost for Phase 2 estimated at \$44,234,000, is as follows:

Engineering/Design	\$ 5,539,000
Procurement	\$ 5,243,000
Construction/Installation	\$ 26,794,000
Authority Direct and Indirect Expenses	<u>\$ 6,658,000</u>
<b>TOTAL</b>	<b>\$ 44,234,000</b>

#### FISCAL INFORMATION

Payment associated with this Project will be made from the Authority's Capital Fund and 100% of the cost will be recovered under the Authority's Annual Transmission Revenue Requirement.

#### RECOMMENDATION

It is requested that the Finance Committee recommend that the Trustees approve capital expenditures in the amount of \$44,234,000 for Phase 2 of the St. Lawrence Breaker and Relay Replacement Program.

For the reasons stated, I recommend the approval of the above-requested action by adoption of the resolution below."

*Mr. Joseph Kessler provided highlights of staff's recommendation to the committee.*

On motion made by member Dennis Trainor and seconded by member John Koelmel, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

**RESOLVED, That the Finance Committee recommends that the Trustees authorize capital expenditures in the amount of \$44,234,000 for Phase 2 of the St. Lawrence Breaker and Relay Replacement Program;**

**RESOLVED, That the Authority will use Capital Funds, which will include proceeds of debt issuances, to finance the costs of Phase 2 of the St. Lawrence Breaker and Relay Replacement Program;**

<u>Capital</u>	<u>Expenditure Authorization</u>
<b>St. Lawrence Breaker and Relay Replacement Program – Phase 2</b>	<b><u>\$44,234,000</u></b>

**iv. Smart Generation Strategic Initiative –  
Advanced Power Flow Control Project –  
Capital Expenditure Authorization Request**

The President and Chief Executive Officer submitted the following report:

**“SUMMARY**

The Trustees will be requested at their December 11, 2019 meeting to approve capital expenditures in the amount of \$11.5 million, for the implementation of the Advanced Power Flow Control Project ('Project'). Capital Expenditures in the amount of \$500,000 for preliminary engineering, was previously approved by the President and Chief Executive Officer in June 2018, bringing the total estimated Project cost to \$12.0 million.

The Finance Committee is requested to recommend to the Trustees the approval of the capital expenditures in the amount of \$11.5 million for the implementation of the Project.

**BACKGROUND**

In accordance with the Authority's Capital Planning and Budgeting Procedures, capital expenditures in excess of \$6 million require the Trustees' approval.

This Project aligns with the Smart Generation and Transmission Strategic Initiative to optimize transmission assets. The Project will include an advanced power flow control solution that can dynamically increase or decrease line reactance, similar functionality as a phase angle regulator. This installation will allow the Authority to enable real-time control power flow to 'push' power away from congested lines or 'pull' more power onto underutilized paths and unlock the excess capacity that exists on the grid. This technology will add benefits for Authority operations while also reducing the cost of energy for customers across the state and help drive a clean economy through the use of clean, renewable power from northern New York.

Initial studies have indicated that the greatest benefit can be realized from the deployment of a modular and scalable solution in the northern region of NY State.

**DISCUSSION**

Studies and planning have been underway since 2018. Staff performed market study analysis using GE-MAPS software to run more than thirty scenarios across multiple locations, voltage class, levels of compensation and timing. Study results determined that the NYPA Moses-Adirondack 1 & 2 lines yielded the best value, benefit and ease of execution for the Project. A NYISO System Impact Study ('SIS') (Interconnection Queue #760) was performed to evaluate the impact of the Project on the reliability of the New York State Transmission System. The SIS was performed in accordance with the requirements of the NYISO Open Access Transmission Tariff. Additionally, a line protection study was performed to ensure any system protection modifications are identified via steady-state modeling and hardware in the loop modeling at NYPA's Advanced Grid Innovation Lab for Energy ('AGILE'). Conceptual engineering design has been developed alongside the studies for time efficiencies.

Project execution is planned to occur over a three-year period, commencing in 2019, with the issuance and finalization of the Engineering, Procurement and Construction ('EPC') specifications, EPC bidding and contract award by Spring 2020 and with installation, testing, commissioning and project closeout completing in 2021.



FISCAL INFORMATION

Payment associated with this Project will be made from the Authority's Capital Fund and will be recovered under the Authority's FERC approved formula rate.

RECOMMENDATION

It is requested that the Finance Committee recommend that the Trustees approve \$11.5 million for implementation of the Advanced Power Flow Control Project.

For the reasons stated, I recommend the approval of the above-requested action by adoption of the resolution below."

*Mr. Joseph Kessler provided highlights of staff's recommendation to the committee.*

On motion made by member Dennis Trainor and seconded by member John Koelmel, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

**RESOLVED, That the Finance Committee recommends that the Trustees authorize capital expenditures in the amount of \$11.5 million for the Advanced Power Flow Control Project in accordance with, and as recommended in, the foregoing report of the President and Chief Executive Officer;**

**RESOLVED, That the Authority will use Capital Funds, which will include proceeds of debt issuances, to finance the costs of the Advanced Power Flow Control Project:**

<u>Capital</u>	<u>Expenditure Authorization</u>
Advanced Power Flow Control Project	<u><b>\$11,500,000</b></u>

**c. Informational: Update on Project/Program/Construction Management On-Call Services Contract Awards**

“Mr. Joseph Kessler, Chief Operations Officer, provided an Update on the Authority’s Project/Program/ Construction Management On-Call Services Contract Awards. He said that the Authority has On-Call retainer contracts to provide a pool of resources to support internal staff on an “as-needed” basis in order to supplement its internal engineering resources and capacity and improve its ability to deliver projects in a timely manner. The Authority has a strict evaluation process for services under these contracts. Some of the services to be rendered include program management, cost control, scheduling, estimating, document control and strategic supply chain management.

Examples of some of the projects that will use these contracts are:

- Moses-Adirondack Smart Path Reliability Project;
- Transmission Life Extension & Modernization;
- Next Generation Niagara (new capital project);
- Communications Backbone; and
- Sensor Deployment

**Evaluation Process and Next Step**

In June 2019, the Authority issued a Request for Proposal and received 25 proposals. These proposals were evaluated by a cross-functional evaluation committee. The committee considered cost; technical competence; Minority/Women-owned Business Enterprises (‘M/WBE’) and Service-Disabled Veteran-Owned Business (‘SDVOB’) participation; firm capacity and relevant experience either with NYPA or in the industry to ensure that the company have done similar types of work and understand the nature of the project.

Mr. Kessler ended by saying that at the Trustees’ December 2019 meeting value of contracts for a five-year period, in an aggregate amount of approximately \$100 million, will be presented to the Board for approval. These individual mini bids will be within the confines of the existing and/or the O&M Budget of each of those projects.”

**d. 2020 Budget and Filing of the 2020-2023 Budget and Four-Year Financial Plan Pursuant to Regulations of the Office of the State Comptroller**

The President and Chief Executive Officer submitted the following report:

**“SUMMARY**

The Trustees will be requested at their December 11, 2019 meeting to approve the 2020 Budget for the Authority, specifically including the expenditures for the (i) 2020 Operations and Maintenance ('O&M') Budget (attached as Exhibit '5d-A'), (ii) 2020 Capital Budget (attached as Exhibit '5d-B'), (iii) 2020 Energy Services Budget (attached as Exhibit '5d-C') and (iv) 2020 Canal Development Fund Budget (collectively, with Exhibits '5d-A', '5d-B', and '5d-C', the '2020 Power Authority Budgets').

The 2020 Power Authority Budgets set forth the expected expenses of the Authority and include the recommended expenditures in the following amounts:

<u>2020 Power Authority Budgets</u>	<u>(\$ million)</u>
O&M	\$ 610.0
Capital	\$ 607.2
Energy Services	\$ 257.2
Canal Development Fund	\$ 2.6

In accordance with regulations of the Office of the State Comptroller ('OSC'), the Trustees will also be requested at their December 11, 2019 meeting to approve the 2020-2023 Four-Year Budget and Financial Plan [attached as Exhibit '5d-D' (in the form approved, the 'Approved 2020-2023 Four-Year Budget and Financial Plan')] and authorize: (i) submitting the Approved 2020-2023 Four-Year Budget and Financial Plan to OSC, (ii) posting the Approved 2020-2023 Four-Year Budget and Financial Plan on the Authority's website, and (iii) making the Approved 2020-2023 Four-Year Budget and Financial Plan available for public inspection at not less than five convenient public places throughout New York State.

The Finance Committee is requested to recommend that the Trustees (1) approve the 2020-2023 Four-Year Budget and Financial Plan, and (2) authorize (i) submitting the Approved 2020-2023 Four-Year Budget and Financial Plan to the OSC in the prescribed format, (ii) posting the Approved 2020-2023 Four-Year Budget and Financial Plan on the Authority's website, and (iii) making the Approved 2020-2023 Four-Year Budget and Financial Plan available for public inspection at not less than five convenient public locations throughout New York State.

**BACKGROUND**

The Authority is committed to providing clean, low-cost and reliable energy consistent with its commitment to the environment and safety, while promoting economic development and job development, energy efficiency, renewables and innovation, for the benefit of the Authority's customers and all New Yorkers. The mission statement of the Authority is to power the economic growth and competitiveness of New York State by providing customers with low-cost, clean, reliable power and the innovative energy infrastructure and services they value.

The New York State Canal Corporation (the 'Canal Corporation') became a subsidiary of the Authority effective January 1, 2017. The 2020 Power Authority Budgets include the budget information of the Authority and the Canal Corporation. Assumptions that were used by staff to prepare the 2020 Power

Authority Budgets, and for forward periods, have been incorporated in the 2020-2023 Four-Year Budget and Financial Plan.

The 2020 Power Authority Budgets are intended to provide the Authority's operating facilities with, and support organizations by providing, the resources needed to meet the Authority's overall mission and the Authority's strategic objectives, and to fund the expenses of the Canal Corporation. Any transfers of funds from the Authority to the Canal Corporation would be subject to compliance with the Authority's General Resolution Authorizing Revenue Obligations, as amended and supplemented (the 'Revenue Bond Resolution'). Canal Development Fund expenses are expected to be reimbursed to the Authority by the State Comptroller with monies held in the New York State Canal System Development Fund as discussed in the attached Canal Corporation Budget report.

In approving the 2020 Power Authority Budgets, the Trustees will be authorizing spending for 2020 operations, spending for capital projects, and spending for general plant purchases of \$1.5 million or less. The requested headcount in the 2020 Power Authority Budgets will remain unchanged.

In accordance with the Authority's Expenditure Authorization Procedures, the President and Chief Executive Officer may, during the course of the year, authorize an additional 1.0% in the O&M Budget, up to 15 new positions, new capital projects of \$6.0 million or less, or an increase in spending of no more than \$6.0 million to a capital project previously approved by the Trustees. All other spending authorizations must be approved by the Trustees.

The OSC implemented regulations in March 2006 addressing the preparation of annual budgets and four-year financial plans by 'covered' public authorities, including the Authority. (See 2 NYCRR Part 203 ('Part 203')). These regulations, which are discussed below, establish various procedural and substantive requirements relating to the budgets and financial plans of public authorities. The 2020-2023 Four-Year Budget and Financial Plan has been prepared in accordance with these regulations.

## DISCUSSION

### 2020 Power Authority O&M Budget

The 2020 O&M Budget of \$519.0 million reflects a continued concentration on the effective operation and maintenance of the Authority's critical investments in New York State's electric infrastructure and the Canal Corporation in addition to the continued support of NYPA's strategic investments. The 2020 O&M Budget includes the Astoria Energy II lease payment of \$22.0 million which represents the contractual O&M costs for the plant, which was placed in commercial operation in New York City in July 2011. These costs are being recovered from the Authority's New York City governmental customers, who are beneficiaries of the outputs of these projects under a long-term contract with the Authority.

The 2020 O&M Budget for Operations provides \$271.1 million for baseline, or recurring work. In addition to the baseline work, scheduled maintenance outages at the Zeltmann Plant and the Small Clean Power Plants and Richard M. Flynn Power Plant (totaling \$7.9 million), and planned enhancements in non-recurring maintenance work at the operating facilities (totaling \$35.6 million), are designed to support high reliability goals. Some of the major non-recurring projects include: Niagara Region Tower Painting (\$2.9 Million), Robert Moses Stop Log Rail Replacement (\$2.5 Million), Robert Moses Headgate Refurbishment (\$2.3 Million), Marcy South Region Tower Painting (\$1.9 Million), Robert Moses Upper Headgate Rail Slot Refurbishment (\$1.4 Million), ISO 55000 Asset Management Initiative (\$1.0 Million), and the Crescent Dam Concrete Rehabilitation project (\$1.0 Million).

The 2020 O&M Budget for Operations includes \$91.0 million for the Canal Corporation for the purposes described in the 2020 Canal Corporation Budget report being presented to the Canal Corporation Board of Directors at the December 2019 meeting.

### 2020 Power Authority Capital Budget

The 2020 Capital Budget totals \$537.3 million, which is a 16.2% increase over the 2019 Budget. Of this amount, \$367.5 million – or 68.4% of the total – represents planned investments in the Authority's Upstate New York facilities at Niagara and St. Lawrence, as well as in the Authority's statewide Transmission network. Significant capital projects for 2020 include: Moses Adirondack 1 & 2 Transmission Line Upgrade (\$91.5 million), Communications Backbone (\$51.7 million), Strategic Electric Vehicle Charging Station Installation (\$36.8 million), Lewiston Pump Generation Plant Life Extension and Modernization ('LEM') (\$33.2 million), Marcy to New Scotland Transmission Line Upgrade (\$27.1 Million), and the Niagara Transmission Life Extension and Modernization ('LEM') (\$17.1 million).

The 2020 Capital Budget includes \$69.9 million for the Canal Corporation for the purposes described to the Finance Committee at this meeting and will be presented to the Canal Corporation Board of Directors at its December 2019 meeting.

### 2020 Energy Services Budget

The 2020 Energy Services Budget totals \$257.2 million, an increase of \$45.2 million from the 2019 Energy Services Budget. These expenditures will be subsequently recovered over time from the benefiting customers. The 2020 Energy Services Budget includes funding for energy efficiency projects for Authority customers and other eligible entities as the Authority strives to support the State's improved energy efficiency and clean, renewable energy goals.

### 2020 Canal Development Fund Budget

The 2020 Canal Development Fund Budget totals \$2.6 million, representing ongoing costs associated with the New York State Canal System Development Fund ('Canal Development Fund').

The Canal Development Fund, created by State Finance Law §92-u, is a fund established in the joint custody of the State Comptroller and the Commissioner of Taxation and Finance. The Canal Development Fund consists largely of revenues received from the operation of the Canal System. Monies of the Canal Development Fund, following appropriation by the legislature, is made available to the Authority, and may be expended by the Authority or the Canal Corporation for the maintenance, construction, reconstruction, development or promotion of the Canal System. In addition, monies of the Canal Development Fund may be used for the purposes of interpretive signage and promotion for appropriate historically significant Erie Canal lands and related sites. Monies from the Canal Development Fund are paid out by the State Comptroller on certificates issued by the Director of the Budget.

### 2020-2023 Four-Year Budget and Financial Plan

Under Part 203 of the OSC Regulations, the Trustees are required to adopt a Four-Year Budget and Financial Plan. The approved Four-Year Budget and Financial Plan must be available for public inspection not less than seven days before the commencement of the next fiscal year for a period of not less than 45 days and in not less than five convenient public places throughout the State. The approved Four-Year Budget and Financial Plan must also be submitted to OSC, via electronic filing through the Public Authorities Reporting Information System, within seven days of approval by the Trustees. The regulations also require the Authority to post the approved Four-Year Budget and Financial Plan on its website.

Under Part 203, each Four-Year Budget and Financial Plan must be shown on both an accrual and cash basis and be prepared in accordance with generally accepted accounting principles; be based on reasonable assumptions and methods of estimation; be organized in a manner consistent with the public authority's programmatic and functional activities; include detailed estimates of projected operating revenues and sources of funding; contain detailed estimates of personal service expenses related to

employees and outside contractors; list detailed estimates of non-personal service operating expenses and include estimates of projected debt service and capital project expenditures.

Other key elements that must be incorporated in each Four-Year Budget and Financial Plan are a description of the budget process and the principal assumptions, as well as a self-assessment of risks to the budget and financial plan. Additionally, each Four-Year Budget and Financial Plan must include a certification by the Chief Operating Officer.

The first year of the 2020-2023 Four-Year Budget and Financial Plan is based on the 2020 Power Authority Budgets being brought to the Board for approval at this time. The remaining three years are indicative forecasts.

#### FISCAL INFORMATION

Payment of O&M expenses will be made from the Operating Fund. Any transfers of funds from the Authority for payment O&M expenses of the Canal Corporation would be subject to approval by the Authority's Board of Trustees and compliance with the Authority's Revenue Bond Resolution.

Payment for Capital and Energy Services expenditures will be made from the Capital Fund and the Energy Conservation Construction and Effectuation Fund, respectively. Monies of up to \$607.2 million from the Operating Fund will be transferred to the Capital Fund for capital expenditures, subject to compliance with the Revenue Bond Resolution.

Canal Development Fund expenses are expected to be reimbursed to the Authority by the State Comptroller with monies held in the Canal Development Fund as discussed above.

The 2020 Operating Budget shows adequate earnings levels so that the Authority may maintain its financial goals for cash flow and reserve requirements.

The 2020-2023 Four-Year Budget and Financial Plan's net income estimates for each of the years 2020 through 2023 are indicative forecasts. The Trustees are not being asked to approve any revenue and expenditure amounts for those years at this time.

#### RECOMMENDATION

The Chief Financial Officer requests that the Finance Committee recommends that the Trustees approve the 2020 Budget for the Power Authority, specifically including the expenditures for the (i) 2020 Operations and Maintenance Budget, (ii) 2020 Capital Budget, (iii) 2020 Energy Services Budget and (iv) 2020 Canal Development Fund Budget, each as discussed herein.

In connection with the 2020 Capital Budget, the Chief Financial Officer requests that the Finance Committee recommends that the Trustees authorize the transfer of up to \$607.2 million from the Operating Fund to the Capital Fund, subject to compliance with the Revenue Bond Resolution.

The Chief Financial Officer further requests that the Finance Committee recommends the Trustees (1) approve the 2020-2023 Four-Year Budget and Financial Plan, and (2) authorize (i) submitting the Approved 2020-2023 Four-Year Budget and Financial Plan to the OSC in the prescribed format, (ii) posting the Approved 2020-2023 Four-Year Budget and Financial Plan on the Authority's website, and (iii) making the Approved 2020-2023 Four-Year Budget and Financial Plan available for public inspection at not less than five convenient public locations throughout New York State.

For the reasons stated, I recommend the approval of the above-requested actions by adoption of the resolution below."

*Mr. Adam Barsky, Chief Financial Officer, provided highlights of staff's recommendation to the Board.*

On motion made by member Dennis Trainor and seconded by member John Koelmel, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

**RESOLVED, That the Finance Committee hereby recommends that the Trustees approve the 2020 Budget for the Power Authority, specifically including the expenditures for the (i) 2020 Power Authority Operations and Maintenance Budget, (ii) 2020 Capital Budget, (iii) 2020 Energy Services Budget and (iv) 2020 Canal Development Fund Budget, each as discussed in the foregoing report of the President and Chief Executive Officer; and be it further**

**RESOLVED, That the Finance Committee recommends that the Trustees authorize up to \$607.2 million of monies in the Operating Fund are hereby authorized to be withdrawn from such Fund and deposited in the Capital Fund, provided that at the time of withdrawal of such amount or portions of such amount, the monies withdrawn are not then needed for any of the purposes specified in Sections 503(1)(a)-(c) of the General Resolution Authorizing Revenue Obligations as amended and supplemented, with the satisfaction of such condition being evidenced by a certificate of the Treasurer or the Deputy Treasurer; and be it further**

**RESOLVED, That the Finance Committee recommends that the Trustees, pursuant to 2 NYCRR Part 203, approve the 2020-2023 Four-Year Budget and Financial Plan, including its certification by the Chief Operating Officer, in accordance with the foregoing report of the President and Chief Executive Officer; and be it further**

**RESOLVED, That the Finance Committee recommends that the Trustees, pursuant to 2 NYCRR Part 203, authorize the Corporate Secretary to submit the Approved 2020-2023 Four-Year Budget and Financial Plan to the Office of the State Comptroller in the prescribed format, post the Approved 2020-2023 Four-Year Budget and Financial Plan on the Authority's website and make the Approved 2020-2023 Four-Year Budget and Financial Plan available for public inspection at not less than five convenient public places throughout New York State.**

**e. Informational: Update on Prospective Finance Related RFPs**

Mr. Adam Barsky, Chief Financial Officer, provided an update on prospective finance-related Request for Proposals (RFPs) for funding of the Authority's businesses and strategic initiatives.

**2020 Financial RFPs**

- Liquidity Facility – to have banks available to support current and future operations and strategic initiatives
- Financial Advisors – to retain, on an as-needed basis, a variety of financial advisors, from leading national and Minority/Women-owned Business Enterprises (MWBE)/Service-Disabled Veteran-Owned Business (SDVOB) firms with subject matter expertise, required as a result of the strategic planning process, to support NYPA in undertaking future strategic and financing activities.
- Term Financing – for NYPA's underwriter selection process. NYPA will select a syndicate of underwriters from leading national and MWBE/SDVOB firms for its long-term tax-exempt and taxable funding needs associated with the capital plan and strategic initiatives.

In January, staff plans to request that the Finance Committee recommend the Board's authorization for awards of funding for these initiatives.



**f. Refunding of 2007A and 2007C Revenue Bonds and  
Expansion of Uses of Commercial Paper Notes**

The President and Chief Executive Officer submitted the following report:

**"SUMMARY**

The Trustees will be requested at their December 11, 2019 meeting to approve the use of the Authority's Series 1, Series 2 and Series 3 Commercial Paper Notes ('Series 1-3 CP Notes') to refund outstanding bonds, notes or other obligations ('Obligations') of the Authority, including the Authority's 2007A and 2007C Revenue Bonds ('2007AC Bonds'), in addition to the presently authorized uses of the Series 1-3 CP Notes. The 2007AC Bonds are callable at par by the Authority on any date upon at least thirty days' notice. The Authority may realize significant savings by refunding the 2007AC Bonds with lower interest cost debt, such as the Series 1-3 CP Notes, and similar opportunities may arise in the future with respect to other Obligations.

The Finance Committee is requested to recommend that the Trustees approve the use of Series 1-3 CP Notes to refund Obligations.

**BACKGROUND**

The 2007AC Bonds were issued at interest rates ranging from 4.0% to 5.0% to refund a portion of the Authority's Commercial Paper Notes, finance a portion of the costs of the relicensing of the Niagara project, and refund a portion of the Authority's Series 2002 A Revenue Bonds.

Under the Authority's Amended and Restated Resolution Authorizing Commercial Paper Notes, adopted November 25, 1997 and as amended and supplemented (the 'CP Resolution'), the Authority is authorized to issue Series 1, Series 2, Series 3 and Series 4 Commercial Paper Notes for the various purposes set forth in prior resolutions of the Authority or for any purpose subsequently approved by the Authority's Trustees.

The CP Resolution requires that Commercial Paper Notes issued by the Authority are backstopped for payment by a revolving credit facility. The existing revolving credit facility supports the Series 1-3 CP Notes in an amount up to \$700 million.

**DISCUSSION**

In 2007, when NYPA issued the Series 2007A and Series 2007C Bonds, the securities included a full suite of terms and conditions including a redemption clause giving the Authority the option, but not the obligation, to refund the 2007AC Bonds on or after the ten year mark.

Based on internal analysis related to the Authority's financial profile and position, as well as the value associated with a refunding, Management believes there is the potential to recognized significant interest cost saving by refunding the 2007AC Bonds on the order of 20+% net present value.

Management intends to refund the 2007AC Bonds with proceeds from the issuance of Series 1-3 CP Notes as an interim step preceding the issuance of a new long-term financing, both subject to receiving the necessary approvals from the Finance Committee and Board of Trustees. Both the interim commercial paper financing and the new long-term financing have been incorporated into the 2020 Budget & Four-Year Plan.

The Series 1 Notes, the Series 2 Notes and the Series 3 Notes are authorized in amounts up to \$400 million, \$450 million and \$350 million, respectively, and may be used for various purposes set forth in prior resolutions of the Authority and/or for any other purposes subsequently approved by the Authority's Trustees. The Series 4 Notes are authorized in an amount up to \$220 million and may be

used for various purposes described in prior resolutions of the Authority which include refunding or paying at maturity, any obligations of the Authority, as well as any other purpose subsequently approved by the Authority's Trustees.

The Trustees may approve the use of the Series 1-3 CP Notes to refund Obligations by adopting the resolution below.

#### FISCAL INFORMATION

Staff has determined that significant savings are available if the Authority refunds the 2007AC Bonds with Series 1-3 CP Notes or other lower-interest cost debt. Internal analysis, as well as third-party analysis, indicates that the value to the Authority from such a series of transactions is 20+% net present value, given current financing rates. By refunding the 2007AC Bonds, Management also has the opportunity to tailor the structure of a new long-term financing in a manner that optimizes the Authority's liquidity and debt maturity profile to appropriately match the Authority's sources and uses of funds.

#### RECOMMENDATION

It is requested that the Finance Committee recommends that the Trustees approve the use of the Authority's Series 1-3 CP Notes to refund Obligations.

For the reasons stated, I recommend the approval of the above-requested action by adoption of the resolution below."

*Mr. Adam Barsky, Chief Commercial Officer, provided highlights of staff's recommendation to the Board.*

On motion made by member Dennis Trainor and seconded by member John Koelmel, the following resolution, as submitted by the President and Chief Executive Officer, was unanimously adopted.

**RESOLVED, That the Finance Committee hereby recommends that the Trustees approve the use of the Authority's Series 1, Series 2 and Series 3 Commercial Paper Notes to refund outstanding bonds, notes or other obligations of the Authority.**

**g. Informational: Vision 2030: Strategic Plan Overview & Update**

Mr. Doug McMahon, Vice President of E-mobility and Grid Flexibility, presented an update on the Authority's Vision 2030 Proposed Mission and Vision (Exhibit 5g-A). He said that in March 2020, as part of staff's annual strategy submission, staff is planning to request that the Trustees formally approve VISION2030. At this meeting, he will present the Strategic Plan to Board. The plan is to finalize the Plan's content and be prepared to release the Plan in Q1 of 2020.

**Mission and Vision**

The Authority introduced the proposal to update its mission and vision at the September Trustee meeting.

NYPA's Vision is a concise aspirational statement of the world it is trying to create through the efforts and actions of its business. The proposed vision is for "A *thriving and resilient* New York *powered by clean energy*." This describes a successful outcome of the two areas that NYPA is working towards – stimulating the economy and generating clean electricity.

NYPA's proposed Mission Statement is subtly different from the one approved in 2014. The new Mission statement states that NYPA will be "*Leading the transition to a carbon free, economically vibrant New York through partnership with customers on innovative energy solutions and the responsible supply of affordable, clean, reliable electricity.*"

This new mission statement is the same structure and nomenclature as the previous statement, but with some impactful alterations that reflect not only NYPA's changing business environment, but the role NYPA is looking to play. The word "*Leading*" elevates the importance of decarbonization and "*carbon-free*" places the customer in the center of the Strategic Plan and NYPA's mission both figuratively and literally. The word "*responsible*" is an affirmation of NYPA's historical role of stewardship, objectivity, and operational excellence.

**Strategic Themes**

The strategic themes summarize the relationship between NYPA's customers and the proposed strategic goals.

**Customer Decarbonization** – The industry needs to both decarbonize the generation of electricity and change the way customers consume electricity if we are to do so in an affordable and reliable way. Decarbonizing NYPA's customers' electricity supply and wider energy needs will require four types of strategic investments from the Authority:

- 1) Cleaning NYPA's customers electricity supply;
- 2) Energy efficiency – reducing the number of electrons consumed;
- 3) Electrification – optimally integrating new forms of electrical loads; and
- 4) Demand Flexibility – building flexibility in customer load and assets.

With the right technological breakthroughs and commercialization of these technologies, NYPA have a fair chance of achieving customer decarbonization within the next 15 to 20 years.

NYPA will not be able to achieve 100 percent clean electricity supply and 100 percent affordable Clean electricity supply without investing in the three strategic themes on the demand side: Energy Efficiency; Electrification and Demand Flexibility.

These three strategic themes will focus on helping the Authority's customers change the way they consume electricity to ensure that NYPA best align the consumption of electricity to the natural and intermittent nature of renewable energy supply.

Investing in these three areas will not only reduce NYPA's customers' dependency on the forms of generation that support short periods of peak demand, and these are typically the most carbon-intensive forms of generation, but will enable NYPA's customers to consume electricity when renewable supply is the most prevalent, helping with affordability.

The final two strategic themes, **Consumer Value** and **Clean Economic Development**, are necessary to build out the required NYPA and customer capabilities, tools and technologies to optimally manage a cleaner, reliable, and affordable electricity system. These are continuations of strategic investments that NYPA is already making in the areas of end-to-end digitalization and workforce development.

Through NYPA's recent ISO 55001 certification, NYEM and the rollout of Mosaic, the Authority have made some incredible strides in these strategic theme areas over the last three to four years.

The customer is the center of the Authority's operations. NYPA cannot achieve its strategic goals without helping its customers achieve their goals. This is an important message that is fundamental to what the Authority trying to achieve through the Vision 2030 Plan.

### **Proposed structure of the Vision2030 Plan**

#### **The proposed key sections of the Vision2030 Plan:**

- The Plan will make clear the link between NYPA's current Strategic Plan and Vision2030.
- **Climate Change Challenge**  
Decarbonization and the economy – the Plan will summarize the decarbonization challenge and the link between it and a thriving New York State economy.
- **Electricity Grid of 2040 and Customer journey**  
The Plan will outline what the electricity grid of 2040 will need to look like in order to accommodate clean electricity, and what it will mean for the Authority's customers.
- **NYPA's Role**  
The Plan will discuss the role that NYPA is playing in the realization of a carbon-free economy and the role it will continue to play in the future.
- **Value NYPA Brings**  
The Plan will explain the value that NYPA brings to New York's electricity system and why it is well-positioned to play a central role in implementation of the Climate Leadership and Community Protection Act (CLCPA).
- **Partnering with NYPA's Customers**  
The Plan will also outline how the Authority is going to work with its customers on their journey to decarbonizing their energy consumption.
- **Measuring Success**  
The Plan will outline how the Authority will measure its success over the next ten years.
- **Strategic Themes**  
The Plan will outline investment areas through those strategic themes over the next five years.

The Authority's goal is to have a final version of the Vision2030 Plan completed by end of the year. In addition, the Authority will provide another update of the Plan at the December Board meeting.

**6. Next Meeting**

Chairperson McKibben said that the next regular meeting of the Finance Committee is to be determined.

**Closing**

Upon motion made by member Dennis Trainor and seconded by member John Koelmel, the meeting was adjourned by Chairperson McKibben at approximately 10:20 a.m.

*Karen Delince*

Karen Delince  
Corporate Secretary

NYPA-CANAL FINANCE COMMITTEE

**EXHIBITS**

**For**

**November 19, 2019**

**Meeting Minutes**



**NY Power  
Authority**

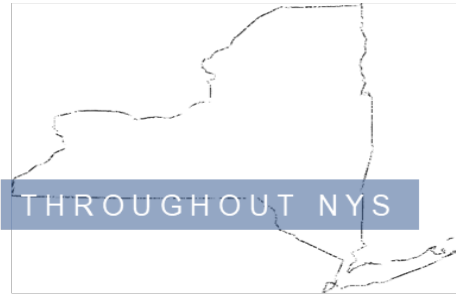
**Canal  
Corporation**

# **Energy Efficiency & Customer-sited Renewables Business Line Operating Plan Update**

**Sarah Salati, EVP & Chief Commercial Officer**



# NYPA's Energy Efficiency Program



**\$3 BILLION**  
Invested



*\*\$1.1 Billion in the  
past 5 years*

Over **2,300**  
projects implemented



More than **\$250**  
MILLION in annual energy  
related savings



Providing nearly **1.2 MILLION**  
tons in GHG Reduction

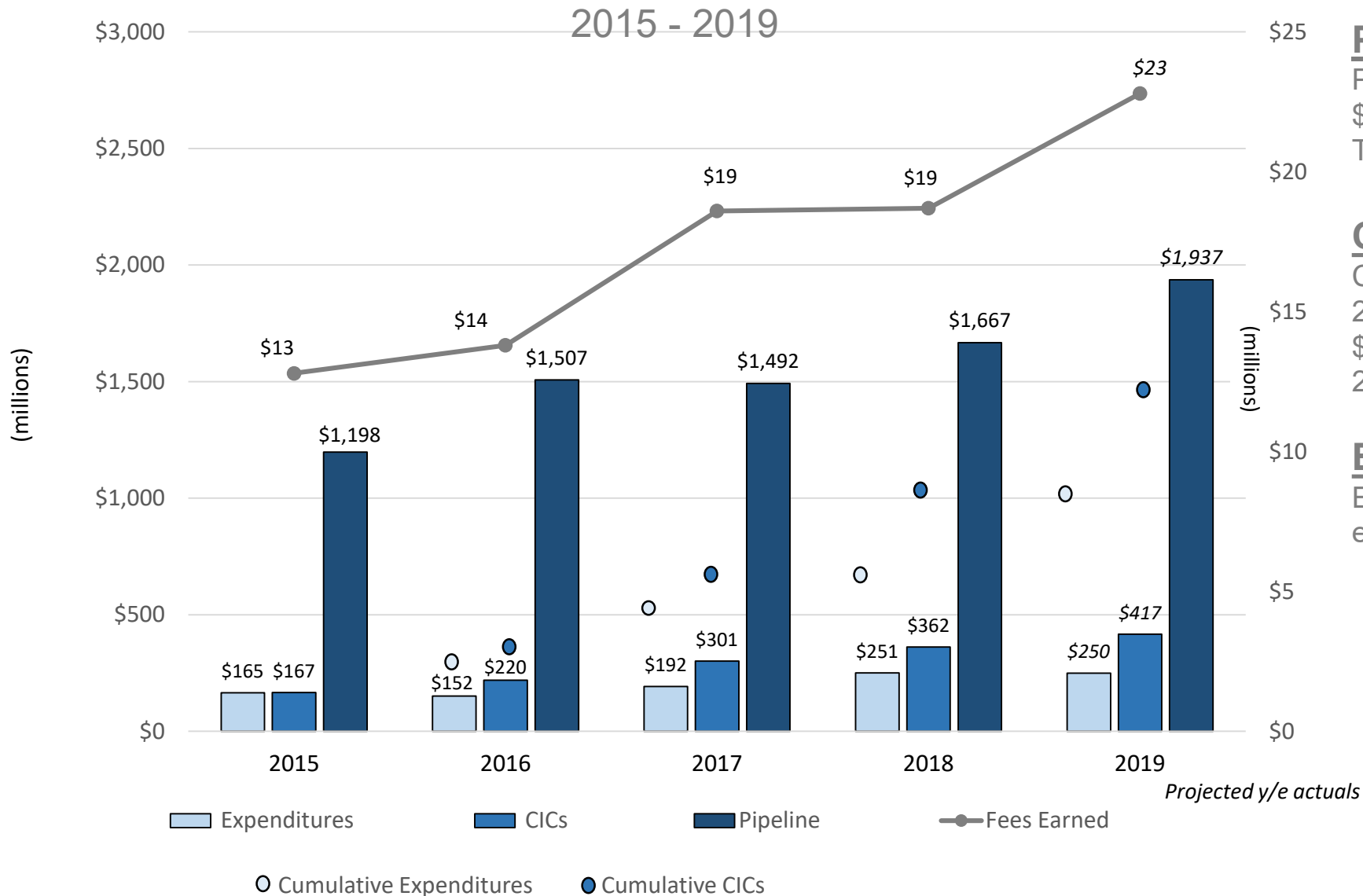


*The equivalent of removing over  
200,000 cars off the road annually*

- Since 1998, Trustees have authorized funding of \$3.88B for energy efficiency programs; the funding of which is recovered from program participants\*
- NYPA's project pipeline has grown significantly from strong customer demand
- State policy objectives and a growing pipeline require extending program funding and establishing an expanded vendor pool for project implementation
- Authorization is being requested for \$1.5B of program funding to support execution of customer pipeline to complement expected funds from existing repayment schedules
- Authorization is being requested for value contracts awarded to 19 contractors for ongoing project implementation

\*Excluding approved grants.

# Energy efficiency pipeline has grown substantially.



## Pipeline

Project portfolio has grown over 30% from \$1.2B in 2015 to \$1.9B as of August 2019. The number of projects has increased by 50%.

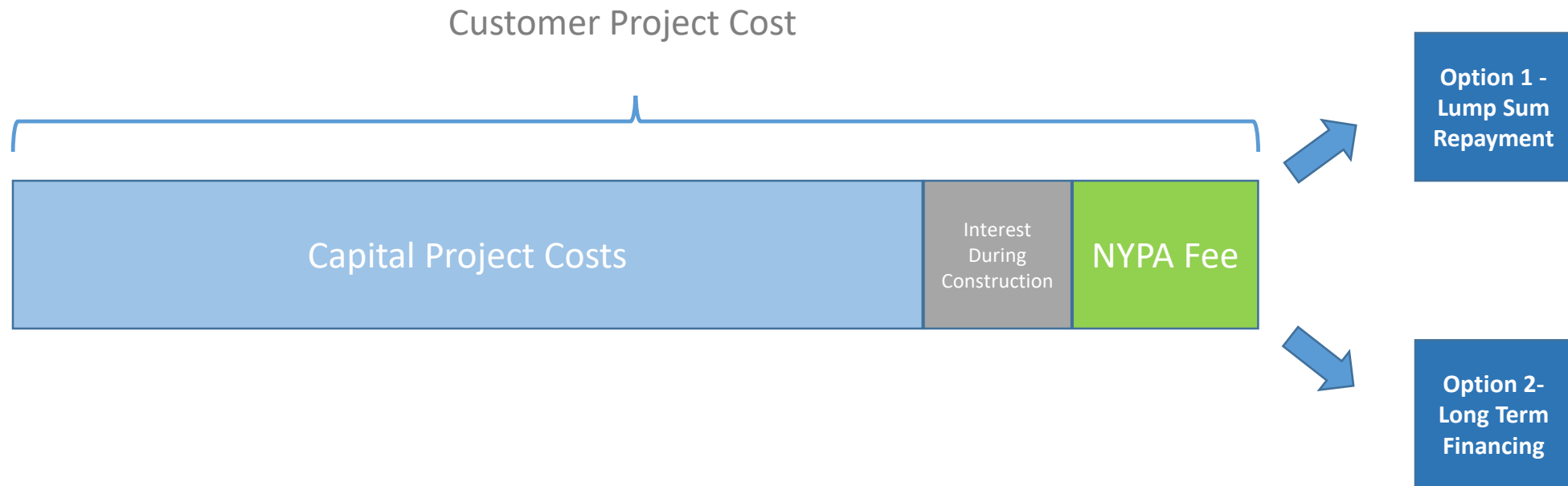
## CICs Executed

CICs executed has more than doubled since 2015, with 2019 projections coming in at \$417M compared to the \$167M executed in 2015.

## Expenditures & Fees Earned

Expenditures have increased by 30% with fees earned trending at an increase of 43%.

# Program funding is recovered from customers via project management fees and interest payments.



# Program Funding Summary

Program	Program Authorization To-Date (A)	Committed To-Date* (B)	Remaining Authorization (A) - (B) = C	Forecasted To Spend (D)	Funding Need (D) – (C)	Funding Request
<b>Governmental</b>	\$2.73B	\$2.2B	\$530M	\$1.3M	\$770M	\$750M
<b>Statewide</b>	\$1.15B	\$0.85B	\$300M	\$1.038M	\$738M	\$750M
<b>Total</b>	\$3.88B	\$3.05B	\$830M	\$2.337B**	\$1.507B	\$1.5B

\*Committed To-Date: Expenditures + Open PO values

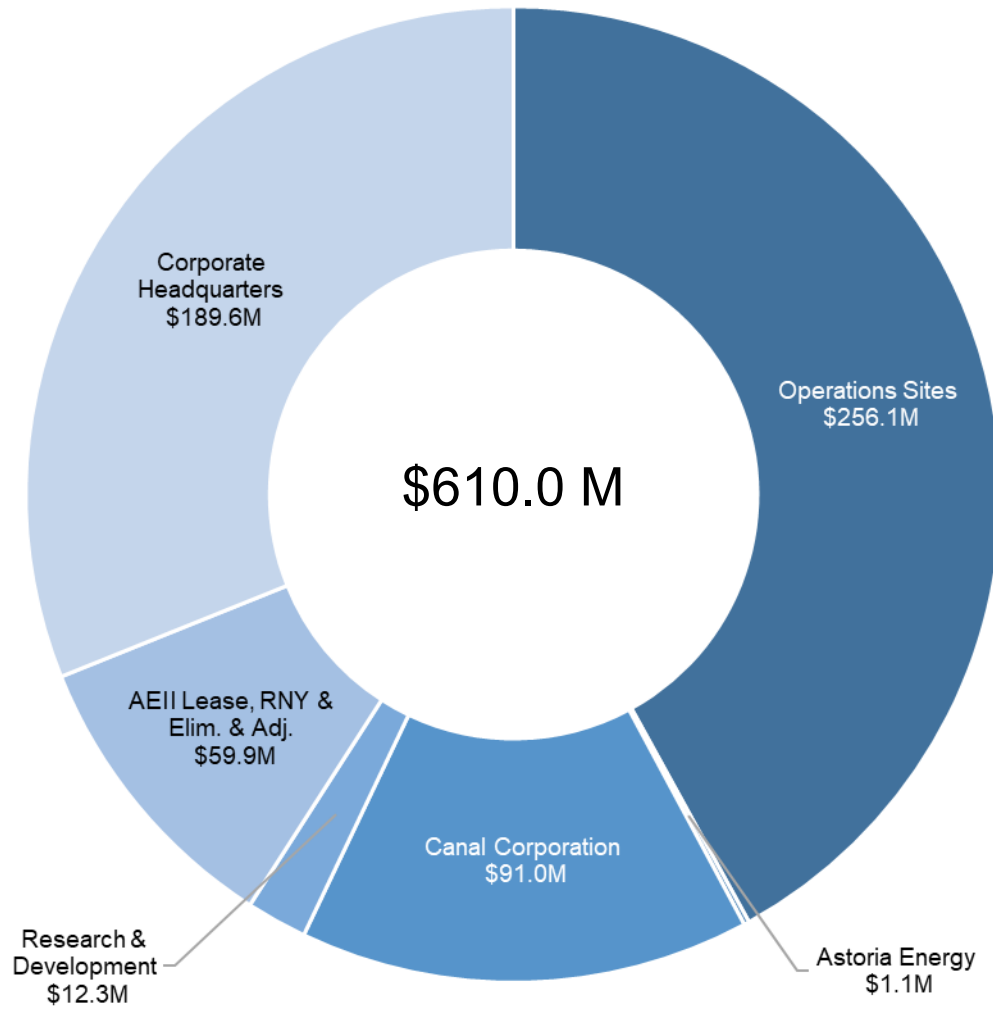
\*\*5-year forecast of **\$1.67B** + 2 years of average run rate **\$660M**

# EXHIBIT 5d-A

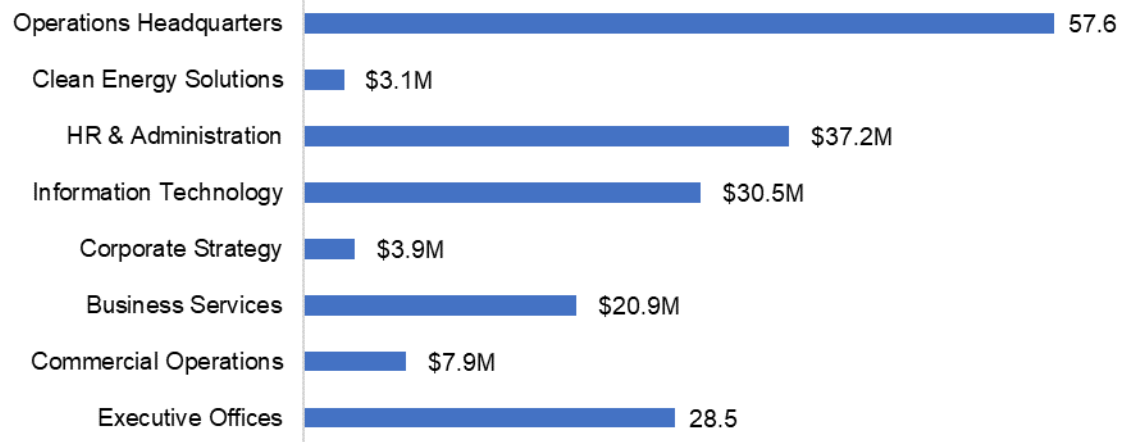
<b>Departments</b>	<b>2019 Budget</b>	<b>2020 Request</b>	<b>Inc/(Dec) \$ Chg</b>	<b>Inc/(Dec) % Chg</b>
Executive Offices	7,514.8	6,285.5	(1,229.3)	(16.4%)
Law	11,386.3	9,895.9	(1,490.5)	(13.1%)
Internal Audit	4,687.2	4,539.9	(147.3)	(3.1%)
Public & Regulatory Affairs	8,480.2	7,723.1	(757.2)	(8.9%)
<b>Executive Offices</b>	<b>32,068.6</b>	<b>28,444.3</b>	<b>(3,624.3)</b>	<b>(11.3%)</b>
EVP Commercial Operations	889.9	2,107.4	1,217.5	136.8%
Project & Business Development	2,874.1	3,042.0	168.0	5.8%
Energy Resource Management	658.0	1,002.0	344.0	52.3%
E-Mobility & Grid Flexibility	-	1,718.6	1,718.6	-
<b>Commercial Operations</b>	<b>4,422.0</b>	<b>7,870.0</b>	<b>3,448.0</b>	<b>78.0%</b>
EVP & CFO Business Services	522.8	1,081.2	558.3	106.8%
Budgets & Business Controls	3,063.6	2,893.8	(169.8)	(5.5%)
Controller	5,193.6	6,041.7	848.1	16.3%
Financial Operations	1,037.5	387.6	(649.9)	(62.6%)
Finance	1,450.7	1,114.5	(336.2)	(23.2%)
Treasury	1,745.7	2,019.7	274.0	15.7%
Risk Management	8,963.3	7,384.6	(1,578.7)	(17.6%)
<b>Business Services</b>	<b>21,977.2</b>	<b>20,923.1</b>	<b>(1,054.2)</b>	<b>(4.8%)</b>
SVP Corporate Strategy	-	2,183.6	2,183.6	-
Strategic Management	1,602.5	43.8	(1,558.7)	(97.3%)
Organizational Performance	-	1,702.6	1,702.6	-
<b>Corporate Strategy</b>	<b>1,602.5</b>	<b>3,929.9</b>	<b>2,327.4</b>	<b>145.2%</b>
<b>Information Technology</b>	<b>33,381.7</b>	<b>30,539.0</b>	<b>(2,842.7)</b>	<b>(8.5%)</b>
EVP HR & Administration	1,045.2	806.1	(239.2)	(22.9%)
VP Enterprise Shared Services	498.7	479.5	(19.1)	(3.8%)
Corporate Communications	5,329.8	5,590.8	261.0	4.9%
Human Resources	10,854.3	11,280.0	425.7	3.9%
Strategic Supply Management	5,690.6	7,548.8	1,858.2	32.7%
Digital Warehouse	1,881.2	1,597.4	(283.9)	(15.1%)
Process Excellence	3,315.5	2,247.0	(1,068.4)	(32.2%)
Knowledge Management	1,903.1	1,639.9	(263.3)	(13.8%)
Vehicle Support Services Group	-	469.9	469.9	-
WPO Support Services	-	2,767.7	2,767.7	-
Real Estate	426.5	1,575.1	1,148.5	269.3%
Civil Rights & Inclusion	476.9	599.1	122.2	25.6%
<b>HR &amp; Administration</b>	<b>32,122.7</b>	<b>37,245.9</b>	<b>5,123.3</b>	<b>15.9%</b>
Contracts & Program Operations	-	528.2	528.2	-
Market Services & Business Controls	525.0	912.0	387.0	73.7%
NY Energy Manager	-	-	-	-
Business Development	323.2	485.1	161.9	50.1%
SVP CES	-	-	-	-
Engineering & Construction Management	-	1,200.0	1,200.0	-
<b>Clean Energy Solutions</b>	<b>848.2</b>	<b>3,125.3</b>	<b>2,277.1</b>	<b>268.5%</b>
<b>Departments</b>	<b>2019 Budget</b>	<b>2020 Request</b>	<b>Inc/(Dec) \$ Chg</b>	<b>Inc/(Dec) % Chg</b>

Operations Headquarters	57,321.1	57,517.7	196.6	0.3%
Blenheim-Gilboa	22,553.1	21,673.3	(879.8)	(3.9%)
500 MW	30,418.8	31,589.2	1,170.3	3.8%
Flynn	8,328.9	11,038.1	2,709.2	32.5%
SENY	5,054.6	4,290.0	(764.6)	(15.1%)
SCPP	21,242.5	21,945.6	703.1	3.3%
Niagara	61,761.8	62,866.1	1,104.3	1.8%
St. Lawrence	36,504.2	31,901.2	(4,603.0)	(12.6%)
Small Hydros	5,687.8	6,483.4	795.5	14.0%
Transmission Lines	56,013.9	64,292.5	8,278.7	14.8%
Astoria Energy II O&M	1,005.8	1,063.1	57.3	5.7%
<b>Operations</b>	<b>305,892.4</b>	<b>314,660.1</b>	<b>8,767.7</b>	<b>2.9%</b>
Astoria II Energy Lease	22,692.0	21,990.0	(702.0)	(3.1%)
Recharge New York	2,265.5	2,268.6	3.1	0.1%
Research & Development	8,696.2	12,284.4	3,588.2	41.3%
Eliminations & Adjustments	41,535.1	35,743.4	(5,791.7)	(13.9%)
<b>Total NYPA</b>	<b>507,504.2</b>	<b>519,024.0</b>	<b>11,519.8</b>	<b>2.3%</b>
Canal Headquarters	21,788.1	22,575.1	787.1	3.6%
Canal Eastern Division	22,752.8	28,736.2	5,983.4	26.3%
Canal Western Division	28,091.3	27,651.4	(440.0)	(1.6%)
NYPA Direct Charge to Canals	7,931.7	5,408.2	(2,523.4)	(31.8%)
NYPA Direct Assess to Canals	5,646.6	6,656.1	1,009.5	17.9%
<b>Total Canal Corporation</b>	<b>86,210.5</b>	<b>91,027.1</b>	<b>4,816.6</b>	<b>5.6%</b>
<b>Grand Total</b>	<b>593,714.7</b>	<b>610,051.1</b>	<b>16,336.4</b>	<b>2.8%</b>

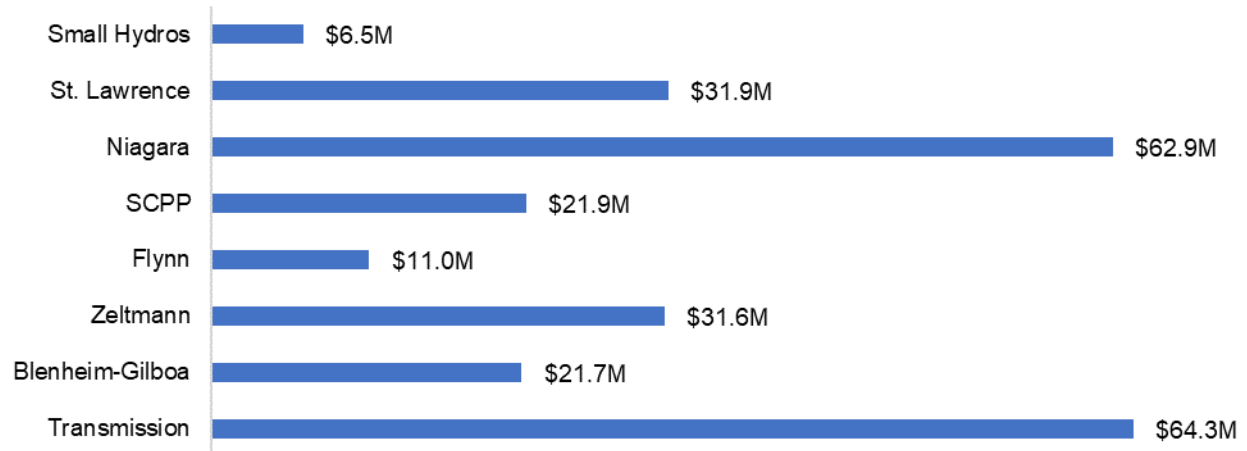
## **NYPA & Canal Corporation O&M by Facility**



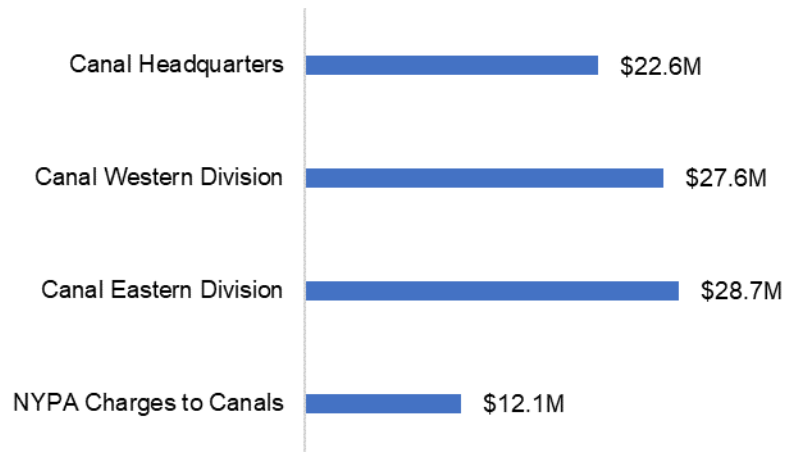
## **Corporate Headquarters \$189.6 M**



## **Operations Sites \$256.1 M**

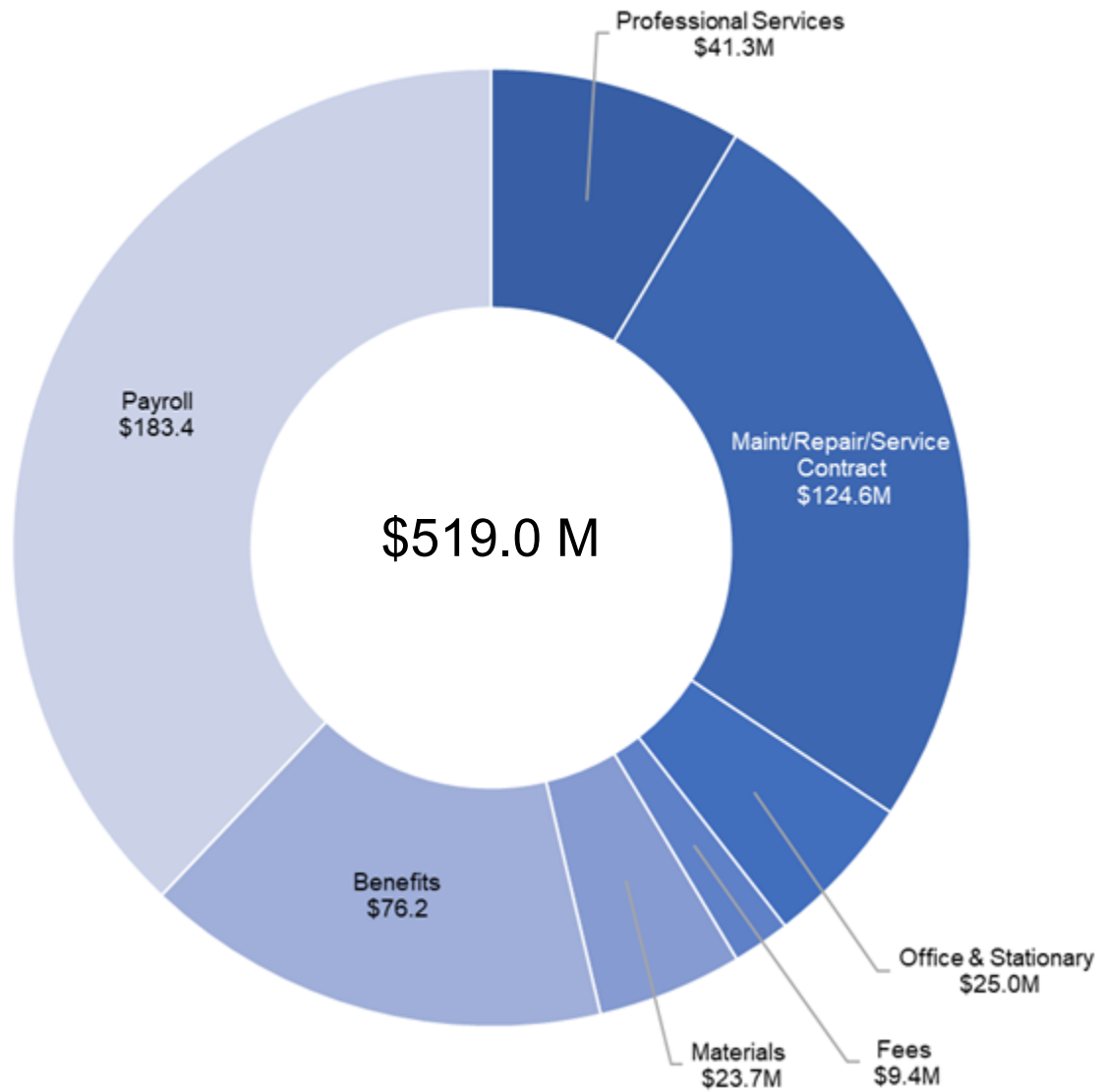


## **Canal Corporation \$91.0 M**

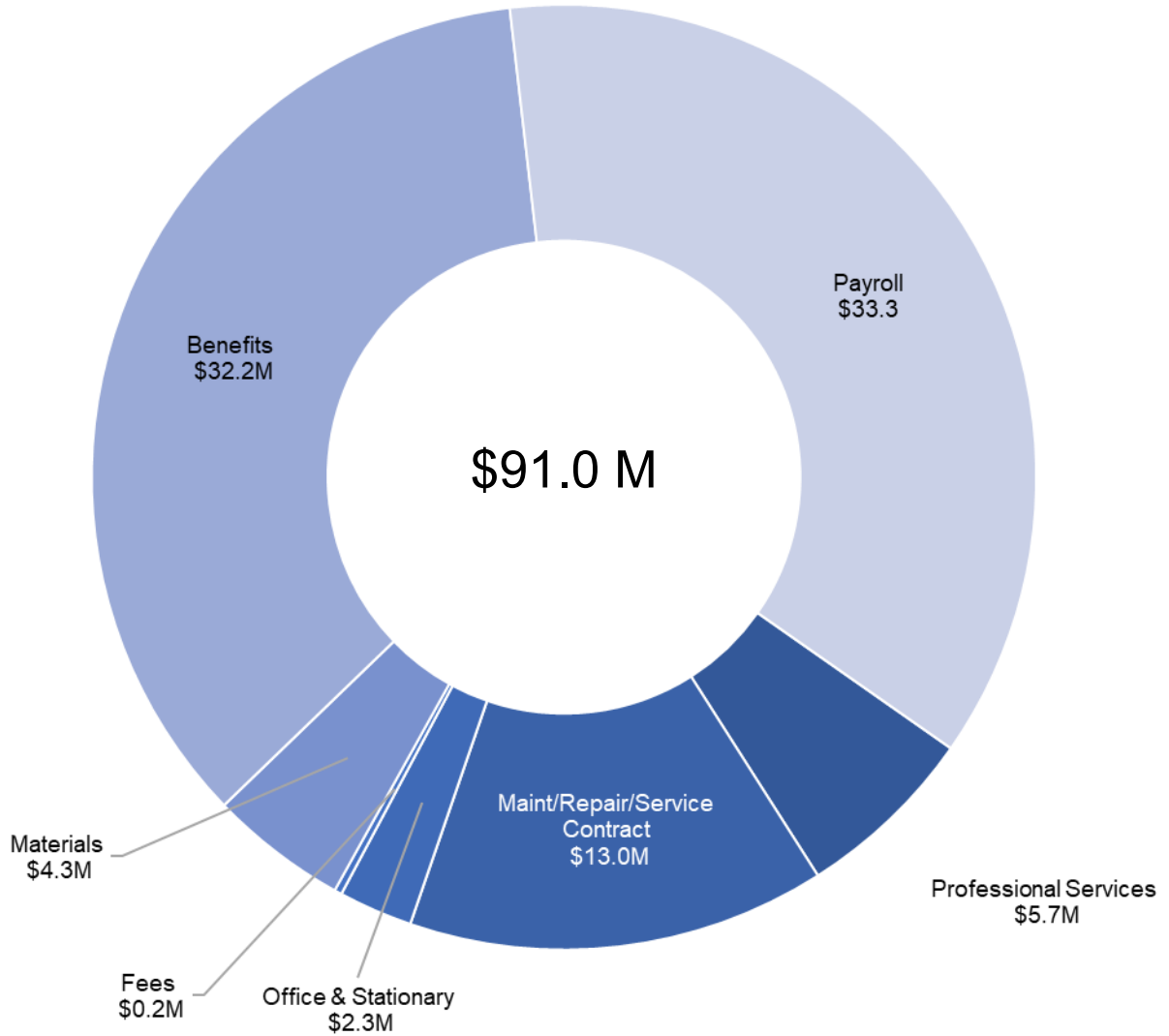


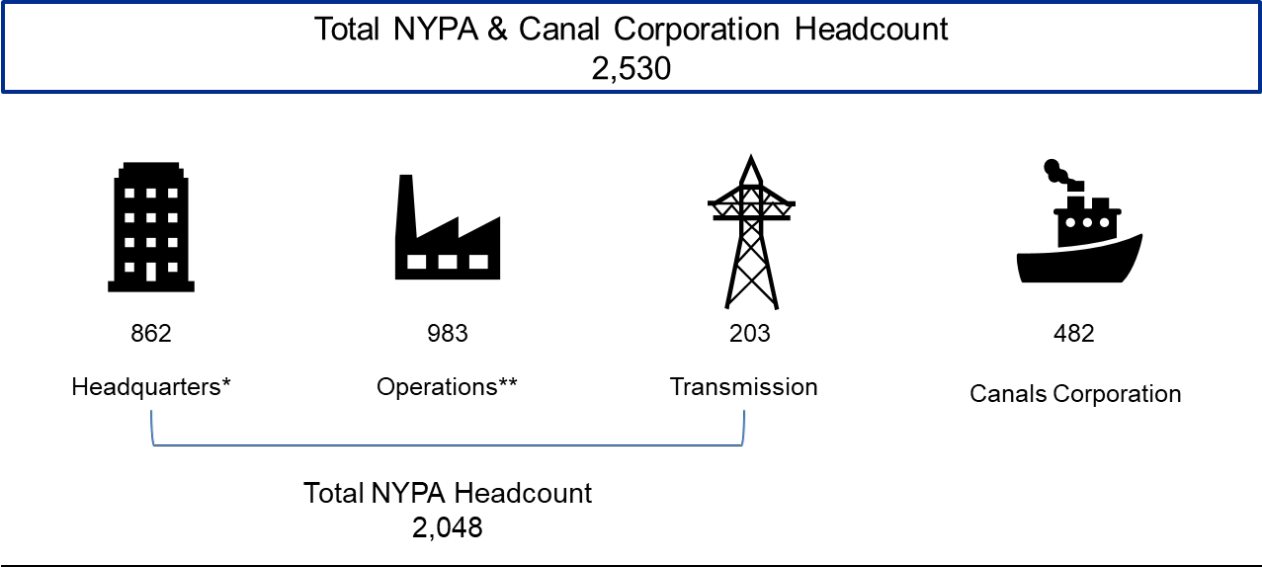


## **NYPA O&M by Cost Element**



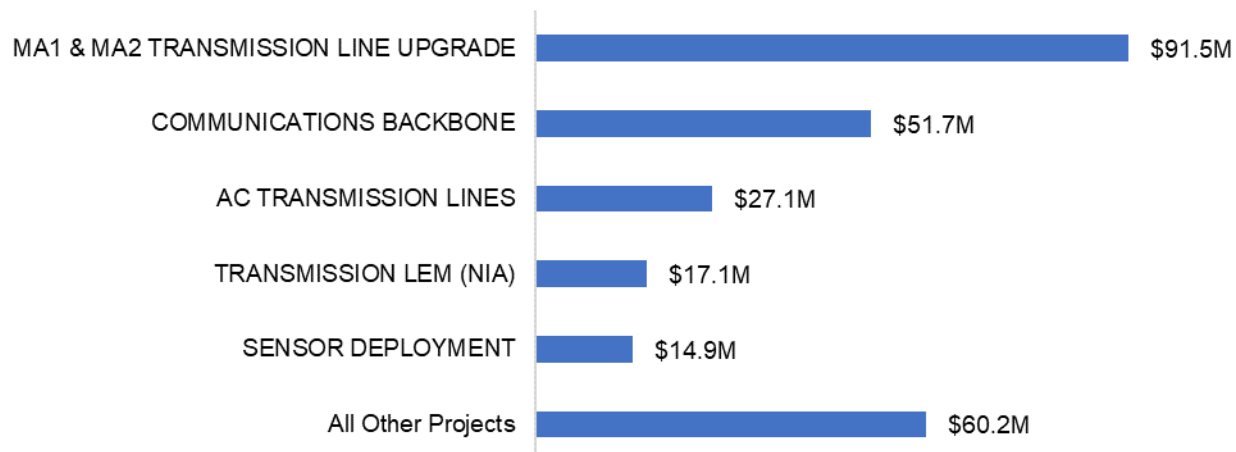
## Canal Corporation by Cost Element



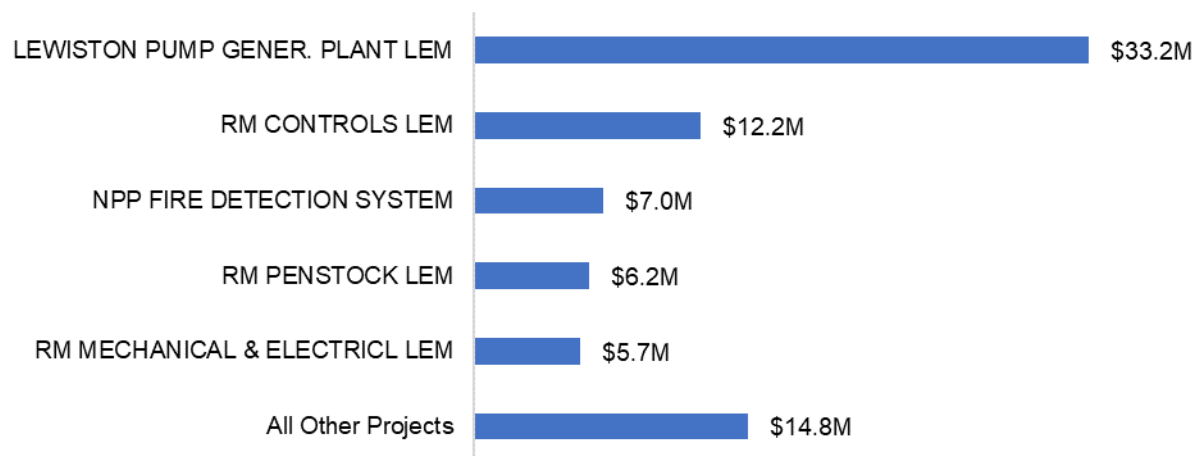


**Headquarters\*** is inclusive Headquarters Headcount of 862 and Research & Development Headcount of 5  
**Operations\*\*** is inclusive Operations Headcount of 974 and Research & Development Headcount of 9

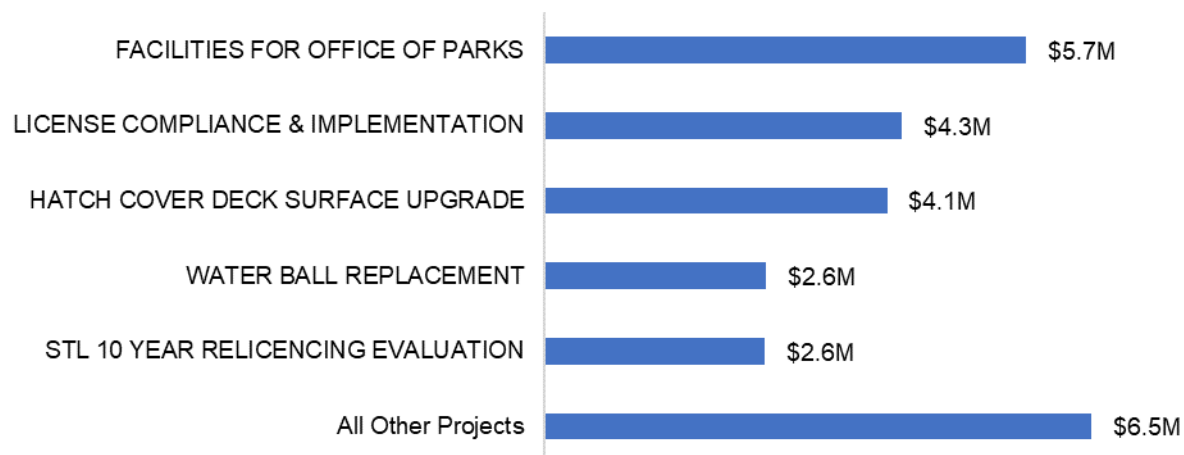
### **Transmission Capital Projects \$262.6M**



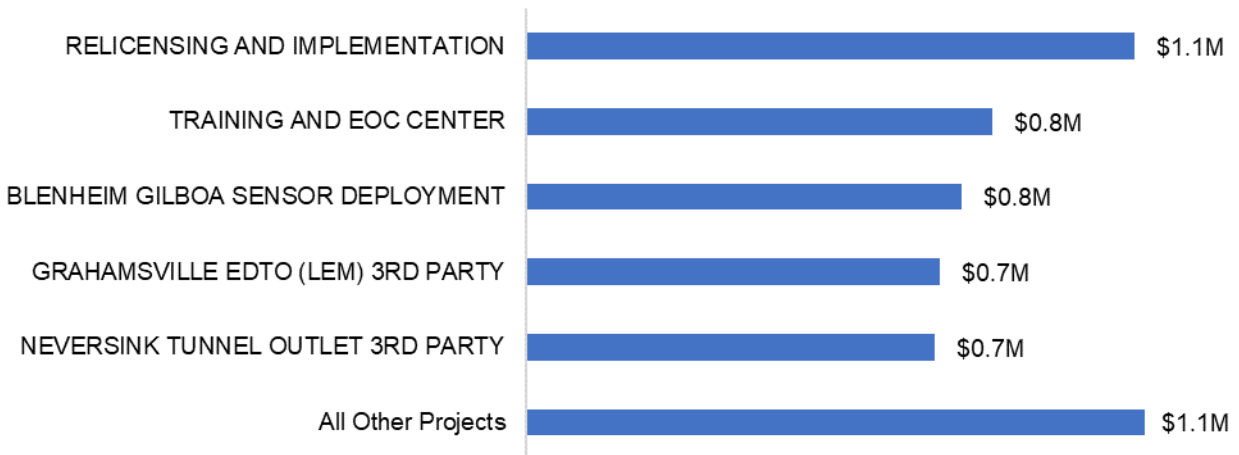
### **Niagara Capital Projects \$79.1M**



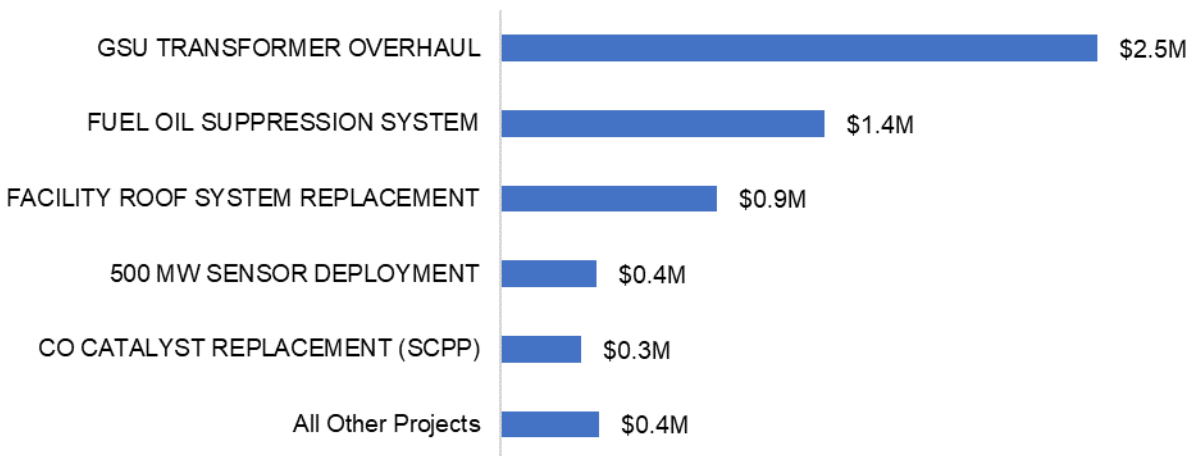
### **St. Lawrence Capital Projects \$25.9M**



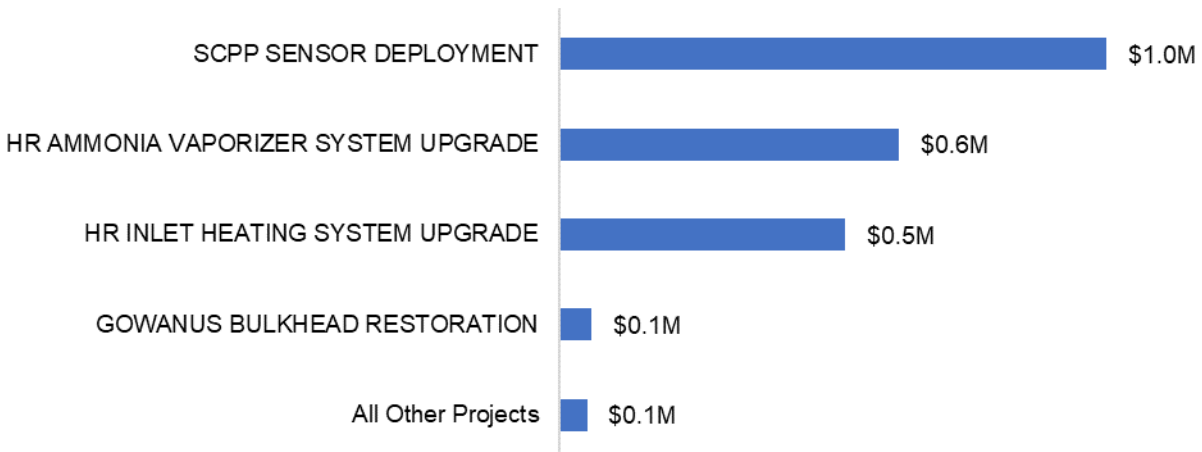
### **Blenheim Gilboa Capital Projects \$5.2M**



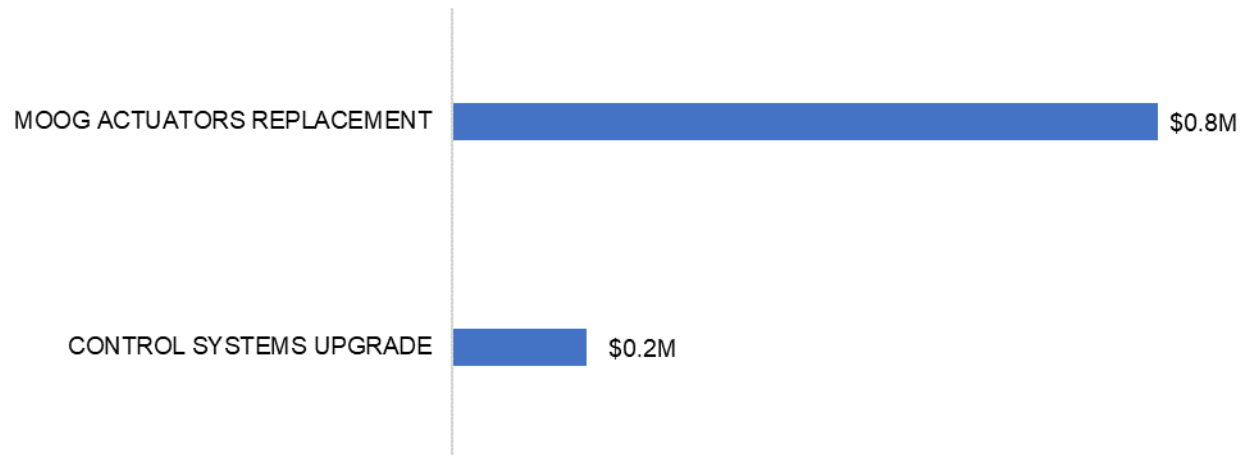
### **Zeltmann Capital Projects \$5.9M**



### **SCPP Capital Projects \$2.3M**

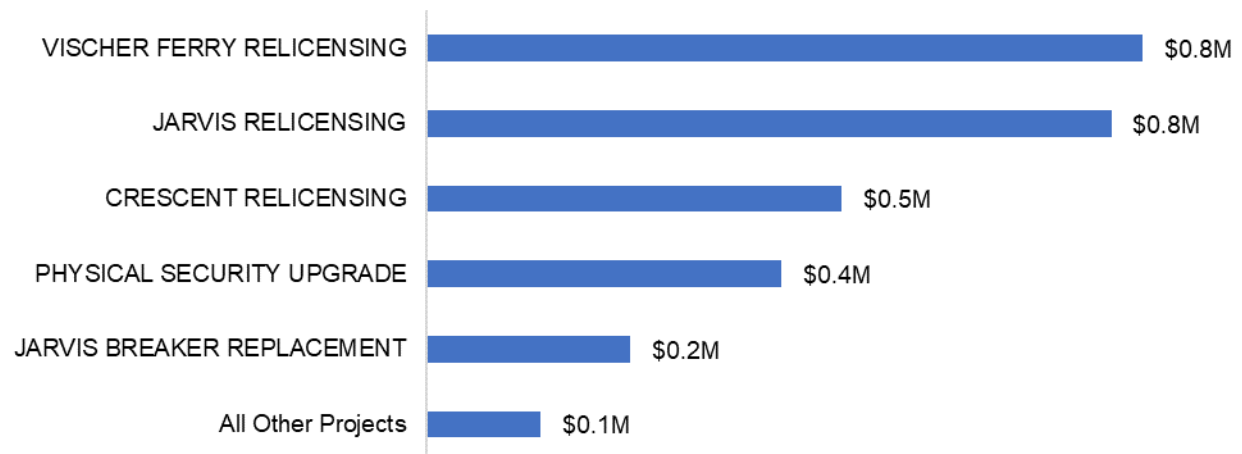


### **Flynn Capital Projects \$1.0M**



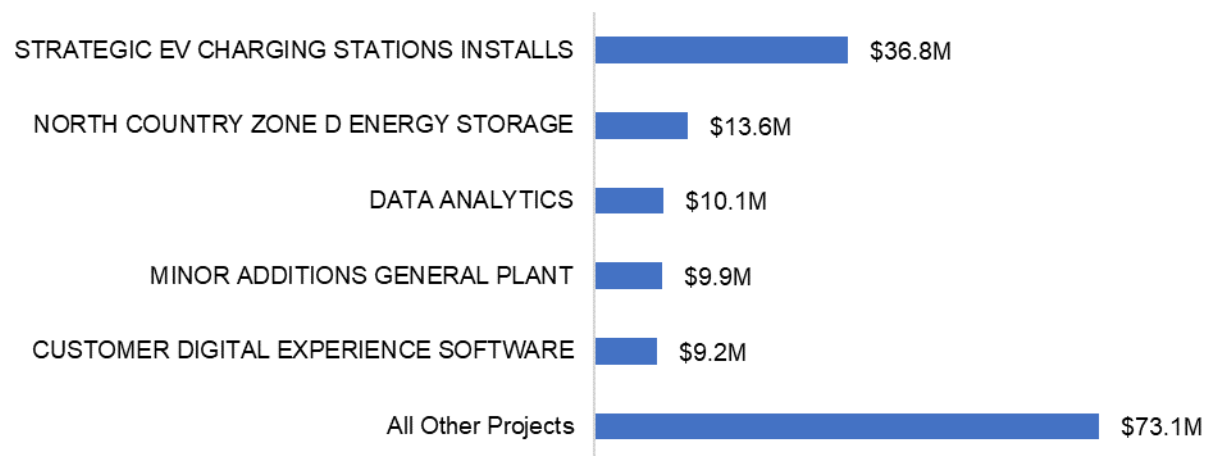
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### **Small Hydro Capital Projects \$2.8M**

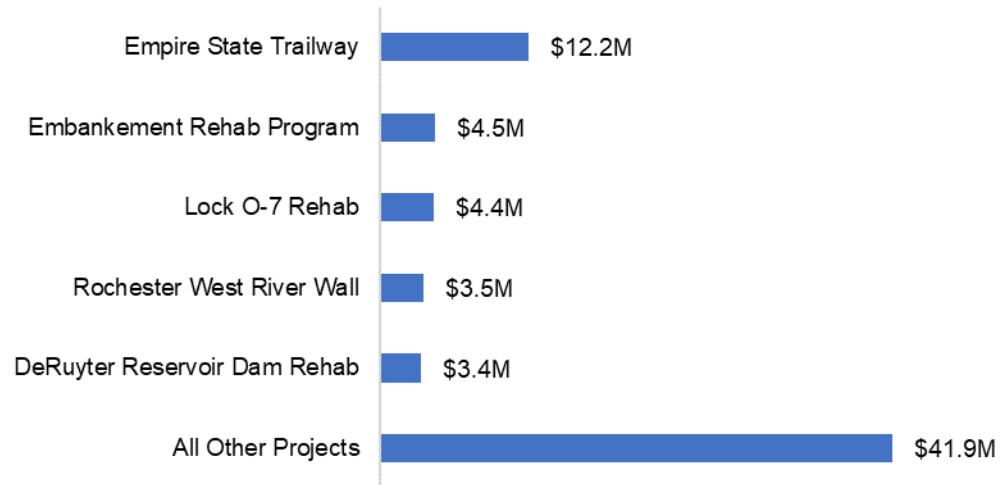


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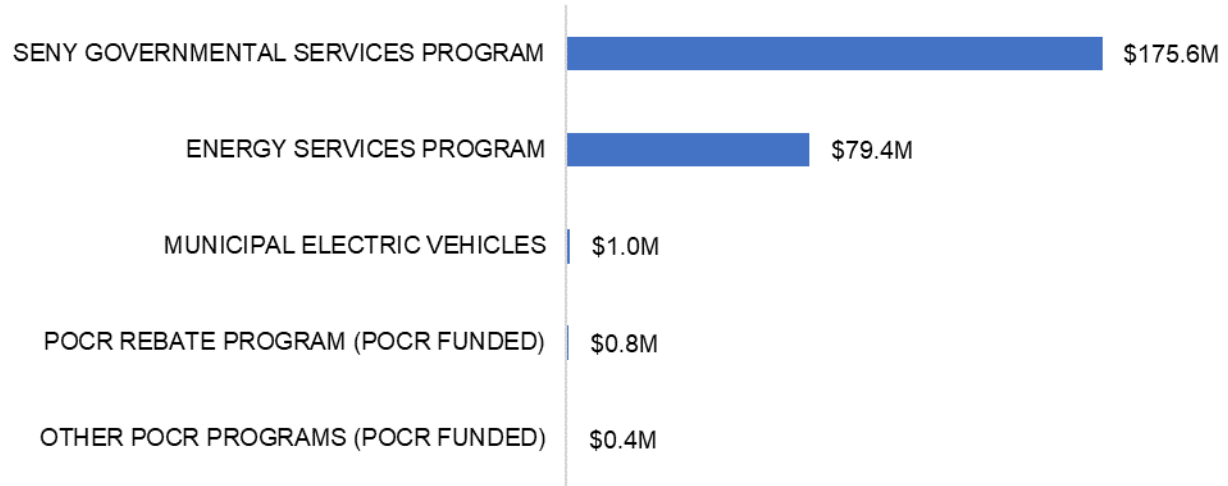
### **Headquarters Capital Projects \$152.5M**



## **Canal Corporation Capital Projects \$69.9M**



**Energy Services Capital Projects \$257.2M**





# 2020 – 2023

## Approved Budget and Financial Plan

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In compliance with 2 NYCRR Part 203



## **Background and Mission of the Power Authority of the State of New York**

The mission of the Power Authority of the State of New York ("NYPA" or the "Authority") is to power the economic growth and competitiveness of New York State by providing customers with low-cost, clean, reliable power and the innovative energy infrastructure and services they value. The Authority's financial performance goal is to maintain a strong financial position in order to have the resources necessary to achieve its mission.

The Authority generates, transmits, purchases and sells electric power and energy as authorized by law. The Authority's customers include municipal and rural electric cooperatives located throughout New York State, investor-owned utilities, high load factor industrial customers, commercial/industrial and not-for-profit businesses, and various public corporations located in Southeastern New York within the metropolitan area of New York City ("SENY governmental customers"), certain neighboring states, public entities and Community Choice Aggregation Communities throughout New York State.

To provide electric service, the Authority owns and operates five major generating facilities, eleven small gas-fired electric generating facilities, and four small hydroelectric facilities in addition to a number of transmission lines, including major 765-kV and 345-kV transmission facilities. The Authority's five major generating facilities consist of two large hydroelectric facilities ("Niagara" and "St. Lawrence-FDR"), a large pumped-storage hydroelectric facility ("Blenheim-Gilboa"), the Eugene W. Zeltmann Power Project combined cycle electric generating plant located in Queens, New York ("Zeltmann") and the Richard M. Flynn combined cycle plant located on Long Island ("Flynn").

As a component of NYPA's strategic plan, efforts to modernize NYPA's generation and transmission infrastructure are being developed to increase flexibility and resiliency, to serve customers' needs in an increasingly dynamic energy marketplace, and to support the State's clean energy goals.

To maintain its position as a low cost provider of power in a changing environment, the Authority has undertaken and continues to carry out a multifaceted program, including: (a) the upgrade and relicensing of the Niagara, St. Lawrence-FDR and Blenheim-Gilboa projects; (b) long-term supplemental electricity supply agreements with the SENY governmental customers; (c) construction and operation of the Zeltmann combined-cycle electric generating plant located at the Authority's Poletti plant site; (d) a long-term electricity supply contract with Astoria Generating LLC for the purchase of the output of a 550-MW power plant in Astoria, Queens ("Astoria Energy II"); (e) a firm transmission capacity purchase agreement with Hudson Transmission Partners, LLC ("HTP") for a portion of the output of the 660 MW, seven mile, underground and underwater transmission line connecting into the PJM ISO; (f) refinancing outstanding callable bonds to lower the overall cost of debt; and (g) implementation of an enterprise-wide and energy/fuel risk management program.

The Authority owns and operates the Robert Moses Niagara Power Plant (RMNPP) providing up to 2.6 million kilowatts of clean electricity generated by two facilities, the Robert Moses Power Plant (RMPP) and the Lewiston Pump Generation Plant (LPGP). Because a majority of the RMPP equipment is nearly 60 years old, the Authority is undertaking a Life Extension & Modernization (LEM) program for it and its associated infrastructure. The program is focused on modernizing the 13 units at RMPP, digitization of controls and providing for security and reliability of the RMNPP and its integrated infrastructure.

The Authority provides customers with wide-ranging on-site energy solutions including energy data analytics, planning, operations and the development of capital projects such as energy efficiency, distributed generation, advanced technologies and renewables. The Authority also has the responsibility for implementation of: (a) the Governor's Executive Order No. 88, known as "BuildSmart NY" to improve energy efficiency at State owned and managed buildings; (b) the "Five Cities Energy Efficiency Implementation Plans" (the cities of Albany, Buffalo, Rochester, Syracuse and Yonkers) to reduce overall energy costs and consumption, strengthen the reliability of energy infrastructure, create jobs in local clean energy industries and contribute to a cleaner environment; and (c) the "K-Solar" program to reduce schools' energy costs through the use of solar power. From January 2013 through September 2019, NYPA has provided approximately \$619.3 million in financing for energy efficiency projects covered by Executive Order 88. Overall financing from January 2013 through September 2019 for energy efficiency projects for all customers (including EO88 facilities) amounts to \$1.45 billion.

To achieve its goal of promoting clean energy and efficiency, NYPA implements energy services for the benefit of its power supply customers and for various other public entities throughout the State. Under these programs, the Authority finances the installation of energy saving measures and equipment, which are owned by the customers and public entities upon their installation and which focus primarily on energy efficiency, renewables, resiliency and sustainability. These programs provide funding for, among other things, audits, retro-commissioning, energy master plans, high

efficiency lighting technology, high efficiency heating, ventilating and air conditioning systems and controls, boiler and chiller upgrades, steam traps, thermal storage, building envelope upgrades, combined heat and power, microgrids, solar photovoltaics, fuel cells, water/waste water systems, replacement of inefficient refrigerators, distributed generation technologies and emerging energy and utility technologies. The Authority has authorized, as of September 2019, the expenditure of an aggregate of \$5.1 billion on these programs.

Effective January 1, 2017, the New York State Canal Corporation (the “Canal Corporation”) became a subsidiary of the Authority, and the Authority assumed certain powers and duties relating to the Canal System (as defined below) to be exercised through the Canal Corporation. The Canal Corporation is responsible for a 524-mile canal system consisting of the Erie, Champlain, Oswego, and Cayuga-Seneca canals (the “Canal System”). See “(c) Canal Corporation” for more information.

In 2019, the Authority received ISO 55001 certification for asset management enterprise wide. Asset management is one of the critical components of the Authority’s business strategy. ISO 55001 is an asset management system standard, the main objective of which is to help organizations manage the lifecycle of assets more effectively. By implementing ISO 55001, organizations will have better control over daily activities, achieve higher returns with their assets, and reduce the total cost of risk.

#### **(a) NYPA’s Relationship with New York State Government**

The Authority is a corporate municipal instrumentality and political subdivision of the State of New York (the “State”) created in 1931 by Title 1 of Article 5 of the Public Authorities Law, Chapter 43-A of the Consolidated Laws of the State, as amended from time to time (the “Act”), to help provide a continuous and adequate supply of dependable electric power and energy to the people of the State.

The Authority’s operations are overseen by a Board of Trustees. NYPA’s Trustees are appointed by the Governor of the State, with the advice and consent of the State Senate. The Authority is a fiscally independent public corporation whose operations are not supported by state tax revenues. NYPA generally finances construction of new projects through a combination of internally generated funds and the sale of bonds and notes to investors, and pays related debt service with revenues from the generation and transmission of electricity. Income of the Authority and properties acquired by it for its projects are exempt from taxation.

#### **(b) Budget Process**

NYPA operates in a capital-intensive industry where operating revenues and expenses are significant and highly variable due to the volatility of electricity prices and fuel costs. NYPA’s operations are not only subject to electric and fuel cost volatility, but also changing water flows that have a direct effect on hydroelectric generation levels. This 2020-2023 Approved Budget and Financial Plan (“Approved Four-Year Plan”) relies on data and projections developed through the following timeframe:

- During July – November 2019, developed preliminary forecasts of electric prices (both energy and capacity), ancillary services revenue and expenses, and fuel expenses; NYPA customer power and energy use; NYPA customer rates; generation levels at NYPA power projects reflecting scheduled outages; and purchased energy & power requirements and sources.
- During July – November 2019, developed preliminary operations and maintenance, and capital expense targets.
- November 2019, posted Proposed Four-Year Plan for public inspection at five convenient locations and on NYPA’s internet website.
- During October – November 2019, updated and finalized all forecasts and cost estimates.
- During November – December 2019, integrated above data to produce the 2020-2023 Final Budget and Financial Plan.
- Seek authorization of NYPA’s Trustees to approve the 2020-2023 Final Budget and Financial Plan at their meeting currently scheduled for December 11, 2019.
- Submit the approved 2020-2023 Budget and Financial Plan to the State Comptroller’s Office; and make the approved document available for public inspection at five convenient locations and on NYPA’s internet website.

**NYPA's Four-Year Projected Income Statements**  
**(In \$ Millions)**

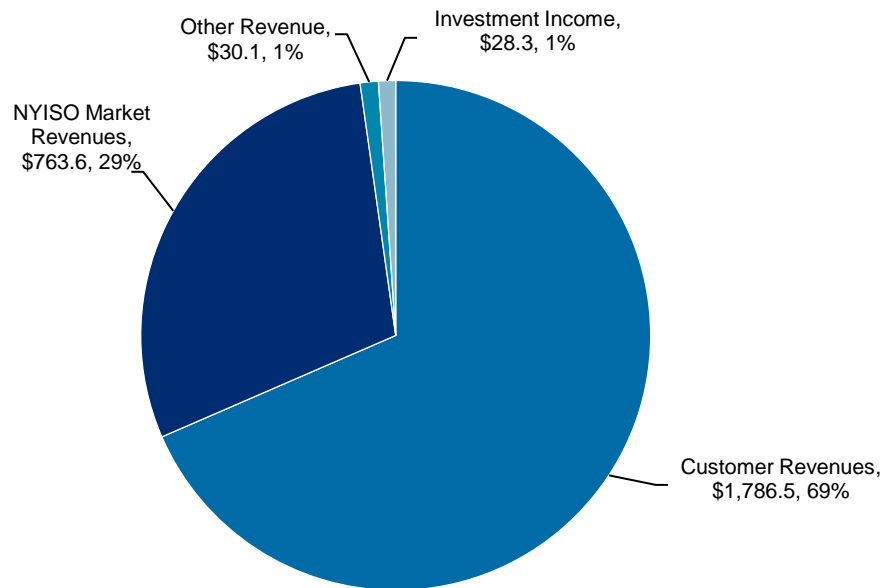
<b>NYPA</b>	<b><u>2020</u></b>	<b><u>2021</u></b>	<b><u>2022</u></b>	<b><u>2023</u></b>
<b>Operating Revenue</b>				
Customer Revenue	\$1,786.5	\$1,835.2	\$1,840.4	\$1,902.4
Market-Based Power Sales	524.5	543.7	522.1	553.8
Ancillary Service Revenue	45.4	47.8	49.5	53.4
NTAC and Other	193.7	211.4	237.2	243.4
Non-Utility Revenue	<u>27.6</u>	<u>34.9</u>	<u>37.6</u>	<u>40.2</u>
<b>Operating Revenue Total</b>	<b>2,577.7</b>	<b>2,673.0</b>	<b>2,686.8</b>	<b>2,793.2</b>
<b>Operating Expense</b>				
Purchase Power	(612.4)	(632.7)	(622.4)	(672.1)
Ancillary Service Expense	(58.3)	(58.2)	(58.5)	(58.4)
Fuel Consumed	(158.7)	(163.7)	(166.4)	(183.1)
Wheeling	(644.1)	(646.4)	(647.5)	(648.4)
Operations & Maintenance	(496.9)	(501.0)	(520.4)	(541.0)
Other Expense	<u>(119.6)</u>	<u>(141.4)</u>	<u>(129.6)</u>	<u>(129.7)</u>
<b>Operating Expense Total</b>	<b>(2,090.0)</b>	<b>(2,143.4)</b>	<b>(2,144.8)</b>	<b>(2,232.7)</b>
<b>EBIDA</b>	<b>487.7</b>	<b>529.6</b>	<b>542.0</b>	<b>560.5</b>
<b>Compounded Annual Growth Rate (CAGR)</b>		8.6%	5.4%	4.8%
<b>Non-Operating Income &amp; Expenses</b>				
Depreciation & Amortization	(234.1)	(246.6)	(250.1)	(259.5)
Investment and Other Income	28.7	27.8	28.0	30.4
Mark to Market Adjustments	(0.4)	0.1	0.0	0.0
Interest & Other Expenses	<u>(120.9)</u>	<u>(120.5)</u>	<u>(122.9)</u>	<u>(119.7)</u>
<b>Non-Operating Income &amp; Expenses Total</b>	<b>(326.7)</b>	<b>(339.2)</b>	<b>(345.0)</b>	<b>(348.8)</b>
<b>NYPA NET INCOME</b>	<b>\$161.0</b>	<b>\$190.4</b>	<b>\$197.0</b>	<b>\$211.7</b>
<b>CANALS</b>				
Operating Revenue	\$2.5	\$2.5	\$2.5	\$2.5
Operating Expense	(93.6)	(93.6)	(93.6)	(93.6)
<b>EBIDA</b>	<b>(91.1)</b>	<b>(91.1)</b>	<b>(91.1)</b>	<b>(91.1)</b>
<b>Non-Operating Income &amp; Expenses</b>	<b>(28.4)</b>	<b>(28.8)</b>	<b>(26.6)</b>	<b>(26.3)</b>
<b>CANALS NET INCOME</b>	<b>(119.5)</b>	<b>(119.9)</b>	<b>(117.7)</b>	<b>(117.4)</b>
<b>TOTAL NET INCOME (NYPA &amp; CANALS)</b>	<b>\$41.5</b>	<b>\$70.5</b>	<b>\$79.3</b>	<b>\$94.3</b>

**NYPA Gross Margin Analysis**  
***(In \$ Millions)***

	<b><u>2020</u></b>	<b><u>2021</u></b>	<b><u>2022</u></b>	<b><u>2023</u></b>
Merchant Margin	\$335.4	\$363.0	\$328.0	\$347.2
Customer Margin	551.6	574.9	591.1	590.9
Transmission Margin	171.2	199.4	234.1	252.2
Other Margin	46.0	34.7	38.8	40.9
<b>TOTAL MARGIN</b>	<b>1,104.2</b>	<b>1,172.0</b>	<b>1,192.0</b>	<b>1,231.2</b>
Operations & Maintenance	(496.9)	(501.0)	(520.4)	(541.0)
Other Expenses	(119.6)	(141.4)	(129.6)	(129.7)
<b>EBIDA</b>	<b>\$487.7</b>	<b>\$529.6</b>	<b>\$542.0</b>	<b>\$560.5</b>

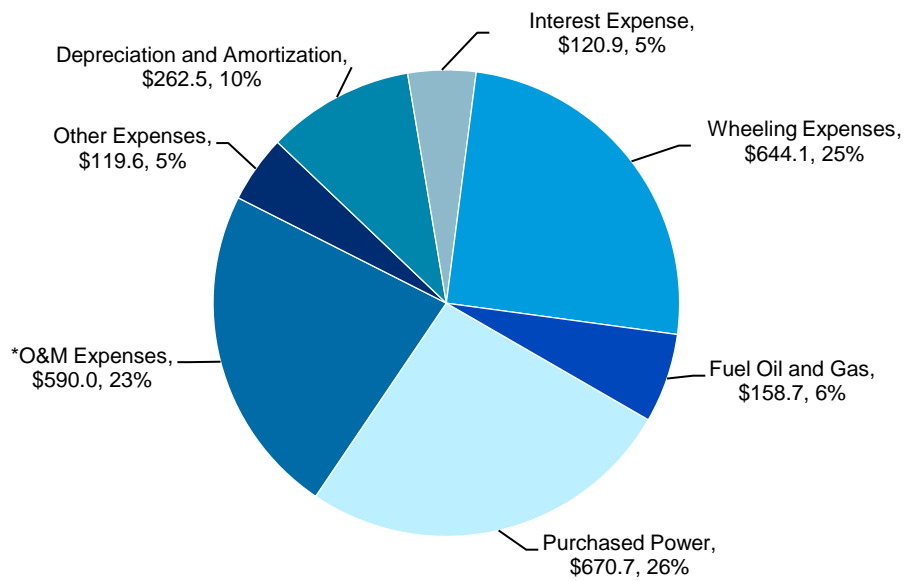
## **2020 Budget – Sources**

*(In \$ Millions)*



## **2020 Budget – Uses**

*(In \$ Millions)*



\* Reflects NYPA's base O&M expenses plus administrative expenses less the Allocation to Capital.

# NYPA's STATEMENTS OF CASH FLOWS

(In \$ Millions)

	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
<b><u>Revenue Receipts:</u></b>						
Sale of Power, Use of Transmission Lines,						
Wheeling Charges and other receipts	\$2,670.5	\$2,398.8	\$2,561.3	\$2,663.7	\$2,685.3	\$2,800.2
Earnings on Investments and Time Deposits	<u>19.2</u>	<u>28.9</u>	<u>28.7</u>	<u>27.8</u>	<u>28.0</u>	<u>30.4</u>
<b>Total Revenues</b>	<b>2,689.7</b>	<b>2,427.7</b>	<b>2,590.0</b>	<b>2,691.5</b>	<b>2,713.3</b>	<b>2,830.6</b>
<b><u>Expenses:</u></b>						
Operation and Maintenance, including Transmission						
of Electricity by others, Purchased Power and						
Fuel Purchases	(2,464.1)	(2,182.7)	(2,291.3)	(2,348.7)	(2,351.6)	(2,442.7)
<b><u>Debt Service:</u></b>						
Interest on Bonds and Notes	(53.5)	(48.0)	(49.5)	(54.2)	(62.0)	(64.3)
Bonds and Notes Retired	<u>(61.7)</u>	<u>(64.1)</u>	<u>(186.7)</u>	<u>(16.5)</u>	<u>(42.9)</u>	<u>(28.0)</u>
<b>Total Debt Service</b>	<b>(115.2)</b>	<b>(112.1)</b>	<b>(236.2)</b>	<b>(70.7)</b>	<b>(104.9)</b>	<b>(92.3)</b>
<b>Total Requirements</b>	<b>(2,579.3)</b>	<b>(2,294.8)</b>	<b>(2,527.5)</b>	<b>(2,419.4)</b>	<b>(2,456.5)</b>	<b>(2,535.0)</b>
<b>Net Operations</b>	<b>110.4</b>	<b>132.9</b>	<b>62.5</b>	<b>272.1</b>	<b>256.8</b>	<b>295.6</b>
<b><u>Capital Receipts:</u></b>						
Sale of Bonds, Promissory Notes & Commercial Paper	102.8	205.7	505.3	248.2	196.5	137.9
Less : Repayments	(62.3)	0.0	(204.0)	(98.0)	0.0	0.0
Earnings on Construction Funds	0.0	0.0	0.0	0.0	0.0	0.0
DSM Recovery Receipts	106.6	169.8	325.8	192.5	281.8	413.7
Temporary Asset Transfer Return from NYS	43.0	48.5	43.0	43.0	43.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total Capital Receipts</b>	<b>190.1</b>	<b>424.0</b>	<b>670.1</b>	<b>385.7</b>	<b>521.3</b>	<b>551.6</b>
<b><u>Capital Additions &amp; Refunds:</u></b>						
Additions to Electric Plant in Service and						
Construction Work in Progress, and Other costs	(460.3)	(772.2)	(864.4)	(996.3)	(880.5)	(713.4)
Construction Funds - Net Transfer	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total Capital Additions &amp; Refunds</b>	<b>(460.3)</b>	<b>(772.2)</b>	<b>(864.4)</b>	<b>(996.3)</b>	<b>(880.5)</b>	<b>(713.4)</b>
<b>Net Capital</b>	<b>(270.2)</b>	<b>(348.2)</b>	<b>(194.3)</b>	<b>(610.6)</b>	<b>(359.2)</b>	<b>(161.8)</b>
<b>Net Increase/(Decrease)</b>	<b><u>(\$159.8)</u></b>	<b><u>(\$215.3)</u></b>	<b><u>(\$131.8)</u></b>	<b><u>(\$338.5)</u></b>	<b><u>(\$102.4)</u></b>	<b><u>\$133.8</u></b>

## **(c) Budget Assumptions**

### **NYISO Revenue and Expenses**

Based on scheduled customer power needs and available electricity generated by NYPA's operating assets, the Authority buys and sells capacity and energy through markets operated by the New York Independent System Operator ("NYISO"). Various NYISO purchased power charges in combination with generation related fuel expenses comprise a large portion of NYPA's operating expenses. A significant amount of the Authority's revenues result from sales of the Authority's generation into the NYISO market for which the energy revenues are projected based on available forward price curves while the capacity revenues are estimated using the NYISO demand curve methodology.

### **Customer and Project Revenue**

The customers served by the Authority and the rates paid by such customers vary with the NYPA Power Programs designated to serve such loads. These customers are served under contracts and tariffs approved by the Trustees.

#### **St. Lawrence-FDR and Niagara Customers**

Power and energy from the St. Lawrence-FDR and Niagara hydroelectric facilities are sold under contract to municipal electric systems, rural electric cooperatives, industrial and other business customers, certain public bodies, investor-owned utilities, and out-of-state customers, with the balance sold into the NYISO market.

The charges for firm and/or firm peaking power and associated energy sold by the Authority, as applicable, to the fifty-one municipal electric systems and rural electric cooperatives in New York State; two public transportation agencies; three investor-owned utilities for the benefit of rural and domestic customers; and seven out-of-state public customers have been established on the basis of the cost to serve these loads. This Approved Four-Year Plan models Trustee-approved rate changes for customers as well as prospective rate changes.

Niagara's expansion and replacement power industrial customers and St. Lawrence-FDR's industrial customers are allocated over 35% of the firm contract demand of the plants. Sale of expansion and replacement power historically had been handled on a sale-for-resale basis through National Grid and New York State Electric and Gas. However, the direct sale of low-cost hydro power to these customers commenced July 1, 2013. As a result, NYPA is now the load-serving entity for these transactions.

Legislation enacted in March 2011, effective July 2012, created a new economic development power program, the ReCharge New York Power Program ("RNYPP"), to replace two other economic development programs. RNYPP is a permanent power program administered by the Authority and the Economic Development Power Allocation Board ("EDPAB"). The RNYPP utilizes up to 455 MW of hydropower from the Authority's Niagara and St. Lawrence-FDR projects combined with up to 455 MW of other power procured by the Authority from other sources. The 910 MW of power is available for allocations to eligible new and existing businesses and not-for-profit corporations under contracts of up to seven years. The RNYPP legislation also authorizes the Authority, as deemed feasible and advisable by the Trustees, to provide annual funding of \$100 million for the first three years following withdrawal of the hydropower from the rural and domestic customers, then \$70 million for the fourth year, \$50 million for the fifth year, and \$30 million each year thereafter, for the purpose of funding a residential consumer discount program for those customers that had previously received this hydropower. Revenues earned from the sale of unused RNYPP power into the wholesale market may be used to offset the cost of these residential discounts. The Authority's Trustees have authorized the release of a total \$564 million for the period from August 2011 to December 2019 in support this residential discount program. The Authority supplemented the market revenues used to fund the residential discount program with internal funds, totaling cumulatively \$72 million from August 2011 through June 30, 2019.

In March 2019, the Trustees were requested to approve a seven-year extension of an agreement for the sale of firm hydroelectric power and energy from the St. Lawrence-FDR project to the Aluminum Company of America ("Alcoa") at its West Plant facilities. The existing contract with Alcoa, for an aggregate of 245 MW, has been executed effective October 1, 2015 through March 31, 2019, replacing prior long-term contracts. The contract extension provides for monthly Base Rate adjustments based upon the price of aluminum on the London Metal Exchange and contains provisions for employment (450 jobs) and capital (\$14 million) commitments. Changes from the existing contract include: a reduced allocation of 240 MW, with the additional 5 MW being allocated to Arconic, a newly formed business independent of Alcoa, sold under a separate power sale agreement; a Monthly CES charge relating to Zero Emission Credits (ZEC) and Renewable Energy Credits (REC) that NYPA purchases which are attributable to Alcoa's load. The



contract specifies a sharing mechanism for the CES charges between Alcoa, New York State and NYPA, whereby Alcoa's share increases as the aluminum price increases.

The Authority estimates that the total costs associated with the relicensing of the St. Lawrence-FDR Project in 2003 for a period of 50 years will be approximately \$210 million, of which approximately \$199.4 million has already been spent as of June 30, 2019. These total costs could increase in the future as a result of authorities reserved by FERC in the license for the St. Lawrence-FDR Project issued in 2003. The Authority is collecting in its rates for the sale of St. Lawrence-FDR power amounts necessary to fund such relicensing costs.

Chapter 545 of the laws of 2014 enacted the "Northern New York Power Proceeds Act" ("NNYPPA"). The NNYPPA authorizes the Authority, as deemed feasible and advisable by the Trustees, to deposit net earnings from the sale of unallocated St. Lawrence County Economic Development Power ("SLCEDP") by the Authority in the wholesale energy market into an account known as the Northern New York Economic Development Fund ("NNYED Fund") administered by the Authority, and to make awards to eligible applicants that propose eligible projects that satisfy applicable criteria. The NNYPPA established a five-member allocation board appointed by the Governor to review applications seeking NNYED Fund benefits and to make recommendations to the Authority concerning benefits awards.

SLCEDP consists of up to 20 MW of hydropower from the Authority's St. Lawrence-FDR Power Project which the Authority has made available for sale to the Town of Massena Electric Department ("MED") for MED to sub-allocate for economic development purposes in accordance with a contract between the parties entered into in 2012 (the "Authority-MED Contract"). The NNYPPA defines "net earnings" as the aggregate excess of revenues received by the Authority from the sale of energy associated with SLCEDP sold by the Authority in the wholesale energy market over what revenues would have been received had such energy been sold to MED on a firm basis under the terms of the Authority-MED Contract. For the first 5 years after enactment, the amount of SLCEDP the Authority could use to generate net earnings may not exceed the lesser of 20 MW or the amount of SLCEDP that has not been allocated by the Authority pursuant to the Authority-MED contract. Thereafter, the amount of SLCEDP that the Authority could use for such purpose may not exceed the lesser of 10 MW or the amount of SLCEDP that has not been allocated. The Authority's estimates of payments from the Authority to the NNYED Fund have been incorporated into this Approved Four-Year Plan.

The Western New York Power Proceeds Act ("WNYPPA"), which was enacted on March 30, 2012, authorizes the Authority to deposit net earnings from the sale of unused Expansion Power and Replacement Power from the Authority's Niagara project into the Western New York Economic Development Fund ("WNY Fund") as deemed feasible and advisable by the Authority's Trustees. "Net earnings" are defined as any excess revenue earned from such power sold into the wholesale market over the revenue that would have been received had the power been sold at the Expansion Power and Replacement Power rates. Proceeds from the WNY Fund may be used to support eligible projects undertaken within a 30-mile radius of the Niagara project that qualify under the applicable criteria. The WNYPPA established a five-member allocation board appointed by the Governor. The Authority's estimates of payments from the Authority to the WNY Fund have been incorporated into this Approved Four-Year Plan.

### SENY Governmental Customers

Various municipalities, school districts and public agencies in New York City and Westchester County are served by the Authority's combined cycle Zeltmann plant, the four small hydroelectric plants, the contracted output of the Astoria Energy II plant, and capacity and energy purchased by the Authority in the NYISO markets. Sales into the NYISO of energy generated by these resources, grandfathered transmission rights, and historic fixed priced transmission rights offset the cost of the energy purchased.

In 2018 and 2019, the Authority executed new supplemental long-term electricity supply agreements (2018 LTAs) with its eleven NYC Governmental Customers, including the Metropolitan Transportation Authority, the City of New York, the Port Authority of New York and New Jersey (Port Authority), the New York City Housing Authority, and the New York State Office of General Services.

Under the Supplemental LTAs, the NYC Governmental Customers agreed to purchase their electricity from the Authority through December 31, 2027, with the NYC Governmental Customers having the right to terminate at any time upon at least twelve months' notice. Each of the Authority and the NYC Governmental Customers may also terminate effective December 31, 2022 upon at least six months' notice. Under the Supplemental LTAs, fixed costs were set for each customer and are subject to renegotiation after five years. Variable costs, including fuel, purchased power and NYISO related costs, will be passed through to each customer by an energy charge adjustment.

The Authority's other Southeastern New York (SENY) Governmental Customers are Westchester County and numerous municipalities, school districts, and other public agencies located in Westchester County (collectively, the "Westchester Governmental Customers"). The Authority has entered into a supplemental electricity supply agreement with all 103 Westchester Governmental Customers. Among other things, under the agreement, an energy charge adjustment mechanism is applicable, and customers are allowed to partially terminate service from the Authority on at least two months' notice prior to the start of the NYISO capability periods. Full termination is allowed on at least one year's notice, effective no sooner than January 1 following the one-year notice.

### Blenheim-Gilboa Customers

The Blenheim-Gilboa project currently operates as a merchant plant, with capacity and energy output sold into the NYISO market. Prior to 2018 and signing of the new LTAs, the NYC governmental customers received a 250 MW allocation of firm capacity and associated energy revenues. The plant's capacity can be used to meet the requirements of some of the Authority's other business and governmental customers and/or sold in the NYISO market. The current forecast assumes Blenheim-Gilboa will operate as a merchant plant for the upcoming four years.

### Small Clean Power Plants ("SCPPs")

In the summer of 2001, the Authority placed in operation ten 44-MW natural-gas-fueled SCPPs in New York City and one on Long Island, to address a potential local reliability deficiency in the New York City metropolitan area and its potential impact on statewide reliability. As a result of the settlement of litigation relating to certain of the SCPPs, the Authority has agreed under the settlement agreement to cease operations at the Vernon location, which houses two units, under certain conditions and if the Mayor of New York City directs such cessation. No such cessation has occurred. The plant at the Vernon location is assumed to be operating during the forecast period pursuant to the terms of an agreement entered into at the time of construction.

For this Approved Four-Year Plan, it is assumed that the capacity of the SCPPs may be used by the Authority to meet its customers' capacity requirements, sold to other users via bilateral arrangements or sold into the NYISO capacity auctions. NYPA sells the energy produced by the SCPPs into the NYISO energy markets.

### Flynn

The Flynn project currently operates as a merchant plant, with capacity and energy output sold into the NYISO market. The forecast assumes Flynn operate as a merchant plant for the upcoming four years.

## Transmission Projects

The Authority owns approximately 1,400 circuit miles of high voltage transmission lines, and associated substations operating at voltages of 115kV, 230kV, 345kV, and 765kV. The Authority's Backbone Transmission System consists of a large subset of these transmission facilities, with major circuits such as:

### 765kV

- MSU1 (Marcy-Massena)
- MSC-7040 (Massena-Chateaugay)

### 345kV

- UE1-7 (Marcy-Edic)
- UNS-18 (Marcy-New Scotland)
- VU19 (Volney-Marcy)
- NR-2 (Niagara-Rochester)
- NS-1 (Niagara-Sommerset)
- Y-49 (Long Island Sound Cable)
- Q-35L&M (Queens-Manhattan)

### 230kV

- MA-1/MA-2 (Moses-Adirondack)
- MMS-1/MMS-2 (Moses-Massena)
- MW-1/MW-2 (Moses-Willis)

Since the formation of the NYISO in November 1999, cost recovery for the Authority's provision of transmission service over its facilities has been governed by the NYISO tariff which included an annual transmission revenue requirement ("TRR") for NYPA of \$165.4 million. The Authority receives cost recovery through the NYISO tariff mechanism known as the NYPA Transmission Adjustment Charge ("NTAC"), recovering NYPA Backbone Transmission System costs on a statewide basis after accounting for NYPA's revenues received from pre-existing customer transmission service contracts, a Transmission Service Charge assessed on customers in NYPA's upstate load zone, and other sources.

In July 2012, the Authority filed for its first TRR increase with FERC. The Authority's filing resulted in an uncontested settlement approved by FERC for a new, \$175.5 million TRR applicable to the Authority, effective August 1, 2012. The increased TRR is necessary to cover increased operating and maintenance expenses of NYPA's bulk transmission system, as well as to make necessary capital improvements.

In January 2016, the Authority filed for a transmission revenue requirement formula rate with FERC. In March 2016, FERC accepted the filing and made it effective April 1, 2016, as requested, subject to hearing and settlement judge procedures. The Authority requested a formula rate to more efficiently recover its increased capital and operating expenditures needed to maintain the reliability of its transmission system. The Authority filed an unopposed Offer of Settlement on September 30, 2016 that fully resolves the issues raised by interested parties in settlement negotiations concerning the formula rate. Separately, the annual TRR under the formula of \$190.0 million initially made effective April 1 was updated on July 1, 2016 to \$198.2 million pursuant to the formula rate annual update process. Effective July 1, 2019, the Transmission Revenue Requirement is \$237.7 million, including the revenue requirement for the Marcy South Series Compensation project. Annual updates commensurate with projected costs are assumed to continue throughout the forecast period.

The Authority is moving forward with its plans to replace a major section of the Moses Adirondack Line, one of the Authority's Backbone Transmission System lines. The replacement project covers 78 miles of 230 kV transmission line from Massena to the town of Croghan in Lewis County. The project includes the replacement of obsolete wood pole structures with higher, steel pole structures, as well as replacement of failing conductors with new conductors and insulators. The line will operate at its current 230 kV level, but the conductors and insulators will accommodate future 345 kV operation.

In July 2017, the Authority received authorization under the NYISO tariff to include the costs of this replacement project in its NTAC mechanism for cost recovery of the Authority's transmission system costs, which means that the costs will be allocated to all ratepayers in the State. On September 21, 2018, the Public Service Commission determined that the Authority's April 2018 Article VII application was complete. Currently, the Authority is negotiating Article VII

Certificate Conditions, Joint Proposal of Settlement, the Environmental Management and Construction Plan, Army Corps of Engineer approvals, and exhibits and appendices with regulatory agencies. The Authority estimates a project cost of \$484 million through project completion. Construction is expected to begin in 2020 and be completed in 2023. This Approved Four-Year Plan includes revenues and costs associated with the Moses Adirondack project.

On August 1, 2014, the Public Policy Transmission Planning Process administered by the NYISO invited solicitations to address the AC Transmission Public Policy Need ("AC Proceeding") for new transmission lines to relieve the congested Central East and UPNY/SENY transmission interfaces. In June 2018, the Authority and North America Transmission ("NAT") entered into a Participation Agreement which granted the Authority the option to secure an ownership interest of up to 37.5% in the projects that they jointly proposed. In April 2019, the NYISO board selected the project proposed by LS Power Grid New York, LLC ("LS Power") (formerly known as NAT) and the Authority for Segment A (also known as the Marcy to New Scotland Upgrade Project) to increase transfer capability from central to eastern New York.

The NYISO estimated the total cost of the Segment A project to be about \$750 million (in 2018 dollars, including 30 percent contingency). In August 2019, LS Power and the Authority submitted an Article VII application to the PSC and the Authority filed an incentive to FERC under Order 679. If the PSC authorizes the project, construction of the project would begin, which is targeted for late 2020. Ultimately, the transmission lines to be rebuilt as part of the Segment A project are expected to be energized as part of the New York electrical system by the end of 2023.

In May 2019, the Authority's Trustees approved capital expenditures of approximately \$28 million for the Segment A project. In consideration of maintaining the purchase option under the Participation Agreement, the Authority will fund 33% of the Segment A project development costs until such time as the Authority decides to exercise its 37.5% purchase option.

The Authority is in continuing discussions with LS Power and the NYISO with respect to the development of the project. The Authority expects its costs with respect to the development of the Segment A project will be recovered through FERC's cost-recovery mechanisms. The projects proposed by NYPA and LS Power include the construction of over 300 miles of new 345kV and 115kV transmission lines and four new substations. These projects will be presented to the NYISO Board of Directors for approval and are recommended to be placed in service by 2023. Given that approvals are required before the proposals may proceed, this Approved Four-Year Plan include revenues and costs associated with the AC Proceeding projects.

#### Hudson Transmission Project

In 2011, the Trustees authorized Authority staff to enter into an agreement with Hudson Transmission Partners, LLC ("HTP") for the purchase of capacity to meet the long-term requirements of the Authority's NYC Governmental Customers and to improve the transmission infrastructure serving New York City through the transmission rights associated with HTP's transmission line (the "Line") extending from Bergen County, New Jersey in the PJM Interconnection, LLC (PJM) transmission system, to Consolidated Edison Company of New York, Inc.'s ("Con Edison") West 49th Street substation in the NYISO. Specifically, the Authority executed a Firm Transmission Capacity Purchase Agreement ("FTCPA") with HTP under which the Authority gained the entitlement to 75% of the Line's 660 MW capacity, or 495 MW, for 20 years. The Authority's capacity payment obligations under the FTCPA began upon the Line's commencement of commercial operation, which occurred on June 3, 2013. Also, upon commercial operation, the FTCPA obligates the Authority to reimburse HTP for the cost of interconnection and transmission upgrades in New York and New Jersey associated with the Line and to pay for all remaining upgrade costs as they are incurred. Such interconnection and transmission upgrades have been completed at a total cost to the Authority of \$334.9 million. The Authority's obligations under the FTCPA also include payment of the Regional Transmission Enhancement Plan ("RTEP") charges allocated to HTP in accordance with the PJM tariff. Such RTEP costs are significant and are discussed below.

It is estimated that the revenues derived from the Authority's rights under the FTCPA will not be sufficient to fully cover the Authority's costs under the FTCPA during the 20-year term of the FTCPA. In August 2019, the Authority estimated that its under-recovery of costs for the Line could be in the range of approximately \$90 million to \$95 million per year over the next four years. The under-recovery estimates were based on projections of the capacity payment obligations, the costs of interconnection and transmission upgrades, and energy revenues.

PJM's RTEP cost allocation methodology for certain upgrades, such as the Bergen-Linden Corridor ("BLC") project built by Public Service Electric & Gas Company ("PSE&G") in New Jersey, is being challenged at FERC in numerous

proceedings by Con Edison, the Authority, HTP and other parties on the grounds that PJM has disproportionately allocated the costs of those projects to those parties. In a separate FERC proceeding, the Authority challenged the RTEP share of the BLC project costs allocated to HTP that were effective May 1, 2017 as a result of Con Edison's termination of its PJM firm transmission rights. The cost allocations shifted approximately \$533 million in RTEP charges for the BLC project that had been previously allocated to Con Edison to HTP. Such costs are in addition to the \$111 million in RTEP charges for the BLC project that had been previously allocated to HTP. RTEP costs relating to the BLC project would be paid over a number of years after construction commenced in 2017. Construction of the BLC project was completed in 2018.

From June 2013 through June 2019, the Authority has paid approximately \$97 million in RTEP charges for the Line, including the BLC project and pre-2013 RTEP project allocations arising from a contested settlement that FERC approved in May 2018 over the objections of the Authority and HTP.

In July 2017, the Authority, together with HTP, sought to relinquish the Firm Transmission Withdrawal Rights ("FTWRs") held by HTP on the Line. HTP's FTWRs formed the basis for the allocation of RTEP costs to HTP, which are the Authority's obligation under the FTCPA. In the resulting FERC order dated December 15, 2017, FERC determined that HTP may relinquish its firm rights effective immediately. Accordingly, when PJM's annual RTEP cost allocation update for 2018 was filed, the Authority's obligation to pay RTEP charges related to the BLC project was 100% eliminated for 2018 and beyond. FERC issued its March 5, 2018 order endorsing PJM's new cost allocation. Both the December 15, 2017 and the March 5, 2018 FERC orders are pending rehearing. On July 19, 2018, FERC established procedures to allow parties to resolve by settlement the continuing disputes in these and several other ongoing RTEP proceedings that relate to the BLC project costs. Settlement efforts commenced in August 2018. In July 2019, the FERC settlement judge declared an impasse in the settlement proceedings and the FERC chief judge terminated settlement proceedings for disposition of the ongoing RTEP proceedings by FERC. On August 30, 2019, FERC directed PJM to establish an allocation of historical RTEP charges that will impact NYPA to some degree, but the precise allocations will be known later in 2019. Such charges are for facilities related to transmission needs driven solely by the individual PJM transmission owners' local planning criteria. In 2018, the D.C. Circuit Court of Appeals reversed PJM's prior tariff provision that allocated 100% of such transmission costs to the transmission zone of the PJM transmission owner whose local planning criteria underlie the project. As a result, some RTEP charges for the period May 25, 2015 through December 31, 2017, may be reallocated to NYPA.

On March 31, 2017, the Authority and HTP executed an amendment to the FTCPA. In exchange for the Authority extending the cure period for HTP to replace underwater cables that have been subject to failure and which have resulted in the Line being out of service, under the amended FTCPA the Authority received HTP's assurances to pursue certain remedies at FERC concerning the termination of the 320 MW of FTWRs in order to eliminate RTEP assessments and a guarantee that if PJM RTEP assessments cannot be eliminated despite HTP's efforts to terminate the FTWRs, that HTP will cancel its interconnection service agreement ("ISA") to physically disconnect the Line from the PJM transmission system, causing termination of all RTEP allocations. The FERC orders from December 15, 2017 and March 5, 2018 have fulfilled the goal of eliminating the RTEP assessments associated with the BLC project (though subject to further legal processes as described above). In addition, the Authority and HTP agreed to: (a) based upon RTEP costs already paid, increase, by \$40 million, the size of the tracking account that is used to offset the cost to purchase the Line at the end of the FTCPA term, at the Authority's option, and (b) shared rights to direct power on the Line in the opposite direction of its current flow should market conditions present revenue opportunities for selling capacity and energy from New York to New Jersey. In November 2017, HTP completed the cable replacement and, pursuant to the March 31, 2017 amendments, the Authority increased the leased portion of the Line's capacity from 75% to 87.12%, bringing the total leased capacity from 495 MW to 575 MW at a monthly capacity charge rate that represents a decrease in the unit price (on a \$/MW-month basis) paid to HTP in the original FTCPA.

### **Purchased Power Expenses**

Capacity, energy and ancillary service purchases made on behalf of customers (except for those made through previously approved purchased power agreements) are assumed to be transacted at the market clearing price in the wholesale market. For purposes of developing this Approved Four-Year Plan, projected energy rates are based on published forward price curves, while capacity rates are based on internally developed capacity curves using external pricing sources such as broker quotes and trading platforms.

## **Fuel Expenses**

Fossil-fuel purchases in this Approved Four-Year Plan are based on expected net generation levels determined through the use of an economic dispatch model for the Authority's plants and on available forward fuel price curves. Fuel expenses also include the costs associated with emission credit requirements under the Regional Greenhouse Gas Initiative ("RGGI"). RGGI requires the Authority to buy emission credits for its fossil-fuel plants, and the Authority also purchases such credits for the contracted Astoria Energy II plant. The projections for RGGI costs are based on projected emission rates and forecasted consumption of natural gas and oil, with such costs recovered either through specific customer contract pass-through provisions or from the wholesale market.

## **Wheeling Expenses**

Wheeling (i.e., the transmission and/or delivery of power and energy to customers over the lines of a third party) expenses are based on contractual and/or tariff rates of the service provider and are recovered through pass-through provisions in customer contracts.

## **2020 Strategic Initiatives**

As part of our Vision 2020 Strategic Plan, the Authority is pursuing six strategic initiatives, which are in varying stages of implementation. These initiatives include, but are not limited to:

- Customer Solutions – to develop innovative, cost-effective and resilient energy solutions that enable customers to achieve their energy goals in new ways.
- Asset Management – to strengthen investment planning through enhanced use of technology, data, people and processes.
- Smart Generation and Transmission – to deploy advanced technologies that ensure that grid operations become increasingly intelligent.
- Workforce Planning – to identify and acquire the skills that NYPA will need to succeed, through internal training, succession planning, employee retention and external recruiting.
- Knowledge Management – to promote enhanced sharing of information and knowledge as part of day-to-day operations.
- Process Excellence – to enhance processes in order to optimize resources and costs, manage risk, and reduce environmental impact.

In 2018, at the direction of the Trustees, NYPA initiated two new key strategic activities – the aim being to identify strategic investment opportunities and build compelling business cases to:

- Multiply the impact and/or shorten the implementation time of our existing six strategic initiatives;
- Support the achievement of the State's clean energy goals, with a focus on:
  - Building out statewide electric vehicle charging infrastructure: In May 2018, the Authority's Trustees approved an overall allocation of up to \$250 million to be used through 2025 for an electric vehicle acceleration initiative and authorized \$40 million for the first phase of the initiative. The majority of this spend will be capital. In October 2018, the Authority's Trustees awarded contracts valued at up to \$60 million to several firms that will provide electric vehicle supply equipment, of which \$40 million would be used to support the electric vehicle acceleration initiative.
  - Driving down the cost of Offshore Wind.
  - Building the necessary flexibility in our electricity grid in order to ensure as many low cost, clean, reliable electrons are being consumed when and where they are needed.

This Approved Four-Year Plan reflects costs and revenues with respect to these initiatives.

## **Vision 2030: NYPA's updated strategic plan**

Building on the successful implementation of the 2020 Strategic Plan, NYPA is currently in the process of updating the Authority's guiding strategy through Vision 2030. This plan will center on helping achieve the greenhouse gas reduction targets in New York State's recently passed Climate Leadership and Community Protection Act (CLCPA), the most ambitious climate change legislation in the country. NYPA's Vision 2030 will be brought to the NYPA Trustees for approval in 2020 and aims to position NYPA and our customers to lead the transition to New York's clean energy future.

## **Canal Corporation**

Effective January 1, 2017, the Canal Corporation became a subsidiary of the Authority, and the Authority assumed certain powers and duties relating to the Canal System to be exercised through the Canal Corporation.

The Canal Corporation operates at a loss and is expected to require substantial operating and maintenance support and capital investment. The Canal Corporation's expenses are expected to be funded by transfers of funds from the Authority. Any transfer of funds would be subject to approval by the Authority's Board of Trustees and compliance with the Authority's General Resolution Authorizing Revenue Obligations, as amended and supplemented. Certain expenses eligible for reimbursement are expected to be reimbursed to the Authority by moneys held in the Canal Development Fund maintained by the State Comptroller and the Commissioner of Taxation and Finance.

Given the age of the Canal System, the Authority expects that significant maintenance and capital investments will be required to assure the Canal System's continuing operation. The Authority's budget and financial plan for 2020-2023 includes Canal-related operating expenditures of approximately \$85 million per year and capital expenditures of approximately \$40 million per year. The Authority will continue to evaluate the condition of the Canal System and expects to allocate additional funding if deemed necessary through its annual budgeting process.

## **Investment Income**

Investment of the Authority's funds is administered in accordance with the applicable provisions of the Bond Resolution and with the Authority's investment guidelines. These guidelines comply with the New York State Comptroller's investment guidelines for public authorities and were adopted pursuant to Section 2925 of the New York Public Authorities Law.

The Authority's investments are restricted to (a) collateralized certificates of deposit, (b) direct obligations of or obligations guaranteed by the United States of America or the State of New York, (c) obligations issued or guaranteed by certain specified federal agencies and any agency controlled by or supervised by and acting as an instrumentality of the United States Government, and (d) obligations of any state or any political subdivision thereof or any agency, instrumentality or local government unit of any such state or political subdivision which is rated in any of the three highest long-term rating categories, or the highest short-term rating category, by nationally recognized rating agencies. The Authority's investments in the debt securities of Federal Home Loan Bank rated Aaa by Moody's Investors Services and AA+ by Standard & Poor's; Federal National Mortgage Association, Federal Farm Credit Bank and Federal Home Loan Mortgage Corp. were rated Aaa by Moody's Investors Services, AAA by Fitch Ratings, and AA+ by Standard & Poor's. All of the Authority's investments in U.S. debt instruments are issued or explicitly guaranteed by the United States Government.

## Operations and Maintenance Expenses

NYPA's O&M plan for 2020-2023 is as follows:

Operations and Maintenance Forecast (In \$ Millions)				
	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
<b>Payroll</b>	<b>\$253.4</b>	<b>\$259.9</b>	<b>\$266.5</b>	<b>\$273.3</b>
<b>Benefits</b>	<b>126.2</b>	<b>128.9</b>	<b>131.7</b>	<b>134.5</b>
<b>Materials/Supplies</b>	<b>28.0</b>	<b>28.7</b>	<b>29.5</b>	<b>30.2</b>
<b>Fees</b>	<b>9.7</b>	<b>9.9</b>	<b>10.2</b>	<b>10.5</b>
<b>Office &amp; Station</b>	<b>27.4</b>	<b>28.2</b>	<b>29.0</b>	<b>29.8</b>
<b>Maintenance Repair &amp; Service Contracts</b>	<b>139.5</b>	<b>139.8</b>	<b>141.4</b>	<b>141.3</b>
<b>Consultants</b>	<b>47.5</b>	<b>48.8</b>	<b>50.0</b>	<b>51.3</b>
<b>Charges to:</b>				
Outside Agencies	(1.7)	(1.8)	(1.8)	(1.8)
Capital Programs	<u>(51.7)</u>	<u>(53.0)</u>	<u>(54.4)</u>	<u>(55.7)</u>
<b>Total Charges</b>	<b>(53.4)</b>	<b>(54.8)</b>	<b>(56.2)</b>	<b>(57.5)</b>
<b>Research &amp; Development</b>	<b>12.3</b>	<b>12.7</b>	<b>13.0</b>	<b>13.4</b>
<b>Subtotal</b>	<b>590.6</b>	<b>602.1</b>	<b>615.1</b>	<b>627.0</b>
<b>Astoria Energy II</b>	<b>22.0</b>	<b>22.6</b>	<b>23.2</b>	<b>23.8</b>
<b>TOTAL NYPA O&amp;M</b>	<b>\$612.6</b>	<b>\$624.7</b>	<b>\$638.3</b>	<b>\$650.8</b>



## **Depreciation and Amortization Expenses**

Depreciation of capital assets is generally provided on a straight-line basis over the estimated lives of the various classes of capital assets. The related depreciation provisions at December 31, 2018 expressed as a percentage of average depreciable capital assets was 2.5%.

## **Other Expenses**

The Other Expenses category largely reflects various accruals and other miscellaneous expenses (e.g., payments to the NNYED Fund and WNY Fund), some of which require Trustee authorization on a case-by-case basis.

## **(d) Self – Assessment of Budgetary Risks**

Set forth below is a summary of key risks associated with the Authority's assets and operations. The following discussion of risks is intended only as a summary and does not purport to identify all of the risk factors that may affect the Authority's assets and operations. Any one or more of the factors discussed and others could adversely affect the Authority's operations, assets, revenues and expenses to an extent that cannot be determined at this time.

As an organization, our business units represent the first line of defense in identifying and mitigating risk within each of their verticals. This is complemented by a robust, ongoing assessment process, overseen by the Authority's Risk group and through legal review. During the annual budgeting process, the Financial Planning team is responsible for consolidating information received from various departments at NYPA that are inputs into our financial forecast. The team actively engages and challenges all assumptions as we work toward representing the most likely future financial outcome.

## **Regulatory Risks**

On August 1, 2016, the New York Public Service Commission ("NYPSC") issued an order establishing a Clean Energy Standard (the "CES Order") to implement the clean energy goals of the State Energy Plan. Pursuant to the CES Order, load serving entities identified in the order are required to purchase "Zero Emission Credits" ("ZECs") from the New York State Energy Research Development Authority ("NYSERDA") to support the preservation of existing at risk zero emissions nuclear generation. The Authority is not subject to NYPSC jurisdiction for purposes of the CES Order but has assumed an obligation to purchase ZECs consistent with the terms of the CES Order and intends to seek recovery of such costs from the Authority's customers. On January 31, 2017, the Authority's Trustees authorized (a) participation in the NYPSC's ZEC program and (b) execution of an agreement with NYSERDA to purchase ZECs associated with the Authority's applicable share of energy sales. The Authority and NYSERDA executed an agreement covering a two-year period from April 1, 2017 to March 31, 2019 under which the Authority committed to purchase ZECs in a quantity based on its proportional load in the New York control area. The Authority continues to operate under the terms of the agreement. A similar assumption has been made for the remainder of 2019 through 2023. As of October 2018, the Authority estimates that it will incur ZEC purchase costs associated with participation in the ZEC program of approximately \$248 million in aggregate over the 2020-2023 period, of which approximately \$21.7 million is not expected to be recovered under customer contracts.

The Regional Greenhouse Gas Initiative (the "RGGI") is a cooperative effort by Northeastern and Mid-Atlantic states, including New York, to reduce carbon dioxide emission levels. Participating states have established a regional carbon dioxide emissions cap from the power sector (fossil fuel-fired power plants 25MW or greater). The emissions cap reduces by 2.5% annually until 2020. Central to this initiative is the implementation of a multi-state cap-and-trade program with a market-based emissions trading system. The program requires electricity generators to hold carbon dioxide allowances in a compliance account in a quantity that matches their total emissions of carbon dioxide for the compliance period. The Authority's Flynn plant, the SCPPs, and Zeltmann Plant are subject to the RGGI requirements as is the Astoria Energy II plant. The Authority has participated in program auctions to acquire carbon dioxide allowances, which the Authority requires to cover operation of its fossil-fueled power plants and the Astoria Energy II plant and expects to recover RGGI costs through its power sales revenues. The number of allowances offered in the auction by RGGI cap and trade program was reduced from allowances covering 165 million tons of carbon dioxide emissions in 2013 to 60.3 million tons in 2018 and will decline by 2.5% each year through 2020. On December 19, 2017, the RGGI states released an updated Model Rule that includes an additional 30% regional cap reduction between 2020 and 2030. The Authority is monitoring federal legislation and proposed programs that would impact RGGI.

On June 19, 2019, the United States Environmental Protection Agency (“EPA”) released its final Affordable Clean Energy (“ACE”) rule. This rule replaces the Clean Power Plan (“CPP”) rule. The ACE rule established guidelines for states, including New York, to use for carbon dioxide emissions from coal-fired plants and other regulations for implementation of the Clean Air Act Section 111 (d) for existing power plants. Previously, the CPP Rule was stayed by the U.S. Supreme Court on February 9, 2016 pending disposition of petitions for review before the U.S. Court of Appeals for the District of Columbia Circuit. Thereafter, the D.C. Circuit Court granted EPA’s motion to suspend cases challenging the CPP Rule, which the EPA has now rescinded and replaced, and is likely moot pending the D.C. Circuit Court formally ending the litigation. On August 13, 2019, twenty-two states, including New York, and seven local governments filed a petition with the U.S. Court of Appeals for the D.C. Circuit challenging the ACE rule (on August 14, 2019, a coalition of health and environmental groups followed suit by filing a petition challenging ACE). With regard to greenhouse gas emissions in New York, on July 18, 2019, Governor Andrew Cuomo signed the New York State Climate Leadership and Community Protection Act that sets a goal of net-zero carbon emissions for the entire state, not limited to the energy sector, by 2050 (85% reduction of greenhouse gas emissions from 1990 levels and implement measures to offset the remaining 15%), with a requirement for 70% of the state’s electricity to be from renewable sources by 2030 (see discussion in “New Legislation Affecting the Authority”). The Authority continues to monitor developments in this area.

During 2011, the EPA issued a series of rulings to establish the Cross-State Air Pollution Rule (“CSAPR”), which was updated in 2016. The CSAPR establishes emission allowance budgets for sulfur dioxide and nitrogen oxides for eastern states, including New York, and requires power plants in those states to hold allowances to cover their emissions. Certain trading of allowances is authorized under the CSAPR. In July 2018, a proposed determination published by the EPA found that the 2016 CSAPR Update to the National Ambient Air Quality Standards (“NAAQS”) was sufficient to address the good neighbor provisions of the Clean Air Act, and that no further rulemaking is required to address out-of-state emissions as additional upwind reductions are not required to meet the 2008 ozone NAAQS. The U.S. Court of Appeals for the D.C. Circuit has not yet decided the legality of the CSAPR 2016 update (oral arguments were heard by the Court in October 2018). The Authority continues to operate its fossil-fueled plants within the allocated allowances and anticipates that operation of its fossil-fueled plants will not be impacted by CSAPR.

Congressional, state and regulatory action for the increased regulation of air, water and contaminants is periodically considered, and there are potential legislative and regulatory proposals which may affect the electric utility industry, including the Authority, in the future. The impact on the Authority’s operations of any such proposals is not presently predictable or quantifiable.

On July 18, 2019, the State enacted the “New York State Climate Leadership and Community Protection Act” as Chapter 106 of the Laws of 2019 (“Chapter 106”). As presently drafted, the date upon which most provisions of Chapter 106 will become effective will depend on the date that related legislation becomes effective.

In its present form, several provisions of Chapter 106 could potentially impact the Authority’s business and operations, such as the following: (1) provisions authorizing the New York State Department of Environmental Conservation to promulgate regulations establishing limits State-wide greenhouse gas (“GHG”) emissions and to ensure compliance with such limits; (2) a requirement that specified State entities, including the Authority, adopt regulations to contribute to achieving statewide GHG emissions; (3) a requirement that State entities, including the Authority, assess and implement strategies to reduce GHG emissions; (4) consideration of whether actions that the Authority would undertake in the course of its operations are consistent with State GHG emission limits that will be established pursuant the enactment; and (5) potential allocation or realignment of resources to support State clean energy and energy efficiency goals for disadvantaged communities.

Many of the provisions of Chapter 106 that could impact the Authority are not likely to be implemented for years based on deadlines established in the enactment. Therefore, the Authority is not in a position at this time to evaluate the impact of any particular provision of Chapter 106 on the Authority’s business and operations.

The Authority has flexible rate-setting authority for many of its power sales agreements with customers; however, due to FERC’s jurisdiction over the Authority’s transmission revenue requirement (“TRR”), the Authority’s transmission cost recovery must adhere to FERC standards. In 2017, the Authority filed for a formula rate annual TRR consistent with those standards. The formula rate annual TRR is incorporated into the NYISO Open Access Transmission Tariff (“OATT”). This Approved Four-Year Plan assumes full recovery of eligible future costs under the provisions of the NYISO OATT.

## Legislative and Political Risks

A series of legislative enactments have called for the Authority to subsidize business customers and the State's general fund. Legislation enacted into law, as part of the 2000-2001 State budget, as amended up to the present time, has authorized the Authority as deemed feasible and advisable by the Trustees, to make a series of voluntary contributions into the State treasury.

In the past, the Authority has, from time to time, made voluntary contributions or payments to the State or as otherwise authorized by legislation. Such payments were authorized by legislation and have been conditional upon the Trustees' determination that such payments are "feasible and advisable". Any such contribution or transfer of funds must (i) be authorized by law (typically, legislation enacted in connection with the State budget), and (ii) satisfy the requirements of the Bond Resolution. The Bond Resolution requirements to withdraw moneys "free and clear of the lien and pledge created by the (Bond) Resolution" are as follows: (1) such withdrawal must be for a "lawful corporate purpose as determined by the Authority," and (2) the Authority must determine "taking into account, among other considerations, anticipated future receipt of Revenues or other moneys constituting part of the Trust Estate, that the funds to be so withdrawn are not needed" for (a) payment of reasonable and necessary operating expenses, (b) an Operating Fund reserve for working capital, emergency repairs or replacements, major renewals, or for retirement from service, decommissioning or disposal of facilities, (c) payment of, or accumulation of a reserve for payment of, interest and principal on senior debt, or (d) payment of interest and principal on subordinate debt.

In May 2011, the Authority's Trustees adopted a policy statement (Policy Statement) which relates to, among other things, voluntary contributions, transfers, or other payments to the State by the Authority after that date. The Policy Statement provides, among other things, that in deciding whether to make such contributions, transfers, or payments, the Authority shall use as a reference point the maintenance of a debt service coverage ratio of at least 2.0 (this reference point should not be interpreted as a covenant to maintain any particular coverage ratio), in addition to making the other determinations required by the Bond Resolution. The Policy Statement may at any time be modified or eliminated at the discretion of the Authority's Trustees.

The 2018-2019 Enacted State Budget contains a provision authorizing the Authority as deemed "feasible and advisable by its Trustees" to transfer to the State treasury to the credit of the general fund \$20 million for the State fiscal year commencing April 1, 2018, the proceeds of which will be utilized to support energy-related State activities.

The 2019-2020 Enacted State Budget contains a provision authorizing the Authority as deemed "feasible and advisable by its trustees" to transfer to the State treasury to the credit of the general fund \$20 million for the State fiscal year commencing April 1, 2019, the proceeds of which will be utilized to support energy-related State activities. This Approved Four-Year Plan includes the 2019-2020 Enacted State Budget provision.

The Authority cannot predict what additional contributions to the State may be authorized in the future. The Trustees' decision as to whether and to what extent such payments are feasible and advisable will be made based on the exercise of their fiduciary responsibilities and in light of the requirements of the Authority's Bond Resolution, other legal requirements, and all the facts and circumstances known to them at the time of the decision.

In addition to the authorization for the voluntary contributions, as a result of budget legislation enacted in February 2009, the Authority was requested to make certain temporary asset transfers to the State of funds held in reserves. Pursuant to the terms of a Memorandum of Understanding dated February 2009 ("MOU") between the State, acting by and through the Director of the Budget of the State, and the Authority, the Authority agreed to transfer \$215 million associated with its Spent Nuclear Fuel Reserves by the end of State Fiscal Year 2008-2009. The Spent Nuclear Fuel Reserves are funds that had been set aside for payment to the federal government sometime in the future when the federal government accepts the spent nuclear fuel for permanent storage. The MOU provides for the return of these funds to the Authority, subject to appropriation by the State Legislature and other conditions, at the earlier of the Authority's payment obligation related to the transfer and disposal of the spent nuclear fuel or September 30, 2017. Further, the MOU provided for the Authority to transfer during State Fiscal Year 2009-2010 approximately \$103 million of funds set aside for future construction projects, which amounts would be returned to the Authority, subject to appropriation by the State Legislature and other conditions, at the earlier of when required for operating, capital or debt service obligations of the Authority or September 30, 2014.

Both temporary transfers were authorized by the Authority's Trustees and made in 2009.

In lieu of interest payments, the State waived certain future payments from the Authority to the State, including payments to which the State was entitled, pursuant to Public Authorities Law §2975, under a governmental cost recovery process for the costs of central governmental services.

On April 24, 2014, the Authority and the State executed an Amendment to the MOU which provides that the State shall, subject to appropriation by the State Legislature, return the \$103 million (Asset A) in five annual installments through State Fiscal Year 2018-2019. As of September 30, 2018, the Authority has received all installment payments, totaling \$103 million on Asset A.

The Authority and the State executed a Second Amendment to the MOU, dated as of June 30, 2017, that provides for the return to the Authority of the \$215 million (Asset B) in the following amounts and by no later than September 30 of each of the following State fiscal years: (1) \$22 million for State Fiscal Year 2017-18, (2) \$21 million for State Fiscal Year 2018-19, (3) \$43 million for State Fiscal Year 2019-20, (4) \$43 million for State Fiscal Year 2020-21, (5) \$43 million for State Fiscal Year 2021-22, and (6) \$43 million for State Fiscal Year 2022-23. The obligation of the State to return the moneys transferred by the Authority to the State is subject to annual appropriation by the State Legislature. As of October 1, 2019, the Authority has received installment payments of \$86 million on Asset B. In the Second Amendment to the MOU, the Authority and the State also agreed to enter into alternative cost recovery agreements for each of State Fiscal Year 2017-18 through State Fiscal Year 2022-23 that the asset transfers have not been fully returned to the Authority. The alternative cost recovery agreements would relieve the Authority of any obligation to make up to \$5 million in cost recovery assessment payments to the State in each year. In the event that the cost recovery assessment pursuant to Public Authorities Law §2975 for a given year exceeds \$5 million, the assessment due from the Authority would be limited to the difference between the assessment and \$5 million. This Approved Four-Year Plan assumes no such assessments during the 2020-2023 forecast period.

Section 1011 of the Power Authority Act ("Act") constitutes a pledge of the State to holders of Authority obligations not to limit or alter the rights vested in the Authority by the Act until such obligations together with the interest thereon are fully met and discharged or unless adequate provision is made by law for the protection of the holders thereof. Several bills have been introduced into the State Legislature, some of which propose to limit or restrict the powers, rights and exemption from regulation which the Authority currently possesses under the Act and other applicable law, or otherwise would affect the Authority's financial condition or its ability to conduct its business, activities, or operations, in the manner presently conducted or contemplated by the Authority. It is not possible to predict whether any of such bills or other bills of a similar type which may be introduced in the future will be enacted. In addition, from time to time, legislation is enacted into New York law which purports to impose financial and other obligations on the Authority, either individually or along with other public authorities or governmental entities. The applicability of such provisions to the Authority would depend upon, among other things, the nature of the obligations imposed and the applicability of the pledge of the State set forth in Section 1011 of the Act to such provisions. There can be no assurance that the Authority will be immune from the financial obligations imposed by any such provision.

Actions taken by the State Legislature or the Executive Branch to cause voluntary contributions or other obligation upon the Authority and which attempt to constrain the discretion of or bypass the Authority's Trustees could negatively affect net income and possibly harm the Authority's credit ratings.

As more specifically described in the enactment, and subject to limitations described therein, the 2019-20 Enacted State Budget amended the Power Authority Act to authorize the Authority, subject to feasible and advisable determinations by the Authority's Trustees, to: (1) design, finance, develop, construct, install, lease, operate and maintain electric vehicle charging stations throughout the state for use by the public; (2) plan, finance, construct, acquire, operate, improve and maintain, either alone or jointly with one or more other entities, transmission facilities for the purpose of transmitting power and energy generated by renewable wind energy generation projects that are located in State territorial waters, and/or in waters under the jurisdiction or regulation of the U.S.; (3) supply certain market power and energy and renewable energy products to any Authority customer, public entity, or community choice aggregation ("CCA") community in the State (collectively, "Eligible Entities"); and (4) alone or jointly with one or more other entities, finance the development of renewable energy generating projects that are located in the State, including its territorial waters, and/or on property or in waters under the jurisdiction or regulatory authority of the United States, purchase power, energy or related credits or attributes produced from such renewable energy generating projects, and allocate and sell such products to Eligible Entities. The Authority may exercise any of this authority at its discretion, and the changes made by the amendments do not affect the Authority's previously-existing statutory authority.

### **Hydroelectric Generation Risk**

The Authority's net income is highly dependent upon generation levels at its Niagara and St. Lawrence-FDR Projects. The generation levels themselves are a function of the hydrological conditions prevailing on the Great Lakes, primarily, Lake Erie (Niagara Project) and Lake Ontario (St. Lawrence-FDR Project). Long-term generation level at the two hydroelectric projects is about 20.2 terawatt-hours ("TWH") annually. The Authority's hydroelectric generation forecast

is 23.6 TWH in 2020, 23.1 TWH in 2021, 22.9 TWH in 2022, and 22.6 TWH in 2023. However, these generation amounts are forecasted values, and hydrological conditions can vary considerably from year to year.

The Authority conducted high and low hydroelectric generation sensitivities for 2020-2023 that estimated the potential net income that could result over a reasonable range of hydroelectric generation occurrences. The sensitivities were calculated only for merchant generation as merchant revenues has significant impact on Authority's net income. The effects on estimated net income, assuming all other factors remain unchanged, were as follows:

	<b>Net Merchant Hydroelectric Generation</b>	<b>NYPA Net Income Change</b>	<b>Net Merchant Hydroelectric Generation</b>	<b>NYPA Net Income Change</b>
	(In TWH)	(In \$ Millions)	(In TWH)	(In \$ Millions)
2020	8.4	(\$25.2)	10.1	\$23.8
2021	7.6	(\$39.7)	9.9	\$34.1
2022	7.1	(\$50.3)	10.1	\$45.4
2023	6.6	(\$50.1)	9.5	\$47.2

## **Electric Price and Fuel Risk**

Through its participation in the NYISO and other commodity markets, NYPA is subject to electric energy price, fuel price and electric capacity price risks that impact the revenue and purchased power streams of its facilities and customer market areas. Such volatility can potentially have detrimental effects on NYPA's financial condition. To moderate cost impacts to its customers and itself, NYPA, at times, hedges market risks via the use of financial instruments and physical contracts. Hedges are transacted by NYPA to mitigate the cost of energy or related products needed; to mitigate risk related to the price of energy and related products sold by NYPA; to mitigate risk related to electric margins (electric sales versus fuel use) where NYPA owns generation or other capacity; and mitigation of geographic cost differentials of energy procured or sold for transmission or transportation to an ultimate location. Hedges effectuated on behalf of NYPA's customers are passed through, at cost, as provided for in customer contracts. Commodities able to be hedged include, but are not limited to, natural gas, natural gas basis, electric energy, electric capacity and congestion costs associated with the transmission of electricity.

On July 21, 2010, President Obama signed into law the Dodd-Frank Wall Street Reform and Consumer Protection Act ("DF Act") which addresses, among other things, interest rate and energy related commodity swap transactions of the type in which the Authority engages. The requirements and processes are set forth in regulations promulgated by the Commodities Futures Trading Commission ("CFTC"). Pursuant to CFTC rules, the Authority, as a public entity and electric utility which uses swaps solely to manage its risk, is exempted from posting collateral beyond that of any existing credit support annexes in support of its open over-the-counter hedge positions. These CFTC rules are not anticipated to have significant impact on the Authority's liquidity and/or future risk mitigation activities. CFTC DF Act rules are still being promulgated, and the Authority will continue to monitor their potential impact on the Authority's liquidity and/or future risk mitigation activities.

## **Other Business Risks**

### Industry Transformation

Transformative technologies and customer empowerment are creating uncertainty for the Authority and the electric utility industry that can produce new business opportunities or reduced demand for electric energy. Through its Strategic Planning and Risk Management processes, the Authority regularly evaluates its mission, objectives, and customer needs and seeks to appropriately position the Authority to effectively meet the challenges of the transforming electric industry through implementation of initiatives such as a long-term asset management strategy and a suite of customer solutions including new/modified product offerings. The impact on the Authority's operations of any such industry transformation is not presently predictable or quantifiable.

### Workforce

Like many other industries, the power and utility sector is realizing increased competition for, and a general shortage of, talent in high skilled areas. This trend is expected to continue and be further impacted by transformations in the industry where new technologies are being developed and deployed. The Authority recognizes the uncertainty with being able to attract and retain the skills and competencies needed to meet stated objectives and regularly evaluates and positions its recruiting, talent development and benefits programs accordingly, through its workforce planning strategic initiative and other ongoing efforts.

### Physical and Cyber Security

The Federal Government recognizes the electric utility industry as critical infrastructure for the United States and works closely with the industry to ensure awareness of ongoing threats and that appropriate protections are in place against both physical and cyber-attacks. The Authority constantly assesses the nature of the Physical and Cyber Security risks and adjusts its resources to best anticipate and respond to any threats. With over 1,400 circuit-miles of high voltage transmission lines and 16 power generation facilities across New York State, the Authority recognizes the critical nature of its assets. Investments to harden both physical and cyber assets and their related infrastructure are continually needed to minimize potential adverse impacts to the bulk electric system, detect and deter sabotage attempts, and protect the Authority and customer information. In addition to the infrastructure investments the Authority further mitigates its Cyber risk through the purchase of Insurance.

### Catastrophic Natural Events

A catastrophic natural event such as severe weather, flooding or earthquake can negatively affect the operability of Authority assets and the bulk electric system. The Authority regularly evaluates the resiliency of its assets. In addition, the Authority has implemented disaster planning programs relating to Emergency Management, Disaster Recovery and Business Continuity. These plans are based on the specific, unique natural threats at each of its generation facilities. The Authority regularly conducts drills and exercises in order to ensure advance preparation for these types of events. The Authority maintains close working relationships with local first responders and government agencies to ensure its ongoing preparedness.

### Canal Corporation

The Authority has identified key risk areas relating to the Canal Corporation and continues to employ and assess risk mitigation options across multiple enterprise risk fronts in an effort to manage or reduce potential exposures. As part of the ongoing Canals management strategy, the Authority will adjust and allocate resources accordingly.

### Critical Infrastructure Failure

As a generation and transmission business, the Authority is exposed to potential critical infrastructure failure that may lead to service disruption, injury and/or degradation of system reliability impacting financial results. The Authority engages in several activities, including the recent ISO-55001 Asset Management Certification, in an effort to mitigate these risks such as the purchase of insurance, redundancy of major equipment, capital investments, and a robust operational maintenance program.

### Occupational Health and Workforce Safety

As a generation and transmission business, the Authority is exposed to a variety of health and safety risks. The health and safety of NYPA's workforce, customers, contractors and the citizens of New York are of the highest priority to the Authority. The Authority has put in place multiple levels of controls, policies, procedures, and training programs in support of reducing and/or eliminating health and safety incidents.

### **Litigation Risk**

#### St. Regis Litigation

In 1982 and again in 1989, several groups of Mohawk Indians, including a Canadian Mohawk tribe, filed lawsuits (the St. Regis litigation) against the State, the Governor of the State, St. Lawrence and Franklin counties, the St. Lawrence Seaway Development Corporation, the Authority and others, claiming ownership to certain lands in St. Lawrence and

Franklin counties and to Barnhart, Long Sault and Croil islands. These islands are within the boundary of the Authority's St. Lawrence-FDR Project and Barnhart Island is the location of significant Project facilities. Settlement discussions were held periodically between 1992 and 1998. In 1998, the Federal government intervened on behalf of all Mohawk plaintiffs.

The parties agreed to a land claim settlement, dated February 1, 2005, which if implemented would have included, among other things, the payment by the Authority of \$2 million a year for 35 years to the tribal plaintiffs and the provision of up to 9 MW of low cost Authority power for use on the reservation. The legislation required to effectuate the settlement was never enacted and the litigation continued.

In 2013, all claims against the Authority were dismissed and the lawsuit against the Authority was concluded. On May 28, 2014, the State of New York, the St. Regis Mohawk Tribe, St. Lawrence County and the Authority executed a Memorandum of Understanding ("St. Regis MOU") that outlined a framework for the possible settlement of all the St. Regis land claims. In the St. Regis MOU, the Authority endorses a negotiated settlement that, among other terms and conditions, would require the Authority to pay the Tribe \$2 million a year for 35 years and provide up to 9 MW of its hydropower at preference power rates to serve the needs of the Tribe's Reservation. The St. Regis MOU would require an Act of Congress to forever extinguish all Mohawk land claims prior to such a settlement becoming effective.

Any settlement agreement, including the terms endorsed in the St. Regis MOU, would in the first instance need to be negotiated and agreed upon by all parties to the St. Regis litigation, including parties that did not execute the St. Regis MOU, such as the two other Mohawk groups, the federal government and Franklin County. In addition, before any settlement becomes effective and the Authority is obligated to make any payments contemplated by the St. Regis MOU, federal and state legislation must be enacted which approves the settlement and extinguishes all Mohawk land claims.

#### Auer V. NYPA

The surviving plaintiff of a case known as Auer I, which resulted in a 1984 order issued by Judge Tenney of the New York State Supreme Court, Oswego County, brought an enforcement action seeking to enforce the 1984 order. The 1984 order related to the manner in which the Authority computes its rates for its preference power customers. By statute, those rates must be as low as possible, which essentially means the Authority must sell the power at its cost. The plaintiff contends that the Authority's rate-making methodology does not adhere to the statutory scheme nor spirit of the Auer I order and subsequent settlement. The plaintiff is seeking monetary damages of an unspecified amount. The plaintiff has also made a motion to add certain other residential customers of certain New York municipal electric systems to the action as additional plaintiffs.

The Authority successfully made a motion to transfer the venue from New York State Supreme Court in Oswego County to the same court in Albany County. The Authority has a motion pending in Albany County to dismiss the action on multiple grounds. Plaintiff then appealed the Oswego Judge's decision to transfer venue to the Appellate Division, Fourth Department. The Authority's motion to dismiss in Albany County was stayed pending the outcome of the appeal. On October 4, 2019, the Appellate Division, Fourth Department issued a decision that dismissed plaintiff's appeal of the change of venue motion and declared that the plaintiff has improperly brought this action which should have been commenced as a plenary action. The Authority intends to move forward with its motion to dismiss in Albany County.

#### Long Island Sound Cable Project

In January 2014, one of the Long Island Sound Cable Project underwater cables was severely impacted by an anchor and/or anchor chain dropped by one or more vessels, causing the entire electrical circuit to fail and the circuit to trip. As a result of the impact to the cable, dielectric fluid was released into Long Island Sound. The Authority incurred approximately \$34 million in costs arising from this incident and has recovered approximately \$18 million through insurance coverage. The Authority believes that it will be able to recover the full amount of its damages through legal proceedings, insurance coverage and contractual obligations.

#### Helicopter Incident near the Authority's Transmission Lines in Beekmantown, New York

The Authority contracted with Northline Utilities, LLC ("Northline") to install fiber optic ground wire along the Authority's transmission system. Thereafter, Northline entered into a contract with Catalyst Aviation, LLC ("Catalyst") for helicopter services. On October 30, 2018, a Catalyst helicopter was destroyed when it collided with a wooden utility pole and power lines near Beekmantown, New York. Members of the helicopter crew were injured, and two members of that

crew died as a result of their injuries. The Authority has received notices of claim arising out of this incident. The Authority is pursuing coverage under Northline's insurance policies that name the Authority as an additional insured.

#### Miscellaneous

In addition to the matters described above, other actions or claims against the Authority are pending for the taking of property in connection with its projects, for negligence, for personal injury (including asbestos-related injuries), in contract, and for environmental, employment and other matters. All of such other actions or claims will, in the opinion of the Authority, be disposed of within the amounts of the Authority's insurance coverage, where applicable, or the amount which the Authority has available therefore and without any material adverse effect on the business of the Authority.



**(e) Revised Forecast of 2019 Budget**  
**(In \$ Millions)**

	<b>Original Budget 2019</b>	<b>Forecast 2019</b>	<b>Variance Favorable/ (Unfavorable) 2019</b>
<b><u>Operating Revenues:</u></b>			
Customer Revenues	\$1,825.2	\$1,692.7	(\$132.5)
NYISO Market Revenues	762.7	699.6	(63.1)
Other Revenue	<u>20.9</u>	<u>27.4</u>	<u>6.5</u>
<b>Total Operating Revenues</b>	<b>2,608.8</b>	<b>2,419.7</b>	<b>(189.1)</b>
<b><u>Operating Expenses:</u></b>			
Purchased Power	696.9	568.5	128.4
Fuel - Oil and Gas	189.2	144.2	45.0
Wheeling Expenses	644.1	639.2	4.9
O&M Expenses	578.0	580.4	(2.4)
Other Expenses	117.1	127.4	(10.3)
Depreciation and Amortization	<u>244.1</u>	<u>249.3</u>	<u>(5.2)</u>
<b>Total Operating Expenses</b>	<b>2,469.4</b>	<b>2,309.0</b>	<b>160.4</b>
<b>NET OPERATING INCOME</b>	<b>139.4</b>	<b>110.7</b>	<b>(28.7)</b>
<b><u>Other Income:</u></b>			
Investment Income	30.5	49.0	18.5
Other Income	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
<b>Total Other Income</b>	<b>30.5</b>	<b>49.0</b>	<b>18.5</b>
<b><u>Non-Operating Expenses:</u></b>			
Interest & Other Expenses	<u>149.0</u>	<u>128.2</u>	<u>20.8</u>
<b>Total Non-Operating Expenses</b>	<b>149.0</b>	<b>128.2</b>	<b>20.8</b>
<b>NET INCOME</b>	<b>\$20.9</b>	<b>\$31.5</b>	<b>\$10.6</b>

**(f) Reconciliation of 2019 Budget and 2019 Revised Forecast**

The 2019 year-end net income forecast is \$31.5 million, which is \$10.6 million above budget. This positive variance is primarily a result of higher investment income and lower interest expenses due to postponement of debt issuances to future periods, offset by lower generation margins, and higher other expenses. Lower generation margins are primarily due to lower customer revenue, energy prices and upstate capacity prices, largely offset by higher hydro generation, lower purchase power and wheeling expenses, as well as the sale of natural gas into the market.

**(g) Statement of 2018 Financial Performance**

**New York Power Authority  
Net Income – Actual vs. Budgeted  
For the Year ended December 31, 2018  
(In \$ Millions)**

	<u>Actual</u>	<u>Budget</u>	<u>Variance Favorable/ (Unfavorable)</u>
<b><u>Operating Revenues:</u></b>			
Customer Revenues	\$1,874.5	\$1,832.5	\$42.0
NYISO Market Revenues	793.2	843.9	(50.7)
Other Revenue	<u>20.8</u>	<u>28.3</u>	<u>(7.5)</u>
<b>Total Operating Revenues</b>	<b>2,688.5</b>	<b>2,704.7</b>	<b>(16.2)</b>
<b><u>Operating Expenses:</u></b>			
Purchased Power	704.4	703.3	(1.1)
Fuel	188.6	217.6	29.0
Wheeling	653.6	644.8	(8.8)
O&M Expenses	600.7	588.4	(12.3)
Other Expenses	103.1	111.7	8.6
Depreciation and Amortization	235.2	240.2	5.0
Allocation to Capital	(14.2)	(11.0)	3.2
Impairment Loss	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
<b>Total Operating Expenses</b>	<b>2,471.4</b>	<b>2,495.0</b>	<b>23.6</b>
<b>NET OPERATING INCOME</b>	<b>217.1</b>	<b>209.7</b>	<b>7.4</b>
<b><u>Other Income:</u></b>			
Investment Income	24.2	18.5	5.7
Other income	<u>\$0.0</u>	<u>0.0</u>	<u>0.0</u>
<b>Total Other Income</b>	<b>24.2</b>	<b>18.5</b>	<b>5.7</b>
<b><u>Non-Operating Expenses:</u></b>			
Interest and Other Expenses	<u>139.7</u>	<u>151.3</u>	<u>11.6</u>
<b>Total Non-Operating Expenses</b>	<b>139.7</b>	<b>151.3</b>	<b>11.6</b>
<b>NET INCOME</b>	<b>\$101.6</b>	<b>\$76.9</b>	<b>\$24.7</b>

Net Income for the year ended December 31, 2018 was \$102 million, which was \$25 million higher than the budget of \$77 million. The increase in net income was primarily attributable to lower depreciation (\$5 million) due to less than planned capital spending, favorable mark to market gain on the Authority's investment portfolio (\$4 million), and lower interest expense (\$12 million) due to postponement of debt issuances to future periods.

**(h) Employee Data – number of employees, full-time, FTEs and functional classification**

	<b><u>2020</u></b>	<b><u>2021</u></b>	<b><u>2022</u></b>	<b><u>2023</u></b>
	<b><u>Request</u></b>			
Headquarters	857	857	857	857
Operations	974	974	974	974
Transmission	203	203	203	203
R&D	14	14	14	14
Canal Corp	<u>482</u>	<u>482</u>	<u>482</u>	<u>482</u>
<b>TOTAL</b>	<b>2,530</b>	<b>2,530</b>	<b>2,530</b>	<b>2,530</b>

**(i) Gap-Closing Initiatives – revenue enhancement or cost-reduction initiatives**

When building a multi-year operating plan, NYPA management has developed a series of contingency plans to adapt to unforeseen changes in its financial results. The Authority is currently projecting positive net income for the 2020-2023 period, constructed upon a level of expenses outlined within this Approved Budget and Financial Plan. Should that net income projection materially change during the forecast period, management will evaluate the situation and take appropriate actions if deemed appropriate.

**(j) Material Non-Recurring Resources – source and amount**

Except as discussed elsewhere in this report, there are no material non-recurring resources expected in the 2020-2023 period.

**(k) Shift in Material Resources**

There are no anticipated shifts in material resources from one year to another.

**(l) Debt Service**

<b>New York Power Authority</b>				
<b>Projected Debt Outstanding (FYE)</b>				
<b>(In \$ Thousands)</b>				
	<b><u>2020</u></b>	<b><u>2021</u></b>	<b><u>2022</u></b>	<b><u>2023</u></b>
Revenue Bonds	\$833,092	\$1,199,303	\$1,371,894	\$1,449,073
Subordinated Note	43,435	42,600	41,745	38,530
Commercial Paper Notes	604,979	605,000	605,000	605,020
<b><u>Grand Total</u></b>	<b><u>\$1,481,506</u></b>	<b><u>\$1,846,903</u></b>	<b><u>\$2,018,639</u></b>	<b><u>\$2,092,623</u></b>

**New York Power Authority**  
**Debt Service as Percentage of Pledged Revenues**  
*(In \$ Thousands)*

	<b>2020</b>		<b>2021</b>		<b>2022</b>		<b>2023</b>	
	<u>Debt Service</u>	<u>% of Rev.</u>	<u>Debt Service</u>	<u>% of Rev.</u>	<u>Debt Service</u>	<u>% of Rev.</u>	<u>Debt Service</u>	<u>% of Rev.</u>
Revenue Bonds Subordinated Debt	\$67,775	2.60%	\$60,692	2.25%	\$90,347	3.32%	\$80,389	2.84%
Commercial Paper Notes	2,435	0.09%	2,436	0.09%	4,774	0.18%	2,370	0.08%
	9,492	0.36%	9,658	0.36%	9,829	0.36%	10,004	0.35%
<b>Grand Total Debt Service</b>	<b><u>\$79,702</u></b>	<b>3.05%</b>	<b><u>\$72,786</u></b>	<b>2.70%</b>	<b><u>\$104,951</u></b>	<b>3.86%</b>	<b><u>\$92,763</u></b>	<b>3.27%</b>

**New York Power Authority**  
**Planned Use of Debt Issuances**  
*(In \$ Thousands)*

<u>TYPE</u>	<u>Amount</u>	<u>Interest Rate</u>	<u>Description</u>
<b><u>Period January 1, 2020 – December 31, 2020</u></b>			
Tax Exempt Commercial Paper	\$0	1.50%	Energy Efficiency Program
Taxable Commercial Paper	6,610	2.05%	Energy Efficiency Program
Tax Exempt Revenue Bonds	130,985	3.19%	Transmission
Taxable Revenue Bonds	<u>55,677</u>	4.19%	Robert Moses Power Plant/Lewiston Pump Generating Plant
Total Issued 2020	<u>193,272</u>		
<b><u>Period January 1, 2021 – December 31, 2021</u></b>			
Tax Exempt Commercial Paper	0	1.50%	Energy Efficiency Program
Taxable Commercial Paper	8,095	2.05%	Energy Efficiency Program
Tax Exempt Revenue Bonds	195,511	3.19%	Transmission
Taxable Revenue Bonds	<u>44,551</u>	4.19%	Robert Moses Power Plant/Lewiston Pump Generating Plant
Total Issued 2021	<u>248,157</u>		
<b><u>Period January 1, 2022 – December 31, 2022</u></b>			
Tax Exempt Commercial Paper	0	1.25%	Energy Efficiency Program
Taxable Commercial Paper	8,352	1.80%	Energy Efficiency Program
Tax Exempt Revenue Bonds	147,393	2.94%	Transmission
Taxable Revenue Bonds	<u>40,802</u>	3.94%	Robert Moses Power Plant/Lewiston Pump Generating Plant
Total Issued 2022	<u>196,547</u>		
<b><u>Period January 1, 2023 – December 31, 2023</u></b>			
Tax Exempt Commercial Paper	0	1.50%	Energy Efficiency Program
Taxable Commercial Paper	8,561	2.05%	Energy Efficiency Program
Tax Exempt Revenue Bonds	71,037	3.19%	Transmission
Taxable Revenue Bonds	<u>58,327</u>	4.19%	Robert Moses Power Plant/Lewiston Pump Generating Plant
Total Issued 2020	<u>\$137,925</u>		

**Note:** The full faith and credit of the Authority are pledged for the payment of bonds and notes in accordance with their terms and provisions of their respective resolutions. The Authority has no taxing power and its obligations are not debts of the State or any political subdivision of the State other than the Authority. The Authority's debt does not constitute a pledge of the faith and credit of the State or of any political subdivision thereof, other than the Authority.

**Scheduled Debt Service Payments**  
*(In \$ Thousands)*

**Outstanding (Issued) Debt**

	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2020	\$30,675	\$38,715	\$69,390
2021	16,460	36,861	53,321
2022	42,935	35,973	78,908
2023	15,960	33,811	49,771

**Proposed Debt**

	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2020	\$0	\$10,812	\$10,812
2021	0	19,465	19,465
2022	0	26,043	26,043
2023	12,465	30,528	42,993

**Total Debt**

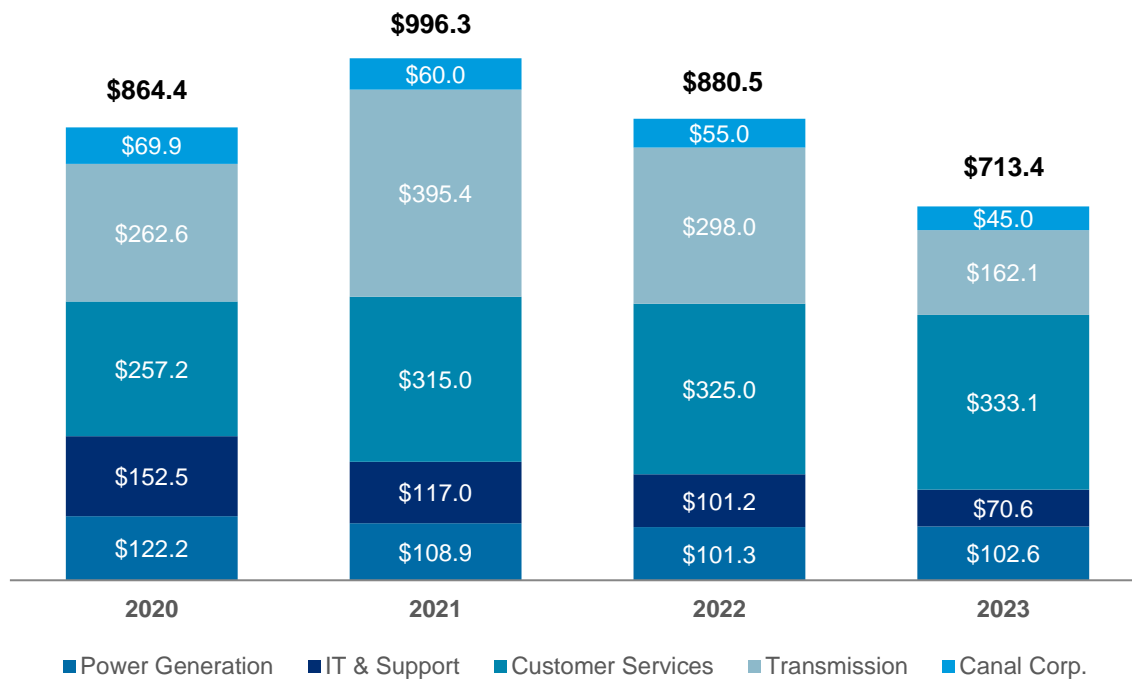
	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2020	\$30,675	\$49,527	\$80,202
2021	16,460	56,326	72,786
2022	42,935	62,016	104,951
2023	28,425	64,339	92,764

**(m) Capital Commitments and Sources of Funding**

The Authority's commitments for various capital improvements are approximately \$3.5 billion over the financial period 2020-2023. The Authority anticipates that these improvements will be funded using existing construction funds, internally generated funds and additional borrowings. Such additional borrowings are expected to be accomplished through the issuance of additional commercial paper notes and/or the issuance of long-term fixed rate debt. Projected capital commitments during this period include those listed in the table below.

(In \$ Millions)	2020	2021	2022	2023
Communication Backbone	\$51.7	\$40.2	\$0.0	\$0.0
Transmission Life Extension & Modernization Program	39.1	43.0	51.0	50.2
Large Energy Storage (Zones D & K)	15.8	9.5	15.3	0.0
Moses Adirondack Transmission Line Upgrade	91.5	189.6	124.2	23.5
AC Transmission Line	27.1	90.3	109.5	48.2
Robert Moses Life Extension & Modernization Program	24.9	33.6	31.6	53.6
Evolve NY	36.8	42.0	42.0	42.0
Canal Corporation	69.9	60.0	55.0	45.0
Customer Services	257.2	315.0	325.0	333.1
Other NYPA Capital	250.4	173.1	126.9	117.8
<b>GRAND TOTAL</b>	<b>\$864.4</b>	<b>\$996.3</b>	<b>\$880.5</b>	<b>\$713.4</b>

**2020-2023 Capital Commitments by Function**  
(In \$ Millions)



## **(n) Credit Discussion**

Maintaining a strong relationship with the capital markets is critical to how NYPA operates. Fitch Ratings, S&P Global Ratings, and Moody's Investor Services currently assign a AA rating to the Authority's long-term bonds, which is among the highest rating give to public electric utilities. This allows us to borrow money for capital projects at competitive rates, and to continue to offer low-cost financing to qualified customers to help fund impactful energy initiatives.

The Authority's long-term bonds are issued pursuant the "General Resolution Authorizing Revenue Obligations" (as amended and supplemented up to the present time, the Bond Resolution). The Bond Resolution covers all of the Authority's projects, which it defines as any project, facility, system, equipment or material related to or necessary or desirable in connection with the generation, production, transportation, transmission, distribution, delivery, storage, conservation, purchase or use of energy or fuel, whether owned jointly or singly by the Authority, including any output in which the Authority has an interest authorized by the Act or by other applicable State statutory provisions, provided, however, that the term "Project" shall not include any Separately Financed Project as that term is defined in the Bond Resolution. The Authority has covenanted with bondholders under the Bond Resolution that at all times the Authority shall maintain rates, fees or charges, and any contracts entered into by the Authority for the sale, transmission, or distribution of power shall contain rates, fees or charges sufficient together with other monies available therefor (including the anticipated receipt of proceeds of sale of Obligations, as defined in the Bond Resolution, issued under the Bond Resolution or other bonds, notes or other obligations or evidences of indebtedness of the Authority that will be used to pay the principal of Obligations issued under the Bond Resolution in anticipation of such receipt, but not including any anticipated or actual proceeds from the sale of any Project), to meet the financial requirements of the Bond Resolution. Revenues of the Authority (excluding revenues attributable directly or indirectly to the ownership or operation for Separately Financed Projects and after deductions for operating expenses and reserves, including reserves for working capital, operating expenses or compliance purposes) are applied first to the payment of, or accumulation as a reserve for payment of, interest on and the principal or redemption price of Obligations issued under the Bond Resolution and the payment of Parity Debt issued under the Bond Resolution.

The Bond Resolution also provides for withdrawal for any lawful corporate purpose as determined by the Authority, including but not limited to the retirement of Obligations issued under the Bond Resolution, from amounts in the Operating Fund in excess of the operating expenses, debt service on Obligations and Parity Debt issued under the Bond Resolution, and subordinated debt service requirements.

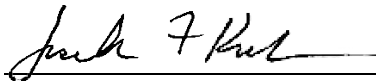
In order to support our AA bond rating and all of the advantages it offers the Authority and its customers, NYPA sets certain internal targets which are consistent with other peer rated organizations. In May 2011, the Authority's Trustees adopted a policy statement (Policy Statement) which relates to, among other things, voluntary contributions, transfers, or other payments to the State by the Authority after that date. The Policy Statement provides, among other things, that in deciding whether to make such contributions, transfers, or payments, the Authority shall use as a reference point the maintenance of a debt service coverage ratio of at least 2.0 (this reference point should not be interpreted as a covenant to maintain any particular coverage ratio), in addition to making the other determinations required by the Bond Resolution. The Policy Statement may at any time be modified or eliminated at the discretion of the Authority's Trustees.

**Certification of Assumptions and Method of Estimation for  
Budget and Financial Plan 2020-2023 in accordance with the  
Comptroller's Regulation § 203.9 Certification**

December 11, 2019

To the Board of Trustees  
Power Authority of the State of New York

To the best of my knowledge and belief after reasonable inquiry, I, the undersigned, certify that the "Authority's Method of Estimation for Budget and Financial Plan 2020-2023" is based on reasonable assumptions and methods of estimation and that the regulations enumerated in Part 203, "Budget and Financial Plan Format, Supporting Documentation and Monitoring - Public Authorities" have been satisfied.



\_\_\_\_\_  
Joseph Kessler  
Chief Operating Officer



\_\_\_\_\_  
Adam Barsky  
Chief Financial Officer



123 Main Street  
White Plains, NY 10601-3170  
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**NY Power  
Authority**

**Canal  
Corporation**

# **Vision 2030- Strategic Plan Overview & Update**

**Doug McMahon, VP, Head of e-mobility & Grid Flexibility**

## VISION2030: Proposed Mission and Vision.

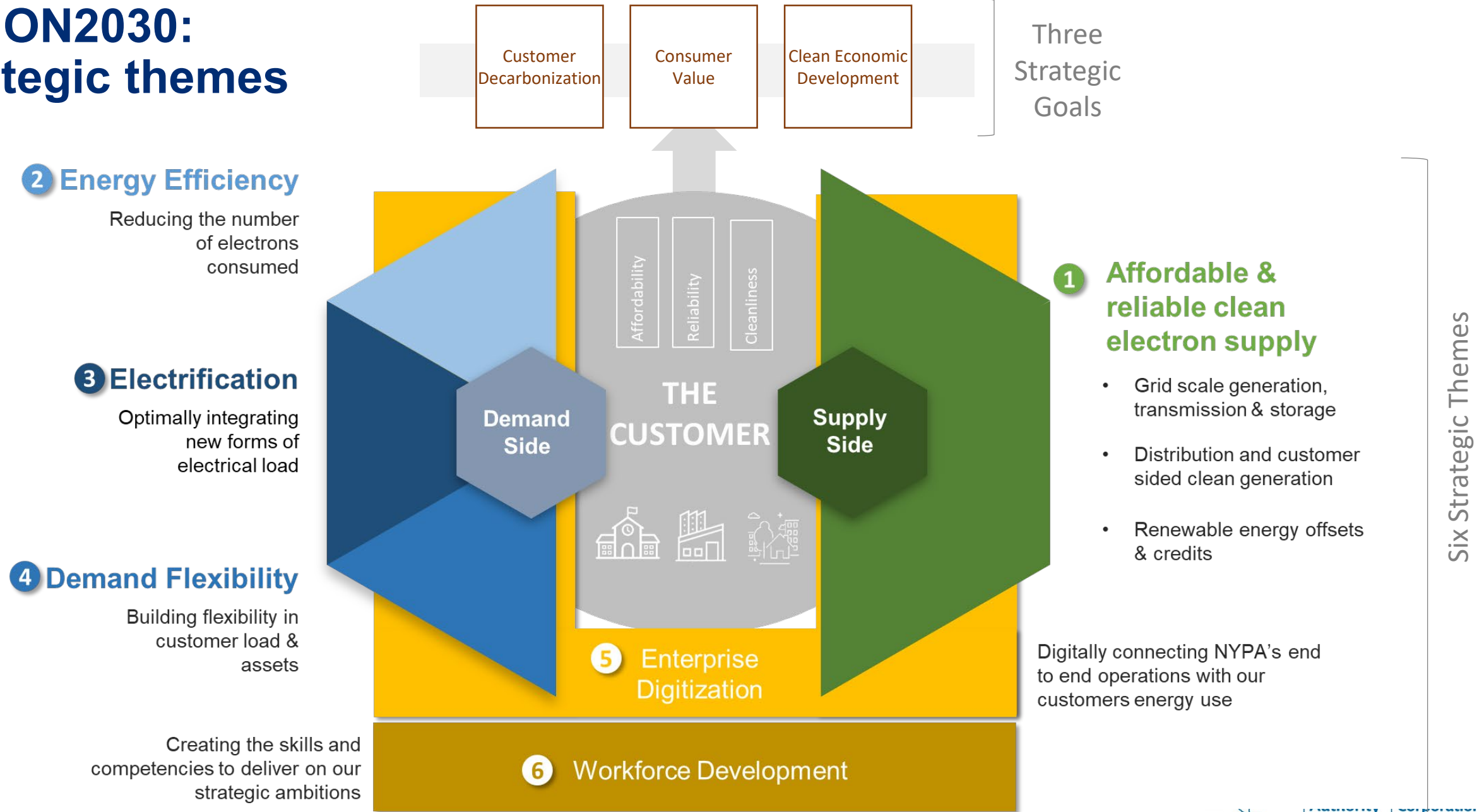
### VISION

“A **thriving** and **resilient**  
New York **powered** by  
**clean energy**”

### MISSION

*“**Leading** the transition to a **carbon free**,  
economically vibrant New York through  
**partnership with customers** on innovative  
energy solutions and the **responsible**  
supply of affordable, clean, reliable  
electricity.”*

# VISION2030: strategic themes



# Proposed Key Sections of VISION2030 Plan.

