

New York State Energy Research and Development Authority
**Operations, Accomplishments,
Mission Statement, and Performance
Measurement Annual Report**

Fiscal Year Ended March 31, 2023



NYSERDA

NYSERDA's Promise to New Yorkers:

NYSERDA provides resources, expertise, and objective information so New Yorkers can make confident, informed energy decisions.

Our Vision:

New York is a global climate leader building a healthier future with thriving communities; homes and businesses powered by clean energy; and economic opportunities accessible to all New Yorkers.

Our Mission:

Advance clean energy innovation and investments to combat climate change, improving the health, resiliency, and prosperity of New Yorkers and delivering benefits equitably to all.

New York State Energy Research and Development Authority
Operations, Accomplishments, Mission Statement,
and Performance Measurement
Annual Report

Fiscal Year Ended March 31, 2023

Pursuant to Public Authorities Law Section 2800(1)

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1 NYSERDA

The New York State Energy Research and Development Authority (NYSERDA) is governed by a board consisting of 13 members, including the Commissioner of the Department of Transportation, the Commissioner of the Department of Environmental Conservation, the Chair of the Public Service Commission, and the President and CEO of the Power Authority of the State of New York, who serve ex officio. The remaining nine members are appointed by the Governor of the State of New York with the advice and consent of the Senate and include, as required by statute, an engineer or research scientist, an economist, an environmentalist, a consumer advocate, an officer of a gas utility, an officer of an electric utility, and three at-large members.

2 Mission, Vision, and Promise

Our Vision: New York is a global climate leader building a healthier future with thriving communities; homes and businesses powered by clean energy; and economic opportunities accessible to all New Yorkers.

Our Mission: Advance clean energy innovation and investments to combat climate change, improving the health, resiliency, and prosperity of New Yorkers and delivering benefits equitably to all.

Our Promise: NYSERDA provides resources, expertise, and objective information so New Yorkers can make confident, informed energy decisions.

3 Operational Changes and New Initiatives

This section begins with information on major clean energy policies that were enacted in 2022 and represent key drivers and context for NYSERDA's programs. This section continues to include a description of each new or significantly modified initiative in NYSERDA's portfolio, including several that build upon prior offerings.

3.1 Public Policy Context

The Climate Leadership and Community Protection Act (Climate Act) was signed into law in 2019 as one of the most ambitious climate laws in the world. The law created the Climate Action Council (the Council), which is tasked with developing a Scoping Plan that serves as an initial framework for how the State will reduce greenhouse gas emissions and achieve net-zero emissions, increase renewable energy usage, and ensure climate justice. On December 19, 2022, the Council voted to adopt and approve the final Scoping Plan¹. This critical step fulfills a major requirement contained in the Climate Act and sets the stage for the next chapter in New York's climate journey – moving from planning and preparation to action and implementation. The Scoping Plan outlines a variety of regulatory and legal changes, market mechanisms, and technologies essential to achieving the goals and requirements of the Climate Act. Changes in energy consumption patterns and in how consumers relate to and use energy will further enhance New York's ability to achieve these goals and requirements. The various education and outreach initiatives identified in the Scoping Plan will lay a foundation from which the State can further explore those options in years to come and identifies actions needed for New York to achieve:

- 70% renewable electricity by 2030
- 100% zero-emission electricity by 2040
- 40% reduction in statewide GHG emissions from 1990 levels by 2030
- 85% reduction in statewide GHG emissions from 1990 levels by 2050
- Net zero GHG emissions statewide by 2050

NYSERDA is expected to play an integral role with the implementation of many strategies and recommendations outlined in the Scoping Plan and, along with many other New York State agencies, will support New York's ambitious emission reduction requirements laid out in the Climate Act.

¹ <https://climate.ny.gov/resources/scoping-plan/>

On March 23, 2023, New York State announced the Climate Justice Working Group's (CJWG) finalization of the criteria for identifying disadvantaged communities. The criteria will guide the equitable implementation of New York's ambitious Climate Act provisions that prioritize disadvantaged communities by requiring reductions in air pollution and climate-altering greenhouse gas emissions and targeting clean energy and energy efficiency investments. New York State's disadvantaged communities criteria served as a model for the Biden Administration's Justice40 initiative, aligning the state and Federal government with historic commitments to address climate change and recognize the need for environmental justice in plans, proposals, and investments as part of our climate agenda nationwide.

Additionally, on January 10, 2023, Governor Kathy Hochul announced a Cap-and-Invest Program to fund a sustainable and affordable future for all New Yorkers as part of the 2023 State of the State. Governor Hochul directed the Department of Environmental Conservation and NYSERDA to advance an economywide Cap-and-Invest Program that establishes a declining cap on greenhouse gas emissions, invests in programs that drive emissions reductions in an equitable manner prioritizing disadvantaged communities, limits costs to New Yorkers, and maintains the competitiveness of New York industries. As part of the enacted New York State Budget, the foundation for an affordable Cap-and-Invest Program was established through the Consumer Climate Action Account which will provide rebates to New Yorkers to reduce the cost of our climate action, as well as the Climate Investment Account to invest the proceeds in programs that drive emissions reductions as identified in the Scoping Plan. NYSERDA and DEC will lead a study to make recommendations for the distribution of benefits from a Cap-and-Invest program in an equitable manner to New Yorkers, specifically low-income households and disadvantaged communities.²

With the passage of a series of Federal legislative actions over the past two years, there is an unprecedented investment in climate and energy actions by the Federal government. This funding is being made available to the market via tax credits, formula grants and competitive grants. To ensure New York is able to maximize the use of federal dollars to meet State goals, NYSERDA is the lead applicant or project of a project team for several additional program opportunities, and has also provided letters of support for projects that are able to apply directly for Federal funding. Some of the largest federal program opportunities include:

² <https://www.nyserda.ny.gov/About/Newsroom/2023-Announcements/2023-1-10-Governor-Hochul-Unveils-Cap-and-Invest-Program>

- Hydrogen Hubs – NYSERDA led a multi-state collaborative application to the Department of Energy’s Hydrogen Hubs competition. If successful, this award could bring \$1.25 Billion to support the Northeast’s effort to develop and advance a fully functional hydrogen innovation ecosystem.
- HOMES and High-Efficiency Electric Home Rebate Act (HEEHRA) – New York will receive two formula grants totaling approximately \$317 million supporting the advancement of energy efficiency and electrification of the housing sector. The Department of Energy expects to release detailed program rules and the full Opportunity Announcements this summer. These funds, in combination with the new Federal tax credits and existing programs in New York State will achieve a significant cost savings for consumers, and dramatically reduce energy use and emissions, while modernizing and improving the indoor health, comfort, safety and resiliency of our homes.
- Greenhouse Gas Reduction Fund – The Environmental Protection Agency is preparing to issue three Federal Opportunity Announcements this summer, making \$27 billion in Federal funding available to support new financing capabilities across the country. NYSERDA and NY Green Bank are working with other New York State agencies and New York Stakeholders with anticipation of making a significant proposal in pursuit of these funds. Funding will advance solar installation in the residential sectors and increase financing for energy efficiency and electrification across all sectors.
- The Climate Pollution Reduction Grant Fund – The Environmental Protection Agency is making \$5 billion available nationally to fund planning and implementation of projects that will reduce climate pollutants and invest equitably in our communities. NYSERDA collaborated and supported the Department of Environmental Conservation’s application to \$3 million of planning funds, which will make New York eligible to apply for the implementation funds once they become available next year.
- Grid Resiliency, Innovation and Modernization – The Department of Energy has issued a series of program support grid modernization and reliability work. NYSERDA has provided several direct applicants letters of support and has submitted a proposal for competitive funding and a formula grant for electric grid reliability. This work has been advanced in collaboration with the Department of Public Service, the New York Power Authority, utilities, and other key

stakeholders. This funding will help modernize the grid and prepare for the growing amount of electrification, renewable energy generation and electric vehicle charging infrastructure that is expected in the coming decades.

3.2 Large-Scale Renewables

NYSERDA's Large-Scale Renewables (LSR) portfolio is comprised of Tier 1, Tier 2, Tier 3 (ZEC), Tier 4, Off-Shore Wind, and Build-Ready that collectively operate to help New York achieve its renewable energy goals. Each portfolio unit with significant updates since the prior period are described below, including administration of the Clean Energy Standard (CES) programs.

3.2.1 Portfolio Administration

The Commission has designated NYSERDA as the administrator of all CES programs. In addition to establishing the various CES programs, the 2016 CES Order acknowledged that additional measures, including those necessary to administer the CES programs, would be necessary to fully implement the CES, and would be determined during an implementation phase. To date, NYSERDA and New York State Department of Public Service (DPS) Staff have filed, and the Commission has approved, five implementation plans which describe the processes and activities to be performed by NYSERDA Staff in administering the various programs. Each year NYSERDA files a petition seeking approval to access or collect the funds necessary to cover its costs for administering the various CES programs for the upcoming compliance period.

The scale of New York's commitments and the concomitant activities related to clean energy have grown over the past few years with the initiatives launched in response to the Climate Act which mandates that at least 70% of New York State's electricity come from renewable energy sources by 2030 and that the State's power system achieve zero emissions by 2040. The Climate Act also requires New York to install 3,000 megawatts (MW) of energy storage by 2030 and 9,000 MW of offshore wind by 2035.

. On December 15, 2022, the Commission approved NYSERDA's proposed administrative budget with modifications³ approving approximately \$34.4M that will allow NYSERDA to effectively manage the ever-increasing and more complex renewable energy contracts, while also overseeing increased technical

³ <https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7B44D708FC-CEB0-49D1-8AFC-1314ED93DE1B%7D>

services for the Renewable Energy Standard (RES) (comprised of Tiers 1, 2 and 4), Offshore Wind, and the Zero Emissions Credit (ZEC) programs.

3.2.2 Offshore Wind

In July 2020, NYSERDA issued the second solicitation⁴ seeking to procure Offshore Wind Renewable Energy Certificates associated with 1,000 megawatts or more of offshore wind energy, coordinated with a potential \$400 million opportunity in public and private investments in port infrastructure. In January 2021,⁵ NYSERDA selected two offshore wind projects for contract negotiation, Empire Wind II and Beacon Wind from Equinor Wind US LLC (Equinor). Combined, the projects total nearly 2,500 megawatts and leverage almost \$3 of private funding for every \$1 of public funding for a combined \$644 million in investments for resilient port facilities in the Capital Region and Brooklyn. In January of 2022, NYSERDA finalized OREC purchase contracts with Equinor for Empire Wind II and Beacon Wind. NYSERDA also commenced the permitting process for offshore wind tower manufacturing at the Port of Albany and Brooklyn Marine Terminal for a project staging facility.

In July of 2022, NYSERDA issued its third solicitation seeking to procure Offshore Wind Renewable Energy Certificates associated with 2,000 megawatts to 4,640 megawatts of offshore wind generation coordinated with local and private investments in New York-based offshore wind supply chain infrastructure. This includes leveraging up to \$300 million of New York State funding in pursuit of New York State's goal of developing 9,000 megawatts of offshore wind energy by 2035 and achieving economy wide decarbonization by 2050 in a responsible and cost-effective manner. Bids are currently under evaluation and awards expected by Q3 of 2023. These awards will be in addition to NYSERDA's procurement of more than 4,186 MW with an additional 132 MW contributing to the grid via the LIPA procurement of the South Fork Wind project (a joint venture of Orsted and Eversource Energy). The South Fork Wind Farm received final permitting approval in early 2022 and construction is under way, and it is expected to enter operation in late 2023, thus providing the first offshore wind generated electricity to New York State in 2023. This robust portfolio of offshore wind projects is currently supported by five State ports contributing to the localization of supply chain and economic benefits via two manufacturing facilities on the Hudson River—the Ports of Albany and Coeymans, a sixty-acre

⁴ Purchase of Offshore Wind Renewable Energy Certificates; Request for Proposals ORECRFP20-1. <https://portal.nyserderda.ny.gov/servlet/servlet.FileDownload?file=00Pt0000000OPfCVEA1>

⁵ NYSERDA 2021 Announcements. <https://www.nyserderda.ny.gov/About/Newsroom/2021-Announcements/2021-01-13-Governor-Cuomo-Outlines-2021-Agenda-Reimagine-Rebuild-Renew>

staging and assembly port at South Brooklyn Marine Terminal, and operations and maintenance hubs at Port Jefferson and Port of Montauk on Long Island, NY.

3.2.3 Tier 1

RES Tier 1-eligible RECs are those generated by renewable energy projects that qualify as eligible resources under appendix A of the CES Order⁶ or the clarified renewable energy systems definition expanded in the 2020 CES Order⁷ with a commercial operation date on or after January 1, 2015.

NYSERDA's first RES solicitation was issued in June of 2017

The fifth RES solicitation was issued in April 2021, the first to seek an expanded target of 4.5 million RECs per year to support the Tier 1 procurement trajectory identified in the CES White Paper needed to achieve the Climate Act target of 70% renewable energy by 2030. The fifth RES solicitation resulted in awards for 22 facilities in March 2022, which are expected to contribute 4.5 million MWh annually of new renewable energy once operational. The weighted average strike price for these awards was \$63.08 per MWh over the 20-year term.

The sixth RES solicitation was issued in September 2022, again seeking 4.5 million RECs per year. The results of the sixth RES solicitation are expected to be announced in the third quarter of 2023.

3.2.4 Tier 4

The PSC's 2020 CES Order established a new Tier 4 within the CES aimed to increase the penetration of renewable energy in New York City and thereby reduce reliance on fossil fuel generation in this densely populated area. NYSERDA issued its first Tier 4 solicitation in January 2021, In April 2022, the New York State Public Service Commission approved contracts with Clean Path New York LLC for its Clean Path NY project and H.Q. Energy Services Inc. for its Champlain Hudson Power Express project to deliver clean, renewable solar, wind and hydroelectric power from upstate New York and Canada to New York City. Combined, the selected projects are expected to deliver 18 million megawatt-hours of clean energy per year, or more than a third of New York City's annual electric consumption, from a diverse and resilient clean generation portfolio including onshore wind, solar, and hydroelectric power, backed by

⁶ Case 15-E-0302, Proceeding to Implement a Large-Scale Renewable Program and a Clean Energy Standard, Order Adopting a Clean Energy Standard (issued and effective August 1, 2016). (CES Order) See Appendix A for eligible technologies.

⁷ Case 15-E-0302, Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and Clean Energy Standard, Order Adopting Modifications to the Clean Energy Standard ("CES Order") (issued and effective Oct. 15, 2020).

energy storage, from upstate New York and Quebec. These are the largest transmission projects contracted in New York State in the last 50 years and will add 2,550 MW to the State’s grid using high-voltage direct current (HVDC) technology.

NYSERDA’s contracts with each project are for the purchase of renewable energy certificates for clean energy delivered into New York City. NYSERDA’s purchase of these RECs will commence for each respective project once the project has (1) obtained all required permits and local approvals, (2) completed construction, and (3) is delivering power to New York City. The CHPE project is expected to begin operation in 2026. The CPNY project is expected to begin operation in 2027.

3.2.5 Build-Ready

The Accelerated Renewable Energy Growth and Community Benefit Act⁸ (the Act) established the Build-Ready Program. The Act directs NYSERDA to identify, assess, and facilitate the development of suitable sites for renewable power-generating facilities, giving priority to “previously developed sites” and “existing or abandoned commercial sites,” such as brownfields, landfills, or other disused or underutilized sites, and provide benefits to host communities. In October 2020, the PSC issued an order formally approving the Build-Ready Program⁹.

Over the last year, the Build-Ready Program made significant progress in achieving the program’s goals:

- *Advanced Build-Ready’s Pipeline* - Since the program launched, Build-Ready has screened over 10,820 sites across 35 counties in New York State.
- *Increased the Number of Projects in Development* - Build-Ready has over a dozen sites in development—about double the number of sites in 2021.
- *Advanced the Auction Process* - Build-Ready plans to issue the first auction for the BR Benson Mines Solar PV project in 2023. To inform the auction development, Build-Ready issued Request for Information (RFI) 5034 in the spring of 2022 to private solar PV developers to gather feedback on the proposed auction process, the program’s project development plans, and to solicit

⁸ Accelerated Renewable Energy Growth and Community Benefit Act. Chapter 58 (Part JJJ) of the laws of 2020

⁹ New York Public Service Commission. CASE 15-E-0302 - Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard. “Order Approving Build-Ready Program.” Issued and Effective October 15, 2020. A

interest in participating in a voluntary Market Advisory Group (MAG) that Build-Ready will engage to gather feedback on programmatic and project specific questions and issues.

3.3 NY-Sun

On April 14, 2022, the Commission issued an Order in response to the Distributed Solar Roadmap, which was filed jointly on December 17, 2021, by NYSERDA and the staff of the New York Department of Public Service (DPS). The Order extended NY-Sun's goal from 6 gigawatts (GW) of distributed solar by 2025 to 10 GW by 2030. It authorized an additional \$1,473 million in program funding to support the deployment of the incremental 4 GW. The Order included additional base incentives for the Upstate Commercial/Industrial block design, and for residential and nonresidential base incentives in Con Edison territory, as well as funding for project incentive adders (including the Community Adder), and over \$251 million to expand the Solar Energy Equity Framework (SEEF). The Order also instituted a new prevailing wage requirement for projects larger than 1MW and authorized \$239 million in incentive funds to enable an industry transition to prevailing wage.

On January 17, 2023, NYSERDA and DPS jointly filed the New York Sun Program Mid-Point Review. This report provided a status update on NY-Sun Program Activity, and an overview of recent economic and policy changes to the distributed solar industry. NYSERDA and DPS also presented several recommendations to the Commission, including adjustments to the NY-Sun Prevailing Wage incentive adder, a recommendation for launching a floating solar incentive adder, and a proposal to require the Joint Utilities to implement multiple customer discount rates for net credited community distributed generation projects.

3.4 Equity for Disadvantaged Communities

On March 27, 2023, the Climate Justice Working Group (CJWG) finalized the criteria for identifying disadvantaged communities (DACs), which among other things will be used by New York State agencies and authorities to direct clean energy and energy efficiency investments in a manner in which DACs receive a goal of 40% of the benefits associated with these investments. To advance this goal, NYSERDA has increased focus on DAC investments across its portfolio of programs with shifts in strategy and program design: investing in capacity building and engagement within frontline and underserved communities through initiatives such as the Regional Clean Energy Hubs; prioritizing the funding of projects benefitting disadvantaged communities through initiatives such as NY-Sun and the introduction of geographic eligibility through EmPower

New York; and increasing investment in affordable housing. NYSERDA has also developed new initiatives specifically targeting DACs, such as the Community Decarbonization Fund administered by the NY Green Bank and the Clean Green Schools Program. NYSERDA launched the Clean Transportation Prizes program in order to electrify transportation, reduce air pollution, and enhance clean mobility in underserved communities across New York State. In addition, the 2021 CEF Order set a target for NYSERDA to achieve 40% of benefits of investment across the entire CEF portfolio in DACs, which NYSERDA will seek to achieve by building on the strategic shifts outlined above, and through continued engagement with market actors serving disadvantaged communities and with input from residents to evolve sector strategies to maximize benefits to disadvantaged communities.

Consistent with discussions at CJWG and the Climate Action Council, NYSERDA expects that direct programmatic investments (dollars) in DACs will be the primary metric for compliance with the Climate Act investment mandate. Other co-benefit metrics beyond dollars invested will also be tracked and reported as part of a benefits framework that is currently under development by NYSERDA in collaboration with Department of Environmental Conservation, Department of Public Service and other state agencies and authorities. This framework is expected to inform forthcoming guidance to all state entities on implementation of the Climate Act DAC investments and benefits requirement. NYSERDA expects this guidance in 2023, and in preparation has worked to increase the use of geo-coding of project-level investments in its portfolios and has developed tools and systems for monitoring these investments, which will support ongoing management and optimization of the portfolio to meet the DAC investment target as well as accurate, transparent progress reporting.

3.5 Clean Energy Fund

During 2021, NYSERDA accomplished several key milestones related to the ongoing management of CEF portfolios, including the development of two new initiatives (EV Charging & Engagement and Natural Carbon Solutions) as well as modifications to several existing initiatives. This section describes the evolution of the CEF portfolio, which began with the first initiatives introduced in 2016¹⁰ and continued to build in 2021.

¹⁰ <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={B23BE6D8-412E-4C82-BC58-9888D496D216}>

The September 9, 2021, CEF Order adopted a set of revised, acquired-based targets (vs. the previous commitment-based targets) for CEF benefits to be achieved by 2025 and 2030. This change was adopted to place greater emphasis on putting money to work and acquiring benefits. The Commission found that this will further align the CEF metrics with those required of the investor-owned utilities for energy efficiency and building electrification programs, thereby making it easier to track our total progress across all ratepayer funded programs. Additionally, new targets were intended to align well with New Efficiency: New York expectations for energy savings, as well as Climate Act goals such as renewable energy.

In addition and pursuant to the Commission’s September 9, 2021 Order, NYSERDA prepared and filed the first “Compiled Investment Plan” (CIP) in accordance with the Department of Public Service Staff (Staff) guidance and in keeping with the Commission’s priority to “clearly describe a sound investment strategy identifying the level of funding over the period the activities will be undertaken, the projected outcomes/milestones, and how NYSERDA plans to verify the outcomes, and the impact of the various initiatives.” The CIP evolved from the former investment plan format which contained 27 Chapters and nearly 1,000 pages of plan content. The new format organizes NYSERDA’s Market Development and Innovation & Research initiatives into Focus Areas (sectors or strategic groupings of sectors) and streamlines the content to make it easier for stakeholders to understand NYSERDA’s investments and expected outcomes.

The following sections provide a description of significant changes proposed or approved in the reporting year, although some, but not all, have been launched in this period.

3.5.6 Buildings Innovation

NYSERDA’s Buildings Innovation work is focused on accelerating the development and commercialization of innovative solutions that enable carbon neutral buildings in New York State – that is, buildings that are highly energy efficient, use low-to-no-carbon fuels, and are capable of interacting with the current and future electric and thermal energy grids. This focus area addresses both existing and new buildings. During the most recent period:

- The NextGen Buildings initiative was previously approved and was modified in 2022 to add an additional \$15 million with an expanded scope to include Intelligent Buildings. These buildings are designed to enable buildings to pursue decarbonization, better manage load and the utilization of energy generation assets, and to serve as a reliable distributed energy resource (DER).

3.5.7 Clean Transportation Innovation

The Clean Transportation Innovation Focus Area seeks to support the development and demonstration of new technologies, policies, and strategies to reduce greenhouse gas emissions from the transportation sector and to gain market traction for these products. Activities are designed to harness stakeholders' creative solutions to New York State's transportation energy use challenges, facilitate the development of these solutions into products or services that are commercially viable, demonstrate their benefits to critical stakeholders, and research, identify solutions for and resolve any barriers to adoption that might prevent these solutions from being adopted. During the most recent period:

- The Public Transportation and Mobility initiative (formerly Public Transportation and Electrified Rail) was previously approved and has added an additional \$4 million. This additional funding seeks to demonstrate new public transportation and mobility solutions that support a transition to an integrated, multi-modal, zero-emission transportation system that moves people more efficiently, equitably and cost-effectively.

3.5.8 Climate Resilience

NYSERDA's Climate Resilience work focuses on understanding the impacts of climate change on NYSERDA programs and clean energy assets and devising approaches that systematically consider both risk and resilience in program designs, operations, governance, and investments. The growing focus on resilience is reflected also in NYSERDA's recently refreshed mission and vision statements. During the most recent period:

- During 2022, the Hydrogen Innovation initiative was approved with a budget of \$7 million. This initiative makes investments primarily through competitive solicitations to support specific studies, product development, pilots, and demonstrations assuring that hydrogen can provide resilience solution to support grid stability and provide emergency solutions under various climate conditions. Investments will address areas with the highest strategic importance to New York and with the greatest potential for leveraged investment. The activities funded under this initiative will include hydrogen storage technology and demonstrations of hydrogen-based systems.

3.5.9 Commercial/Industrial/Agricultural

The Commercial/Industrial/Agriculture Focus Area addresses the roughly one million existing buildings and facilities in New York State that are not used primarily for housing. Systems and processes within these buildings range from simple to very complex and vary based on energy use intensity. In addition to lighting, HVAC systems, and domestic water, these buildings often contain a variety of business-specific equipment and many house industrial processes. Large commercial, industrial buildings and facilities, and

some agricultural processes, represent most of the largest energy users and carbon emitters in the State. During the most recent period:

- The Market Challenges initiative was previously approved and was modified twice in 2022, adding a total of \$12 million. \$5 million was added to support additional Empire Building Challenge market demonstration projects of replicable retrofit approaches that decarbonize tall, existing buildings. An additional \$7 million was added to support additional Commercial & Industrial Carbon Challenge projects.
- The Technical Services initiative was previously approved and was modified to add an additional \$5 million to support additional studies.
- The Pay for Performance initiative was previously approved and was modified to reduce the budget by \$32.1 million as the initiative developed the necessary collaboration framework and platform to support initial pilots, however NYSERDA and its partners concluded that the program should not be continued after assessing results from the pilots. The initiative is now considered inactive.
- The Energy Management Technology initiative was previously approved and was modified to adjust funding allocations with \$10 million now directed to support high efficiency Energy Recovery Ventilators (ERV), which allow for the recovery and re-utilization of waste heat from buildings. The overall budget remained unchanged.

3.5.10 Gas Innovation

While the future of gas infrastructure continues to be assessed, NYSERDA is exploring how best to support an optimized future system. As New York assesses the costs and implications of retaining gas infrastructure for use, a variety of technologies may be required to ensure a safe, decarbonized future system and reduce the need for fossil fuel plants to meet periods of peak electric demand. Areas of exploration NYSERDA has considered include leak prone pipes in-situ remediation solutions, demand response in heating and cooling across multiple sectors, carbon capture, long duration storage, decarbonized fuels including hydrogen, and others. Currently, NYSERDA is focusing on long duration storage and hydrogen solutions. During the most recent period:

- The Utility Thermal Network Technical Support initiative was approved in 2022 with a budget of \$3 million to provide utility thermal network technical support services (ongoing technical support) to NYSERDA and the Department of Public Service Staff in carrying out the provisions required by the July 5, 2022, Utility Thermal Energy Network and Jobs Act.
- The Long Duration Energy Storage initiative was approved in 2022 with a budget of \$17 million. The initiative will provide grid reliability and resilience through inclusion of the Long Duration

Energy Storage solicitation that focuses on solutions providing 10 to 100+ hours of storage for multiday grid balancing requirements, seasonal energy shifting, and firm capacity provision for seasonal renewable generation shortfalls to enable the transition away from natural gas infrastructure.

- The Hydrogen Innovation initiative was approved in 2022 with a budget of \$20 million to decarbonize a variety of sectors that are broadly considered as hard to electrify, where electrification may either be more challenging or more expensive. The activities funded under this Focus Area will advance the commercial readiness for applications that support the transition away from natural gas and natural gas infrastructure. These include electrolysis and fuel cell building blocks, hydrogen solution product development and pilots/demonstrations.

3.5.11 LMI

Under the CEF, NYSERDA is implementing a comprehensive, multi-pronged strategy for improving energy affordability and access to clean energy solutions for LMI communities, customers, and building owners, as well as capturing co-benefits of clean energy, such as health and environmental improvements. The components include traditional incentive, or standard offer programs for home efficiency improvements, market development interventions, significant support for outreach and awareness services through a robust network of Regional Clean Energy Hubs, and meaningful NYSERDA coordination with state and local housing agencies and New York utilities to maximize the impact and reach of various publicly funded LMI energy and housing programs currently administered by New York State. During the most recent period:

- The New Construction – LMI initiative was previously approved and was modified to increase the budget by \$10 million with additional funding being added to support pipeline of affordable multifamily applications received through NYSERDA's recently closed Standard Offer program.
- The Single Family – Low-Income initiative was previously approved and was modified to increase the budget by \$13.4 million to continue supporting the market demand for EmPower+.

3.5.12 New Construction

The New Construction Focus Area seeks to build market capacity and prove the technical and financial viability of various solution sets to the market one to three code cycles before they are adopted as the minimum building code. The new construction activities in this plan are comprehensively intended to have buildings, neighborhoods and campuses achieve building decarbonization via the aggregated result of efficiency + electrification + onsite renewables + real-time capability to respond to grid conditions (via controls, storage, onsite renewables, etc.). During the most recent period:

- The New Construction – Market Rate initiative was previously approved and was modified in 2022 to add \$10 million to support additional work in Buildings of Excellence – Multifamily Housing (\$5M) and Carbon Neutral Community Economic Development (\$5M). The New Construction Market Rate initiative has also proposed to redirect \$8M within the existing plan to support the Multifamily Building of Excellence strategy.

3.5.13 Single Family Residential

NYSERDA seeks to facilitate significant scaling of the residential market for providers of energy efficiency and clean energy services by introducing new business strategies, technical tools, market outreach, and other resources designed to accelerate the rate at which homeowners adopt energy efficiency and clean energy technologies such as heat pumps. Through the implementation of this plan, NYSERDA will engage customers at key decision points in the home ownership life cycle by providing customized energy information for homeowners based on their home’s needs and their personalized home investment goals. During the most recent period:

- The Pay for Performance initiative was previously approved and was modified twice, reducing the total budget by \$20.9 million. The initiative developed the necessary collaboration framework and platform to support initial pilots, however NYSERDA and its partners concluded that the program should not be continued after assessing results from the pilots. The initiative is now closed.
- The Residential initiative was previously approved and was modified to add \$7.4 million to reflect modified strategy encompassing multiple related sub-initiatives including: Consumer Awareness & Education, Energy Assessments, Market Support Tools & Activities, and Comfort Home.
- The Consumer Awareness initiative was previously approved and modified to decrease the budget by \$0.6 million as market facing activities have concluded. This initiative is now considered inactive.

4 Program Accomplishments

NYSERDA’s activities are focused on achieving the five strategic goals/outcomes titled, Efficient Use of Energy, Renewable and Diverse Energy Supplies, Clean Energy Economy, A Cleaner Environment, and Contract and Cycle Time/Accessibility, as shown in Table 1. NYSERDA’s 2022 accomplishments are organized and reported in alignment with these five strategic outcomes. The accomplishments are stated in a cross-program manner, and notably, include results spanning pre-CEF and CEF initiatives.

Table 1. Mission, Vision, Outcomes

Mission	Advance clean energy innovation and investments to combat climate change, improving the health, resiliency, and prosperity of New Yorkers and delivering benefits equitably to all.				
Vision	New York is a global climate leader building a healthier future with thriving communities; homes and businesses powered by clean energy; and economic opportunities accessible to all New Yorkers.				
Stakeholders	New York State energy users, businesses, and institutions engaged in the clean energy economy.				
Core Value	NYSERDA will serve as a source of objective, credible information.				
Strategic Goals/Outcomes	Efficient Use of Energy NYSERDA reduces market barriers and spurs demand for energy solutions that reduce the energy consumption and increase the energy efficiency of New York State’s residents and businesses.	Renewable and Diverse Energy Supplies NYSERDA diversifies New York State’s portfolio of energy resources by accelerating development of renewable and distributed generation resources.	Clean Energy Economy NYSERDA catalyzes technology innovation, new business opportunities, and private investment in clean energy in New York State.	A Cleaner Environment NYSERDA enables markets for new clean energy products and services that can produce meaningful reductions in the environmental impact of energy production and use.	Contract and Cycle Time, Accessibility NYSERDA is responsive to customer needs by delivering accurate and timely information, services, and programs.

Tables 2 through 7 provide performance information for each of the five outcomes, including data that describes NYSERDA’s annual incremental commitment performance for calendar year 2021, cumulative commitments through December 2022, and the total cumulative acquired progress achieved through December 2022.

Targets for calendar year 2023 are also provided for performance measures, when possible. NYSERDA’s targets are expressed on an acquired basis (i.e., having to do with when funds are expended, and projects

completed). Acquired targets place a greater emphasis on putting money to work in the market and completing projects in a timely manner.

Each metrics table contains two columns on the left side representing a commitment-based view and four columns on the right side representing the acquired-based view.

- The column **Cumulative Committed Benefits at End of 2021** represents NYSERDA's total benefits expected from projects committed through 2021, representing the prior year pipeline.
- The column **Cumulative Committed Benefits at End of 2022** represents NYSERDA's total benefits expected from projects committed through 2022, representing the current pipeline.
- The column **Acquired Target CY 2022 Addition** represents NYSERDA's expected target for new acquired benefits achieved during the calendar year.
- The column **Acquired Achieved CY 2022 Addition** represents NYSERDA's actual progress for new acquired benefits achieved during the calendar year.
- The column **Acquired Total Cumulative at end of 2022** represents the total benefits NYSERDA achieved from projects that have been completed through 2022.
- The column **Acquired Target CY 2023 Addition** represents NYSERDA's expected target for new acquired benefits achieved during the calendar year.

The quantitative performance measurement data are supplemented with contextual information, as needed and when available, and highlights of additional 2022 accomplishments.

While the listed targets and performance measures are used to evaluate NYSERDA's progress toward goals, many of the measures are influenced by factors that are out of NYSERDA's direct control, such as economic conditions, changes in energy markets and prices, and Federal and State policy and funding decisions. The measures are intended to serve as good indicators of progress in the context of these external factors.

As New York State and the entire nation continued to feel the lasting impact from the pandemic and related economic effects during 2021, manufacturing, shipping and workforce capacity issues have all led to increased construction costs and timelines. Supply chain disruptions have resulted in restricted supply and thus increase costs for equipment and consumer goods while contractors are experiencing challenges finding qualified labor, leading to cost increases on construction projects. Additionally, project timelines are also increasing due to these issues. While NYSERDA programs have not been immune to these near-term economy-wide disruptions, clean energy projects are still proceeding toward the State's long-term goals.

Table 2 presents NYSERDA's progress toward the efficient use of energy performance measures.

During 2022, performance against energy efficiency delivery targets shown in Table 2 fell short of the targets for both electricity (74%) and fossil fuel saved (66%) and therefore energy bill savings (75%). Progress against these near-term targets continue to be impacted by challenges facing the clean energy market today, specifically challenges with supply chain, skilled labor availability and rising construction costs, all of which are delaying or slowing projects. However, NYSERDA's cumulative progress towards CEF energy efficiency plans remained strong, having achieved 96% of electricity and 102% of fossil fuels saved as of December 31, 2022.

This difference in achievement of incremental versus cumulative progress expectations can be attributed to positive adjustments made to prior years' savings that are not reflected in the current year incremental progress, as many NYSERDA programs report estimated savings at the time of program completion and then are adjusted as actual savings values are received. Although NYSERDA monitors incremental progress, cumulative progress towards overall plan goals is the key measurement of long-term success. NYSERDA is committed to driving progress towards NYS's clean energy goals and will continue to monitor the State's economic recovery and make programmatic adjustments throughout its portfolio of programs as needed.

2022 targets included only the direct energy-efficiency impacts acquired in the calendar year in order to most directly focus on NYSERDA operations to support projects and provide immediate benefits to participants. 2023 targets are set on the same basis. Reporting of total cumulative acquired benefits also include indirect energy-efficiency impacts brought about by market transformation as they are quantified.

Table 2. Performance Measures—Efficient Use of Energy

Performance Measures	Commitment Pipeline		Acquired Benefits			
	Total (Cumulative) End of CY 2021	Total (Cumulative) End of CY 2022	Target CY 2022 Addition	Achieved CY 2022 Addition	Total (Cumulative) End of CY 2022	Target CY 2023 Addition
Electricity^{a,b} (GWh) saved annually due to improved energy efficiency in New York State’s buildings and facilities.	1,671	1,305	578	427	9,008 ^c	704
Fossil Fuels^{a,b} (MMBtu) saved (in millions) annually due to improved energy efficiency in New York State’s buildings and facilities.	6.2	7.6	3.6	2.3	29.0 ^c	3.6
Energy Bill Savings Annual direct energy bill savings realized by participating customers (all programs).	\$261	\$250	\$65	\$49	\$1,748 ^b	\$63 ^d

- ^a The system benefit charge (SBC) was authorized in 1998 and NYSERDA began programs the following year. Substantial installations had taken place beginning in 2001 and based on an average 16-year measure life, NYSERDA’s 410 GWh will be “retired” in 2022. These amounts and the associated emission reduction and customer bill savings have been netted out of the Total Cumulative End of CY 2022 values reported.
- ^b All energy savings values are gross, i.e. not reflecting adjustments made through evaluation, measurement and verification.
- ^c Approximately 107 GWh and 528,000 MMBtus in indirect impacts quantified through evaluation studies in 2022 have been included in the Total Cumulative End of CY 2022 totals.
- ^d Department of Public Service implemented new bill savings factors for CEF reporting effective 1/1/2022

Table 2a. Comparison Points—Efficient Use of Energy

Comparison Points	
Electricity (GWh)	2021 statewide annual sales of electricity—141,424 GWh ^a
Fossil Fuels (MMBtu)	2020 statewide annual (residential, commercial, industrial) natural gas and petroleum usage—1,093 million MMBtu ^b
Number of New York State households served	2021 occupied housing units in NYS—7,652,666 ^c
Number of commercial and industrial customers served	2021 business establishments in NYS—535,758 ^d

^a <https://www.eia.gov/electricity/data/state/xls/861/HS861%202010-%20.xlsx>^b NYSERDA, Patterns and Trends, Energy Information Administration (EIA), 2023

^b NYSERDA, Patterns and Trends, Energy Information Administration (EIA), 2023

^c DP04: SELECTED HOUSING CHARACTERISTICS - Census Bureau Table

^d U.S. Census Bureau QuickFacts: New York

Additional highlights for Efficient Use of Energy:

- Since 1998, NYSERDA-administered energy efficiency programs have saved enough electricity to power more than 1.68 million homes each year and enough natural gas, propane, oil, and other heating fuels to heat 410,000 homes each year.
- More than 1.1 million households and 50,100 commercial, industrial, and institutional customers reduced their energy use and annual energy bills by participating in NYSERDA programs since 1998.

For the 2021 CES compliance year, the contribution from renewable energy resources to meet the State’s electric load was 27.0%. The percentage of electric load served by renewable resources decreased by 0.4% from 2020 to 2021. While renewable resources generated a small increase in energy year-over-year, the load also increased by 2% and clean energy imports decreased. Actual renewable energy production delivered to the wholesale market in 2022 fell short of target (80 percent achieved) due to delays in projects reaching commercial operation.

Table 3 presents NYSERDA’s progress toward the renewable and diverse energy performance measures including renewable energy production from on-site installations and solar PV capacity. The NY-Sun performance achieved against acquired benefits and commitments were driven primarily by the State’s expanding community solar market, as well as an increased interest in residential solar driven by high retail electric prices. In April 2022, the Public Service Commission issued an Order expanding the NY-Sun program to a 10 GW by 2030 target and approving an additional \$1,474 million in funding.

Table 3. Performance Measures—Renewable and Diverse Energy

Performance Measures	Commitment Pipeline		Acquired Benefits			
	Total (Cumulative) End of CY 2021	Total (Cumulative) End of CY 2022	Target CY 2022 Addition	Achieved CY 2022 Addition	Total (Cumulative) End of CY 2022	Target CY 2023 Addition
Renewable resources electricity produced						
1) Annual Electricity Production (GWh) delivered to wholesale power market from incentivized installations ^{a,b}	47,743	47,584	228	184	2,526	1,825
2) Annual Electricity Production (GWh) from on-site installations	3,291	4,388	821	896	4,297	1,036
Solar PV capacity (GW) from all NYSERDA funded solar PV programs, including NY-Sun 6 GW goal^b	2.5	3.4	0.7	0.75	3.45	0.8

^a Amount is net of any NYSERDA-contracted facilities which have reached their terminus year, after which NYSERDA no longer has the rights to claim the attributes of their generation.

^b NYSERDA does not, by filing this report, make any claim to the environmental attributes associated with the megawatt-hours. NYSERDA has relinquished all such rights and disavows any and all rights to any environmental claims or renewable energy to which it had made claims under previous policies.

^c Target has been adjusted to account for program benefits that overlap with each other to avoid double counting.

Table 3a: Comparison Points—Renewable and Diverse Energy

Comparison Points	
New York Load Served by Renewables^a	2021 Renewable Energy Serving Load—27.0% (38,289 GWh)

^a CES Annual Progress Report—2021
<https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={A613EF5C-8F39-4DA7-87E5-E3C6CE804B52}>

Additional highlights for strategic goal/outcome Renewable and Diverse Energy supplies:

- NYSERDA is currently supporting 141 large-scale renewable generation projects representing 8,884 MW of renewable generation capacity. There are 41 facilities operating with the remainder of the projects under design and construction.
- NYSERDA is currently supporting four offshore wind generating projects, which are both under design and construction, and once operating will represent 4,230 MW of renewable capacity.
- NYSERDA is also supporting two Tier 4 projects aimed to increase the penetration of renewable energy in New York City and leverage the State’s existing robust contracted and awarded pipeline of large-scale renewable energy, comprised of nearly 100 solar,

land-based and offshore wind projects totaling 12,300 MW of clean power—enough to power over six million New York State homes when completed.

- 2022 was the most active year for New York distributed solar deployment, with 851 MW installed statewide (approximately 750 MW of which was NYSERDA funded), representing nearly 12 percent growth over 2021.
- New York ranked first in the U.S. in 2022 for community solar and second for distributed solar.¹¹ New York ranks fourth in the U.S. for full-time solar jobs, with a more than 10,500 jobs.¹²

Table 4 presents NYSERDA’s progress toward the clean energy economy performance measures. The 2022 target for leveraged funding was exceeded, primarily due to the opening of a new Silicon-Carbide chip manufacturing facility, which was supported by the CEF Market Development Power Electronics Manufacturing Consortium initiative.

¹¹ Wood Mackenzie, US Solar Market Insight Full Report, 2022 Year in Review. Published March 2023. <https://www.woodmac.com/industry/power-and-renewables/>

¹² Interstate Renewable Energy Council, 12th Annual National Solar Jobs Census 2021. Published July 2022. <https://irecusa.org/programs/solar-jobs-census/>

Table 4. Performance Measures—Clean Energy Economy

Performance Measures	Commitment Pipeline		Acquired Benefits			
	Total (Cumulative) End of CY 2021	Total (Cumulative) End of CY 2022	Target CY 2022 Addition	Achieved CY 2022 Addition	Total (Cumulative) End of CY 2022	Target CY 2023 Addition
Total funding leveraged from all NYSERDA investments (\$billions) ^{a,b}	\$32.3	\$42.9	\$2.3	\$3.2	\$22.8	\$3.1

^a NYSERDA’s data set for leveraged funds began in 2010.

^b Data collection for leveraged funds associated with NYSERDA’s Technology and Business Development programs is an ongoing effort and the reported values included in this figure represent incomplete data that will be supplemented in future years.

Additional highlights for Clean Energy Economy:

- As a component of the leveraged funding presented in Table 4, NYSERDA’s investment in technology and business development has leveraged \$1.2 billion in 2022 for a total of \$3.5 billion through the end of calendar year 2022.
- As a result of NYSERDA’s technology and business development investments:
 - There are more than 656 new and improved clean energy products in the market (including 77 new products added in 2022) in all end-use energy sectors from high efficiency furnaces to advanced lighting controls and hybrid electric buses.
 - There are 35 new clean energy products currently in development with support from NYSERDA.
 - Annual sales of products developed with NYSERDA support have reached approximately \$2,545 million.
 - There are currently 64 clean energy businesses receiving financial support.
- NYSERDA’s incubator program, which currently supports six cleantech incubators across the State, assisted 384 clients and helped these startups raise more than \$2.3 billion in private and non-NYSERDA public investment, while generating and retaining 3,400 jobs and bringing dozens of new clean energy and clean technology products to the market.

Table 5 presents NYSERDA’s progress toward cleaner environment performance measures. The 2022 achieved carbon reductions fell slightly short of target (82 percent) mainly due to the shortfall in acquired electricity and fossil fuel savings benefits described earlier.

Table 5. Performance Measures—A Cleaner Environment

Performance Measures	Commitment Pipeline		Acquired Benefits			
	Total (Cumulative) End of CY 2021	Total (Cumulative) End of CY 2022	Target CY 2022 Addition	Achieved CY 2022 Addition	Total (Cumulative) End of CY 2022	Target CY 2023 Addition

CO ₂ equivalent emission reductions (in millions) due to NYSERDA's energy efficiency, renewable, and diverse energy programs (annual metric tons) (All programs)	19.95	27.2	1.07 ^a	0.88	10.25	1.85

^a Targets have been adjusted to include only anticipated direct energy-efficiency impacts acquired in the calendar year. Reporting of total cumulative acquired benefits includes indirect energy-efficiency impacts brought about by market transformation as they are quantified and to account for program benefits that overlap with each other to avoid double counting.

Table 5a. Comparison Points—A Cleaner Environment

Comparison Points	
CO ₂ emission ^a	2020 annual NYS power sector emissions—24 million metric tons CO ₂

^a (1) New York State Department of Environmental Conservation. 2022 NYS Greenhouse Gas Emissions Report Sectoral Report #1 – Energy. “Table 5. Electricity Emissions by Fuel Type, 1990-2029 (mmt CO₂e GWP20)”. <https://www.dec.ny.gov/energy/99223.html> Includes emissions from in-state power generation only. GHG emissions associated with imported power as well as the upstream impacts of fossil fuel extraction, processing, and transportation are being assessed in collaboration with DEC as part of a separate GHG emissions reporting process established by the Climate Act.

Energy-related environmental policies in 2022 informed by NYSERDA reports/studies:

- The Environmental Research Program is managing a portfolio of six research projects initiated to better understand the implications of solar development on agricultural lands and practices, under the advisement of the Agricultural Technical Working Group, which is also led by NYSERDA. These research project outcomes aim to inform solar energy procurement, siting, and mitigation practices.
- The Environmental Research Program continued to support a suite of research projects focused on monitoring methane and other greenhouse gases from compressor stations, landfills, and other sources. These build on the existing network of long-term monitors that will assist in developing and refining NYS’s inventory in support of the state’s methane reduction plan and climate mitigation goals pursuant to the Climate Act.

- The Environmental Research Program supported the development of the Zip Code-Level Air Pollution Policy Assessment (ZAPPA) tool to model the air pollution concentration at neighborhood scales in NYC and estimate and monetize the resultant health effects.
- The Environmental Research Program worked with the Large-Scale Renewable Program to conduct an analysis of potential constraints to siting offshore wind cables, including infrastructure, natural and environmental, and socioeconomic, in New York State waters, at landfall, and along overland routes. The Program convened a State agency Cables Working Group and published the Offshore Wind Cable Corridor Constraints Assessment. The Assessment informed NYSERDA's 2022 offshore wind Request for Proposals, ORECRFP22-1.
- The Environmental Technical Working Group, chaired by the Environmental Research Program, published a database of environmentally-focused research needs related to offshore wind development on Tethys, Atlantic Offshore Wind Environmental Research Recommendations. The database informed the Program's 2022 Program Opportunity Notice 5226 and is being used by offshore wind developers, state and Federal agencies, and the Regional Wildlife Science Collaborative to create science plans and make funding decisions.
- The Environmental Research Program continued to support the development of the New York State Climate Impacts Assessment. When completed in 2023, the Assessment will provide foundational science to inform climate change policy across all sectors of the state at all levels of decision making, including implementation of Climate Action Council Scoping Plan recommendations and development of the statewide Extreme Heat Action Plan.

Tables 6 and 7 present NYSERDA’s progress toward the contract and cycle-time performance measures, which NYSERDA assesses in terms of invoice payment and contract processing timelines. NYSERDA maintained its long-standing record of strong performance regarding prompt payment of invoices. Contract cycle time continues to improve and exceeded all targets set for 2022. Contract cycle time has seen a reduction over the years in cycle times across most solicitation types. This can be attributed to the many improvements made and continuous monitoring of solicitation and contract status on a monthly basis, which help NYSERDA ensure efficiency while appropriately managing risk.

Table 6. Performance Measures—Contract and Cycle Time (Invoicing)

CYCLE TIME—INVOICING					
<i>NYSERDA is responsive to customer needs—delivering accurate and timely information, services, and programs.</i>					
Performance Measures	CY 2020	CY 2021	TARGET CY 2022	CY 2022	TARGET CY 2023
Invoice payment:					
1) Number of invoices paid within 30 days	71,440 invoices	93,599 invoices	***a	103,407 invoices	***a
2) Percent of payments made within 30 days	99.99%	99.99%	100%	99.99%	100%

^a The measure will be monitored and reported but a target has not been set. NYSERDA elected not to establish a target in cases where the measure is a function of a parameter that cannot be reliably predicted (e.g., energy costs) or in cases where the metric is new to NYSERDA.

Table 7. Performance Measures—Contract and Cycle Time (Solicitations)

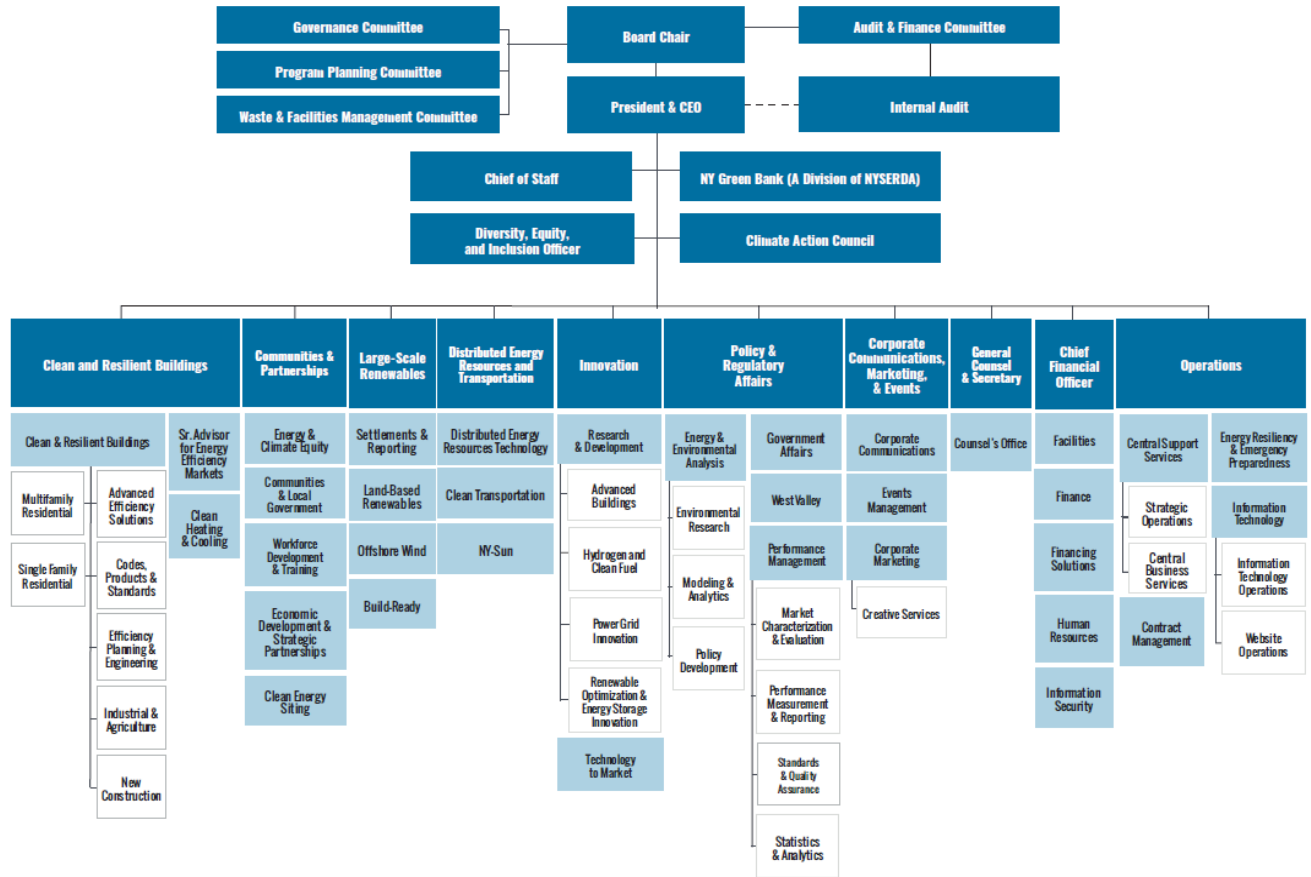
CYCLE TIME—CONTRACTS				
<i>NYSERDA is responsive to customer needs—delivering accurate and timely information, services, and programs.</i>				
Performance Measures	CY 2021 Median Total No. of Weeks	Target CY 2022	CY 2022 Median Total No. of Weeks	Target CY 2023
Contract Processing Time—Median time to Process (Weeks):				
1) Due Date Solicitations	30	30	27	28
2) Open Enrollment and Task-Work Orders	1.57	2	0.86	2
3) Open Enrollment (Automated) ^a	0.14	1	0.14	0.28
4) All Other Actions (Direct Contracts and Contract Modifications)	1.21	2	1.14	2

^a The contracting process for Residential NY-Sun projects has been automated, leading to reduced cycle times. As these processes are fundamentally different than other open enrollment solicitations, we have broken them out into their own category.

5 Program Units

This section includes NYSERDA’s program units, as represented on the organization chart below. Each unit includes a brief overview. The organization units not described in this section but included on the organization chart are operational and administrative rather than program units.

Figure 1. NYSERDA Organizational Structure



5.1 Communities and Local Government

The Communities and Local Government unit provides a unified approach toward local energy action to better serve local communities' needs and to advance clean energy policies and practices statewide. The program is intended to implement a common framework that enables communities to embed clean energy into their planning, help facilitate and prioritize implementation, and recognize/showcase community energy and sustainability actions.

5.2 Multifamily Residential

The Multifamily Residential unit works to overcome market barriers in the multifamily sector (residential structures containing five or more dwelling units), pursuing strategies to create awareness and demand for energy-efficient and high-performance buildings; increase market capacity to deliver energy services; stimulate consumer demand for energy and environmentally friendly buildings through clear and widely used labeling; expand the pool of trusted energy professionals serving the needs of multifamily building owners by increasing their technical skill sets and tools; demonstrate viability of deep energy retrofits in multifamily affordable housing stock; and further the emergence of performance contracting.

5.3 Single-Family Residential

The Single-Family Residential unit works to overcome market barriers towards the development of a robust, self-sustaining, market-based energy efficiency industry for the existing homes sector (residential structure containing one to four dwelling units) and facilitates the growth of demand for energy services.

5.4 Workforce Development and Training

The Workforce Development and Training unit enables workforce development and training where the lack of a trained workforce inhibits growth in a particular energy industry, or where training is needed to perform critical functions; establishes energy training as a permanent and sustainable part of the community infrastructure; and enables growth of jobs in disadvantaged communities.

5.5 Advanced Efficiency Solutions

The Advanced Efficiency Solutions team is a cross-sectoral group whose primary goal is to accelerate the adoption of energy efficiency and electrification in buildings by increasing private sector investment in building decarbonization technologies and services. Initiatives run by the Advanced Efficiency Solutions team advance commercially available energy efficiency, electrification, and load flexibility solutions that deliver carbon reductions. This team is focused on engagement with large building portfolio owners and leveraging solutions within and across their portfolios.

5.6 Codes, Products, and Standards

The Codes, Products, and Standards team promotes energy efficiency across sectors through regulatory and supply chain interventions. The team supports building energy code advancement, education, and compliance, working with actors across the construction market, including building owners, developers, and elected officials, with a goal of promoting zero carbon or even net-carbon positive building performance. The team also drives the promotion of improved product and appliance standards, along with the adoption and expansion of building energy and water benchmarking. The team continues to find ways to improve the efficiency and success of program delivery models, including the promotion of a statewide supply chain.

5.7 Efficiency Planning and Engineering

The Efficiency Planning and Engineering Team is an inter-disciplinary group with the primary goal of increasing clean energy investment in commercial buildings. To accomplish this objective the Team engages with commercial stakeholders, sector organizations, service providers and customers to deliver monetary and informational incentives. This team manages the multi-sector Technical Services platform and its qualified engineering vendor community. Sector specific initiatives such as REV Campus Challenge, and the P-12 Initiative are examples of segment targeted efforts under this team.

5.8 Industrial and Agriculture

The Industrial and Agriculture unit looks to advance the latest technologies and techniques to drive the adoption of energy efficiency and process improvements through new strategies, including optimizing energy use and productivity as well as providing credible information toward integrating clean energy into the business mission of the industrial and agriculture sectors.

5.9 New Construction

The New Construction unit works across all sectors, including low- to moderate-income (LMI) households, to build market capacity, demonstrate value propositions, and disseminate credible information to drive the market to deep energy savings and zero-net energy performance in construction and substantial renovation projects. This includes strategies to improve contracting, design and construction practices, and promote zero- and positive-net carbon construction and renovation practices that maximize cost-effective carbon reductions.

5.10 Clean Heating and Cooling

The Clean Heating and Cooling unit will seek to enable a self-sustaining market for large scale clean heating and cooling solutions, helping to increase the viability of net zero energy buildings in the State and promote Thermal Energy Networks, which utilize various heating and cooling media in shared infrastructure loops, as a cost-effective and scalable business model on a statewide scale. The team is focusing on geothermal and waste heat recovery infrastructure to serve large facilities, campuses, and communities. This work will also address barriers to market growth, including low-customer awareness and confidence, limited trained service providers, high-upfront costs, significant soft costs, variable performance data.

5.11 Energy and Climate Equity

The Energy Affordability and Equity unit develops strategies and proposes policy, coordinating across all sectors and various State organizations to streamline and improve the effectiveness of energy services delivery to low- to moderate-income households. The unit also manages single-family residential energy efficiency incentive programs.

5.12 Economic Development and Strategic Partnerships

The Economic Development and Strategic Partnerships unit manages the Authority's utility engagement strategy including overseeing NYSERDA's clean energy funding agreement with the Long Island Power Authority and managing regularly occurring executive level collaboration efforts between NYSERDA and the major utilities in New York. This team also works closely with Empire State Development and other partners to attract clean energy manufacturing and supply chain companies to New York State, resulting in jobs and investments that can improve our communities.

5.13 Large-Scale Renewables

The Large-Scale Renewables unit will sustain and expand the penetration of large-scale renewables in the State and support the development of the next frontier of renewable resources, including offshore wind. The program will document New York State’s progress toward its renewable goals and facilitate New York State’s renewable voluntary market through the management of the New York Generation Attribute Tracking System. The program will also provide stakeholder outreach, technical, and pre-development assistance to increase acceptance and reduce soft costs associated with the development of these assets as well as assess alternate energy market valuation and transmission solutions for renewables. Organizationally, the Large-Scale Renewables team includes Tier 1, Tier 2, Tier 3 (ZEC), Tier 4, Off-Shore Wind, Build-Ready staff, and Operations staff.

The team will manage over \$1 billion in existing Renewable Portfolio Standard Main Tier contracts as well as actively execute its Renewable Energy Standard, Build-Ready and Off-Shore Wind procurements and manage contracts with in-development and in-service generators associated with these procurements.

5.14 Clean Transportation

The Clean Transportation unit will develop and implement programs to expand the adoption of clean transportation options in New York State and support the development and demonstration of new clean transportation technologies. The unit will craft innovative approaches to expedite market adoption of electric vehicles and clean mobility options, removing barriers to increased clean transportation use such as cost, awareness, ease of access, and availability of financing. Additionally, the unit will work with public and private partners to develop and demonstrate novel technologies and business models that address key barriers to clean transportation market expansion in NYS.

5.15 Distributed Energy Resources Technology

The District Energy Resources Technology unit will develop and implement a robust energy storage strategy that removes the most impactful barriers preventing adoption in the electric grid and building sectors. This will enable renewable generation to be used as “flexible resources,” improve deliverability of solar and wind, increase electric system utilization, reliability, and resiliency, and flatten peak demand. Initiatives will

include incentive programs for the residential, commercial retail and bulk sectors to accelerate market scale-up and deployment, targeting soft costs to reduce total installed cost, participating in ratemaking and tariff design, stakeholder education on safety and regulation, and engaging with stakeholders to facilitate improvements to regulatory policy for interconnection and other market rule changes. These strategies will be delivered in conjunction with public and private organizations as well as other NYSERDA teams.

5.16 NY-Sun

The NY-Sun unit has a multifaceted approach that aims to lower energy costs for all New Yorkers by increasing solar power capacity and the efficiency and reliability of the electric grid. Public-private partnerships help make installing solar technology more affordable for New Yorkers while scaling up the State's solar industry. In addition to the Solar Electric Program, the NY-Sun initiative has programs to help lower statewide solar soft costs, including training for installers and public officials, a standardized permitting and interconnection process, customer aggregation, and consumer education.

5.17 Research and Development

The Technology and Business Innovation unit facilitates the research, development, and commercialization of new and innovative clean energy technologies that when deployed at scale will deliver meaningful reductions in GHG emissions. Technology and Business Innovation employs a comprehensive strategy that integrates and leverages direct investment in startup and established clean energy companies, establishes sustainable multiuse assets in the State, and fully engages important stakeholders such as researchers, established corporate entities, and the investment community. Technology and Business Innovation's direct investments help to determine technical feasibility, assess market opportunities, achieve key product development milestones, and validate new technologies at scale in real-world applications. Strategic investments in statewide multiuse assets provide business incubation, manufacturing support, mentorship, and access to private sector investors and potential development and commercialization partners. Technology and Business Innovation's overall strategy contributes toward the growth of a vibrant clean energy business ecosystem that delivers solutions to the State's pressing environmental, energy, and economic needs.

Technology and Business Innovation has five teams focused on the following areas:

- **Smart Grid Systems and Distributed Energy Integration:** Accelerate the evolution to a smarter more integrated grid that allows for new value-added services in pursuit of efficiency, sustainability, reliability, resiliency, and affordability.

- **Renewable Resource Optimization:** Accelerate market adoption and realization of grid and consumer benefits from distributed and renewable resources.
- **Buildings:** Accelerate development of technologies and systems that can enable net zero energy buildings, deep energy efficiency retrofits and smart buildings—providing value and comfort to occupants and owners.
- **Innovation Capacity and Business Development:** Catalyze and enable a vibrant, self-sustaining cleantech innovation ecosystem that will accelerate the pace and scale of clean energy and make NYS the place for innovation.
- **Hydrogen and Clean Fuel:**

5.18 Technology to Market

The Tech to Market team is focused on commercializing the climatetech solutions NYSERDA needs to reach its nation-leading climate goals through the deployment of startup support programs and direct funding opportunities for climatetech companies. Key approaches from this team include: offering expert support for business scale up, manufacturing, and demonstration, providing training in business building concepts and best practices, offering direct catalytic funding to accelerate company growth and impact, connecting innovators to local resources, investors, and customers in New York, and stimulating novel business models to move key markets that can increase climatetech solution adoption.

5.19 Energy and Environmental Analysis

The Energy and Environmental Analysis unit assists State policy decision-makers and stakeholders by objectively:

- Identifying and evaluating policy alternatives for addressing vital public needs related to the production, delivery, and use of energy as well as development of new technologies.
- Assessing the impact of energy and environmental policies, programs, and technologies on the State’s residents, businesses, environment, and energy systems.
- Providing market intelligence across all energy and fuel types, including all energy systems, market participants, and customer sectors.

- Assessing operational status of energy delivery and fuel storage infrastructure components and advising corrective actions as necessary to expedite return to full operational capacity.
- Assessing retail petroleum fuels and natural gas prices, supplies, and production to enable analyses of and response to market conditions.
- Providing energy-related environmental accountability through analysis of long-term monitoring records and modeling.
- Evaluating the effectiveness of energy-related environmental protection strategies to support regulatory processes.
- Helping prioritize opportunities for mitigation and identifying cross-sector pollution control strategies.
- Coordinating the State's activities on nuclear energy matters, including the regulation of radioactive materials, and monitoring low-level radioactive waste generation and management.
- Fostering informed energy planning through economic analysis and modeling of energy and environmental issues.

5.20 Clean Energy Siting

The Clean Energy Siting unit offers several resources to help local governments understand how to manage responsible clean energy development in their communities. These resources include step-by-step instructions, tools, guidebooks, and educational workshops to guide the implementation of clean energy, including permitting processes, property taxes, siting, zoning, and more. The team also provides one-on-one technical assistance to local governments and maintains relationships with other stakeholders to ensure resources are up to date and provide meaningful, timely, relevant information.

5.21 Financing Solutions

The Financing Solutions unit will develop strategies for mobilizing private capital and market-based financing solutions to support scaled investments in clean energy across sectors and technology areas.

NYSERDA, a public benefit corporation, offers objective information and analysis, innovative programs, technical expertise, and support to help New Yorkers increase energy efficiency, save money, use renewable energy, and reduce reliance on fossil fuels. NYSERDA professionals work to protect the environment and create clean-energy jobs. NYSERDA has been developing partnerships to advance innovative energy solutions in New York State since 1975.

To learn more about NYSERDA's programs and funding opportunities, visit nyserderda.ny.gov or follow us on Twitter, Facebook, YouTube, or Instagram.

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