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Governor

NYSERDA

RICHARD L. KAUFFMAN
Chair

DOREEN M. HARRIS
President and CEO

NOTICE OF MEETING AND AGENDA

January 14, 2022

TO THE MEMBERS OF THE NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY:

PLEASE TAKE NOTICE that a regular (the 255th) meeting of the New York State Energy Research and Development Authority (“Authority”) will be held on Tuesday, January 25, 2022, commencing at 2:00 p.m., for the following purposes:

I. *Discussion Agenda*

1. To receive a report from the Authority’s President and CEO.
2. To receive a report from the Program Planning Committee and to consider and act upon resolutions approving:
 - a. the strategic plan entitled *Toward A Clean Energy Future – A Strategic Outlook 2022-2025*; and
 - b. revisions to the plan entitled *Operating Plan for Investments in New York Under the CO₂ Budget Trading Program and the CO₂ Allowance Auction Program*.
3. To consider and act upon a resolution approving the Authority’s FY 2022-2023 Budget.
4. To consider and act upon a resolution to enter into executive session for the purpose of discussing the employment history of a particular person.
5. To consider and act upon a resolution appointing a Vice Chair.
6. To receive a report from the Waste and Facilities Management Committee.
7. To receive a report from the Audit and Finance Committee.
8. To receive a report from NY Green Bank.
9. To receive a Program Report.

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II. *Consent Agenda*

1. To consider and act upon resolutions approving:
 - a. the periodic contracts report.

III. *To transact such other business as may properly come before the meeting.*

Members of the public may attend the meeting via the video conference which can be accessed at <https://www.nyserda.ny.gov/About/Board-Governance/Board-and-Committee-Meetings>. As the Authority continues to follow the guidance for addressing the impacts of COVID-19, any meeting location updates may be found at <https://www.nyserda.ny.gov/About/Board-Governance/Board-and-Committee-Meetings>.

The Authority will be posting a video and a transcript of the meeting to the web as soon as practicable after the meeting. The video and transcript will be posted at <http://www.nyserda.ny.gov/About/Board-Governance/Board-and-Committee-Meetings>.

A handwritten signature in blue ink that reads "Pat Corrado". The signature is written in a cursive, flowing style.

Secretary

**PRESIDENT AND CEO
(ORAL REPORT)**

Toward a Clean Energy Future:

A Strategic Outlook

2022

THROUGH



NYSDERDA

2025



Both within the borders of the Empire State and more broadly in the global climate movement, we have reached and continue to reach key milestones in our respective journeys toward a clean energy future

To our colleagues, partners, and fellow New Yorkers:

As we turn the calendar over to 2022, many of us here in New York State and across the nation feel a strange, dissonant truth: a dual-sense of fragile, tentative optimism on the one hand, with a more protective, expect-the-unexpected cautiousness on the other. Entering the third calendar year of the pandemic, with continued twists and turns and tragic impacts on our neighbors and our institutions, the light at the end of the tunnel originally sparked by widely available vaccinations and boosters has remained frustratingly dim and distant — at least in the midst of our second winter surge and latest COVID variant. Though we've all learned to adapt in our own ways to the new way of life this period has brought, it is still worth acknowledging this prolonged period of challenge and uncertainty that we continue to navigate as individuals, as families, and as a collective society.

And yet, as I reflect on the year that has been and look out to the prospects of the years ahead, I am left with the sense that **optimism will prevail over pessimism**. And this is especially true when I survey the landscape of the climate and clean energy work that underpins our work here at NYSERDA. Both within the borders of the Empire State and more broadly in the global climate movement, we have reached and continue to reach key milestones in our respective journeys toward a clean energy future, ones that were unthinkable a few short years ago. So, even as we collectively try to will a brighter future into existence in 2022, it is also the case that we have so much to be proud of as we look back on 2021 and all that we experienced and accomplished.

On the global stage, I had the privilege to witness firsthand at COP26 in Glasgow, Scotland, just how this climate moment is manifesting itself for different nations and communities across the world. This, the most urgent United Nations climate summit in history, ended with notable progress toward addressing the climate crisis, but it arguably fell short where it counts most: on phasing out fossil fuels, establishing concrete targets to limit temperature rise to 1.5-degree Celsius goal, and ensuring financial support for the hardest-hit developing nations. As a representative of New York's Governor Kathy Hochul, I was fortunate to attend the summit and stand with other sub-national governments taking up the mantle of climate action. I heard loudly the calls from climate justice, Black, Indigenous, People of Color, and youth communities for a seat at the table in those international discussions, and like every official returning home, I left with the indelible impression that **their voices must be elevated and included in the future**.

Back home on the state front, New Yorkers saw just this month a new platform unveiled by Governor Hochul during her inaugural State of the State address. This heralded the arrival of a **'New Era for New York,'** an apt description writ large but also for the climate and clean energy platform, which saw perhaps its strongest, most comprehensive State of the State in recent memory. We saw not only major announcements in some of the categories we've gotten used to, such as **investments in offshore wind and renewable energy**, but also key new initiatives in the **buildings and transportation** sector, putting forward nation-leading new policies for **efficient and electric building construction** and **electric school buses**, among many others. This dawn of the New Era for New York bodes well for our State's climate action in the years ahead, and NYSERDA is fortunate to have been in a position to help craft and shape — and now to implement — this impressive new agenda.

And it comes at a critical time for New York State and for NYSERDA. **New York's Climate Action Council**, empaneled after the passage of the **Climate Leadership and Community Protection Act** (Climate Act), recently voted unanimously to issue for the Draft Scoping Plan to guide the achievement of our Climate Act emission reduction goals. The **Climate Justice Working Group** has also finalized for release the proposed final definition of **Disadvantaged Communities** and the framework for measuring progress on clean energy benefits and investments to those communities. Also recently released were the **Disadvantaged Communities Barriers Report**, the **Climate Jobs Study**, and DEC's updated **GHG emissions inventory**. While these momentous reports underline significant work that we need to do collectively, they also collectively present a thoroughly exciting — if not somewhat daunting — future that lies ahead for New York's energy transition and climate journey.

Simply put, acting on climate will cost far less than the cost of inaction, and it will deliver immense net benefits to the residents, businesses, and communities of New York through a cleaner energy system, reduced pollution, healthier buildings and neighborhoods, significant new job creation, and so much more.

NYSERDA is fortunate to have been in a position to help craft, shape, and now implement New York State's impressive new clean energy agenda

We will continue to lead, build on our efforts to date, and drive toward a better, cleaner, more resilient future, where New York's people can flourish.

In this context, I'm proud to present a **Strategic Outlook for 2022-2025** that seeks to harness this global and local momentum and strive for **deeper impact** in our activities here at NYSERDA, all while **keeping people at the heart of our work**. As we help drive Governor Hochul's nation-leading climate agenda and implement the Climate Act, we largely know what we need to do.

In fact, after undertaking deep-dive examinations of new strategic focus areas last year, we realized that these priorities — all revolving around **improving the lives for New York residents** — still ring true. Therefore, we present updates and refinements to the same four strategic focus areas that readers will recognize, which will continue to guide the lion's share of our activities in the years ahead:

- Building an inclusive clean energy economy
- Supporting clean energy jobs and New York's economic recovery
- Accelerating the transition from fossil gas to a low-carbon future
- Fostering healthy and resilient communities

Accordingly, all these areas reflect existing activities and work already underway at NYSERDA, which we will continue to refine and bolster as new market and policy needs emerge. In these areas and beyond, NYSERDA remains at the heart of New York's efforts to double-down on progress toward the State's unprecedented clean energy, carbon reduction, and climate equity mandates. Despite the long-term nature of many of these transitions, we are laser-focused on **near-term action** given the continued imperative of **building back better** from the coronavirus pandemic.

I'm immensely proud to work at NYSERDA serving the people of New York State. Thanks to the dedicated work and excellence of our teams across the Authority, the opportunities for us to increase our impact will only continue to grow. I hope all our partners and stakeholders find this Strategic Outlook valuable in highlighting our efforts.



**Doreen M. Harris,
President and CEO,
NYSERDA**

This forward-looking document reflects State policy and NYSERDA's plans as of January 2022. Because New York's energy policy objectives continue to develop in response to the evidence that aggressive action is needed to combat climate change — and greater ambition is possible — updates to particular targets will be noted on the Strategic Outlook webpage: nyserdera.ny.gov/Strategic-Outlook.

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NYSERDA and Its Context



NYSERDA'S EVOLVING CHARGE

In 2020, NYSERDA updated its mission and vision statements to better incorporate themes of climate change, equity and inclusivity, jobs and economic opportunity, public health, and resilient communities — all of which are central to our mission and vision going forward.

As we look out to 2022 and beyond, these themes continue to resonate strongly throughout all our work and focus areas. Indeed, just as these mission and vision statements continue to ring true, so too do the strategic focus areas captured in this and last year's Strategic Outlook.

These topics — an inclusive clean energy economy, supporting clean energy jobs, accelerating the transition from fossil gas, and fostering healthy and resilient communities — will unfold over many years and will require our constant and dedicated focus.

NYSERDA'S MISSION AND VISION STATEMENTS GUIDE THE ORGANIZATION'S CURRENT AND FUTURE INITIATIVES.

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:

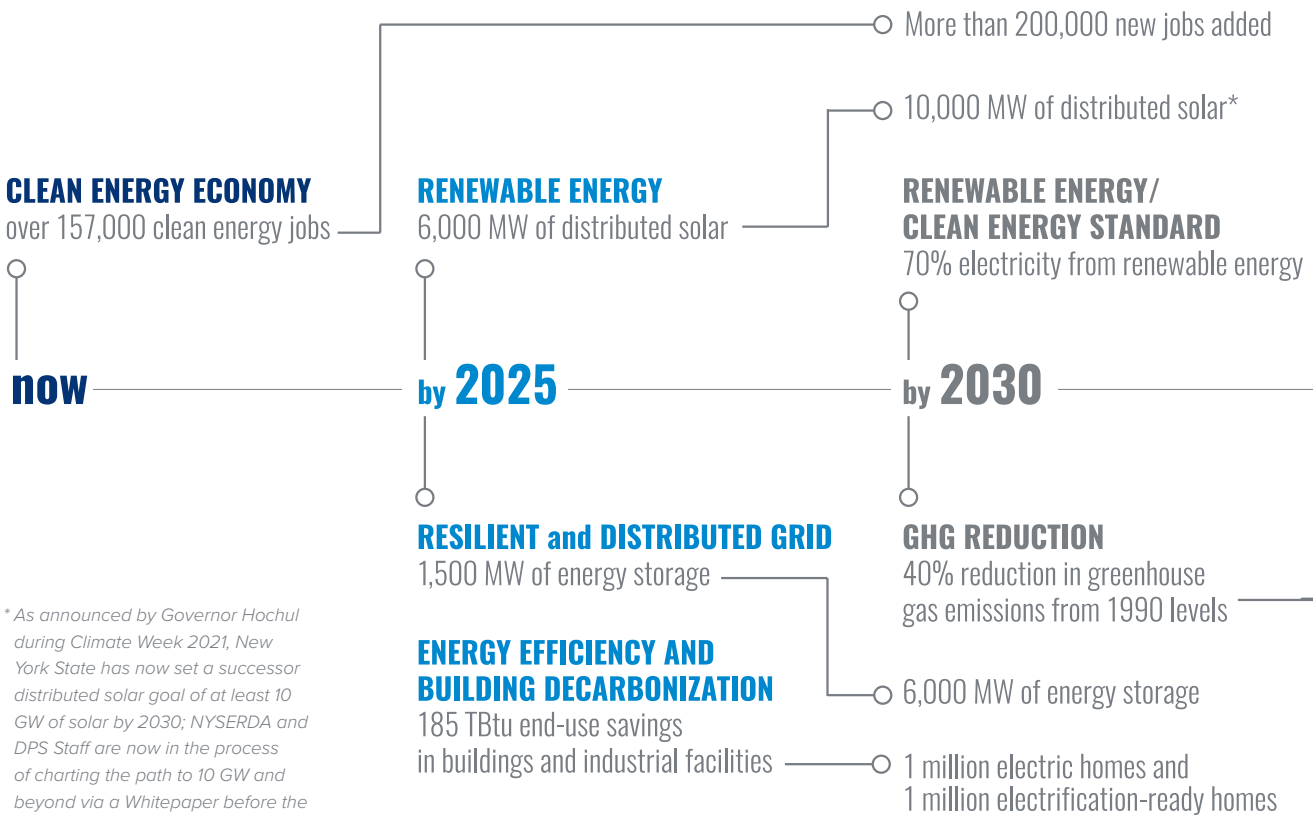
NYSERDA provides resources, expertise, and objective information so New Yorkers can make confident, informed energy decisions.



STATE POLICIES AND COMMITMENTS THAT STEER NYSERDA'S WORK

Under the Climate Leadership and Community Protection Act (Climate Act), Governor Kathy Hochul is driving the most aggressive climate and clean energy agenda in the nation, setting New York on a path for a just transition to carbon neutrality, spurring the growth of the green economy while prioritizing the needs of Disadvantaged Communities across the State. New York State — a founding member of organizations like the Regional Greenhouse Gas Initiative (RGGI) and the U.S. Climate Alliance—aims to meet the energy-related challenges posed by climate change head on, while creating economic opportunities.

As co-chair of the State's Climate Action Council, NYSERDA plays a critical role in charting the direction of New York's energy and climate policies.



NYSERDA'S ROLE

As New York State's clean energy and climate innovation agency, NYSERDA plays a key role in implementing the State's nation-leading policies, programs, planning, and actions, all to deliver a cleaner, healthier, and more prosperous future for all New Yorkers.

NYSERDA is on the front lines of a global energy transition, bringing energy expertise and public service to the challenges of fighting climate change and accelerating the pace of the move to a green energy future.

NYSERDA works to foster the adoption of clean energy technologies and the innovations needed to fight climate change and improve our quality of life, helping families and businesses access clean energy, energy efficiency, all-electric homes and vehicles, and measures for resilience — while encouraging the competition and innovation that delivers value to consumers. In so doing, NYSERDA uses a data-driven approach to guide program design and provide for high levels of accountability and transparency, stewarding public funds toward prudent investments in a wide variety of green infrastructure. NYSERDA focuses on:

- Enabling communities, residents, and businesses to take local action on clean energy, climate, and resilience.
- Instilling confidence in markets and consumers through information, credible analysis, and education.
- Leveraging program investments to support job creation in the clean energy economy and expanded access to economic opportunities for Disadvantaged Communities.
- Providing targeted financial support where costs present a persistent barrier, such as for low- to moderate-income (LMI) consumers and Disadvantaged Communities.
- Increasing customers' access to capital by creating attractive precedents and standardizing approaches that capital providers can readily replicate and scale up.
- Reducing hard and soft costs of clean energy development by driving demand and focusing the efforts of key stakeholders, as well as by supporting and focusing technological and process innovation.
- De-risking energy transitions and deployment from technological and business model innovation, to demonstration projects, to broad commercialization.
- Designing and administering novel programs and pilots to meet the needs of emerging policy priorities and deep decarbonization pathways.
- Investigating and designing ambitious energy and climate strategies and policies for the long-term.

RENEWABLE ENERGY

9,000 MW of offshore wind



by **2035**



CLEAN TRANSPORTATION

100% light duty zero-emission vehicle sales

CLEAN ELECTRICITY

100% zero-emission electricity



by **2040**

GHG REDUCTION

85% reduction in greenhouse gas emissions from 1990



by **2050**

In a dynamic world filled with constantly changing external conditions, NYSERDA aims to be a beacon of certainty and reliability for stakeholders and partners in New York State, exhibiting the steadfast and focused attention that will be needed to combat the climate crisis in the decades ahead. **Despite the ongoing challenges posed by a global pandemic and economic uncertainty, NYSERDA continues to leverage its programs within the flourishing clean energy market to assist in building back better and greener toward the State’s ambitious long-term climate mandates.**

POLICY FRAMEWORK

The landscape and policy framework surrounding NYSERDA’s work has seen significant progress over the past year. Key drivers of change include:

- Implementation of New York’s Climate Leadership and Community Protection Act (Climate Act). The nation-leading Climate Act dramatically raises the bar for the level of ambition that New York State needs to achieve and for other jurisdictions to follow, and is proven in the Climate Action Council modeling to date.
- Increased focus on key priority areas stemming from the Climate Act
 - ▶ Increasing access to (and benefits from) clean energy for Disadvantaged Communities and low-income consumers.
 - ▶ Creating quality jobs in the green economy and ensuring a just transition for all New York workers as we transition to a carbon-neutral economy.
 - ▶ Identifying sectors of the economy that require deeper decarbonization (e.g., transportation, buildings, waste, HFCs).
- Action at the local level ranging from implementation of New York City’s Climate Mobilization Act to adoption of voluntary stretch codes in nearly two dozen localities.
 - ▶ New York City’s all-electric new buildings law phases fossil fuels out of new construction starting in 2024.
- Bold action driven at the federal level, which will require unprecedented coordination between the State and federal government to focus investments for maximal impact.
- Enactment of major legislation requiring the phaseout of internal combustion vehicle sales by 2035, as signed by Governor Hochul.
- Following last year’s approval of the 70% renewable by 2030 Clean Energy Standard (CES), 2021 saw major renewable electricity developments furthering the state’s progress to the 2030 goal, including the selection of two Tier 4 transmission projects and the filing of a white paper supporting a new distributed solar goal.
- DPS and NYSERDA published the Initial Power Grid Study (released in January 2021), which demonstrated that additional grid transmission capability will be needed to achieve the full ambition of the Climate Act. In response, in March, the Public Service Commission identified a public policy transmission need for Long Island (to deliver renewable power to and from the island).

The Climate Mobilization Act, 2019

The Climate Mobilization Act is the largest climate solution put forth by any city in the world and consists of a slate of climate laws designed to dramatically cut carbon in New York City including a landmark law to regulate greenhouse gas emissions from buildings (Local Law 97).

- Increased attention and need to map the transition from fossil gas to clean energy in light of both long-term Climate Act requirements and updated methodologies for inventorying New York State’s greenhouse gas emissions footprint.
- The ongoing imperative to align NYSERDA and utility roles for market enablement and program delivery, given that utility investment in energy efficiency and building electrification measures will increase substantially over the next few years — coupled with short timelines for achieving targets.
- The need to build on recent policy developments (Public Service Commission EV Make Ready Order; multi-state Medium- and Heavy-Duty Vehicles MOU; adoption of Advanced Clean Trucks regulations; clean transportation funding in federal Infrastructure Act) to make deep in-roads in reducing emissions from transportation, which alongside buildings is the largest contributor of emissions in the State.
- Extreme weather events, which are increasing in frequency and severity and placing rapidly increasing strain on our infrastructure and communities, necessitating the need to place resiliency at the heart of clean energy and climate solutions.

These new and evolving drivers of change build upon ongoing challenges and priorities that must continue as core areas of focus.

- The need to ensure energy affordability for all New Yorkers as the energy system undergoes transformation
- The importance of leveraging market activity and private capital to achieve aggressive policy goals
- The imperative to continue building public support for complex systemic changes such as expanding support for large-scale projects and changing of consumer behaviors and purchasing decisions

As this critical inflection point for our climate and energy systems unfolds, NYSERDA has been and will continue to align policy and program offerings to reflect these new and significant drivers of change, including prioritization of the key strategies and policies outlined on the next two pages.

Climate Leadership and Community Protection Act

(Climate Act)

Lays the groundwork for achievement of New York's nation leading climate targets, while calling for an orderly and just transition to clean energy that creates jobs and continues growing a green economy. A minimum of 35% — with a goal of 40% — of benefits of clean energy investments will benefit Disadvantaged Communities.

This year – 2022 – marks a major milestone in the implementation of the Climate Act, as the Climate Action Council's draft Scoping Plan will be deliberated, discussed, and refined over the year, culminating in the issuance of a final Scoping Plan by the end of the year. It will be a truly formative year for the trajectory of New York's energy and climate journey under the Climate Act.

Under the Climate Act, the Climate Justice Working Group is charged with developing a definition/criteria for defining Disadvantaged Communities, which will guide the delivery of benefits of investments to these communities.

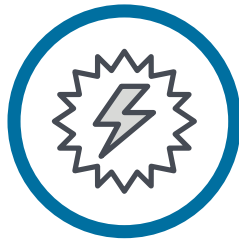
BUILDING BLOCKS OF NEW YORK'S CLEAN ENERGY AGENDA



Transportation



Buildings



Electricity



Economy Wide



Regional



Climate Act Scoping Plan

Policies and scenarios to achieve **85% GHG reduction by 2050**, targeting carbon neutrality



Clean Energy Fund

\$6B fund for four key program portfolios:

- > Market Development
- > NY Green Bank
- > NY-Sun
- > Innovation & Research



Clean Energy Standard



Designed to transform the generation of electricity to **70% renewable by 2030** and **100% zero-emission by 2040**



Zero-Emission Vehicles (ZEV) Action

Transportation emissions reductions through build-out of electric vehicles market and infrastructure, support for electrification of fleets and trucks



New Efficiency: New York

Comprehensive set of strategies for delivering energy efficiency savings and emissions reductions



NYS Clean Heat

Replacing onsite fuel combustion for heating and cooling with efficient, electric heat pumps (air, ground)



Regional Greenhouse Gas Initiative (RGGI)



Growing cooperative effort among northeast/mid-Atlantic states to cap and reduce **CO₂** emissions from power plants



Multi-State and Federal Action

Building on State-level leadership through the U.S. Climate Alliance, federal infrastructure investments are now poised to drive action and impact on energy, resilience, and climate

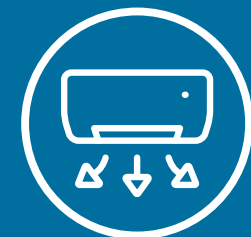
FEDERAL INFRASTRUCTURE AND CLIMATE INVESTMENTS:
PRIORITIES FOR NYSERDA AND NEW YORK



Electric Vehicle Charging Infrastructure



Offshore Wind Port Infrastructure



**Energy Efficiency, Electrification,
and Weatherization**



Affordable Housing Investments



Zero-emission Buses and Heavy-duty Trucks



Transmission Upgrades



Green Hydrogen Hubs



Workforce Development and Training



Domestic Manufacturing and Supply Chain



Direct Air Capture Hubs

NYSERDA hopes to leverage federal funding to enhance our most critical efforts and topline mission outcomes.

Mission Outcomes and Strategic Focus Areas for 2022–2025

NYSERDA's primary mission outcomes are presented in the following pages. For each outcome, NYSERDA strategies over the planning horizon are presented along with a summary of NYSERDA's unique role in delivering on the critical outcome. Indicators of progress are also presented to ensure that movement in the market and progress toward these goals can be tracked.

The mission outcomes that NYSERDA seeks to advance to support the energy transition in New York State include:



**GREENHOUSE GAS
EMISSIONS REDUCTION**



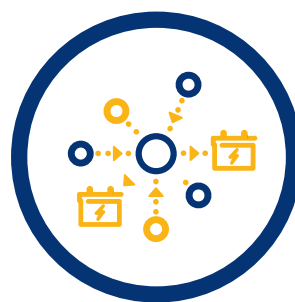
**RENEWABLE
ENERGY**



**ENERGY EFFICIENCY AND
BUILDING DECARBONIZATION**



**CLEAN ENERGY
ECONOMY**



**RESILIENT AND DISTRIBUTED
ENERGY SYSTEM**

Over the planning horizon, NYSERDA will continue to concentrate on the following strategic focus areas to drive progress under each mission outcomes and the requirements of the Climate Act. These strategies are critical to achieving our long-term energy and greenhouse gas emission reduction goals:



**BUILDING AN
INCLUSIVE CLEAN
ENERGY ECONOMY**



**SUPPORTING CLEAN
ENERGY JOBS AND
NEW YORK STATE'S
ECONOMIC RECOVERY**



**ACCELERATING THE
TRANSITION FROM
FOSSIL GAS TO A
LOW-CARBON FUTURE**



**FOSTERING HEALTHY
AND RESILIENT
COMMUNITIES**

For each of these strategic focus areas, statewide priorities are presented along with key NYSERDA actions for 2022–2025. As characterized last year, these strategic focus areas embody a common theme of centering around people — the residents and communities across New York State who utilize the energy system every day and have the potential to benefit from NYSERDA's programs and policies.

These strategies will be crucial for achieving our ambitious and necessary climate objectives. Critical focus will be on helping historically marginalized New Yorkers access the growing green energy economy and clean energy job opportunities; supporting families to learn about and choose cleaner home appliances; and empowering neighbors, communities, and businesses to drive climate action and public health wins.

Many efforts will begin producing tangible outcomes in the near term, while others represent an acceleration in focus for a transition that will take many decades to unfold.

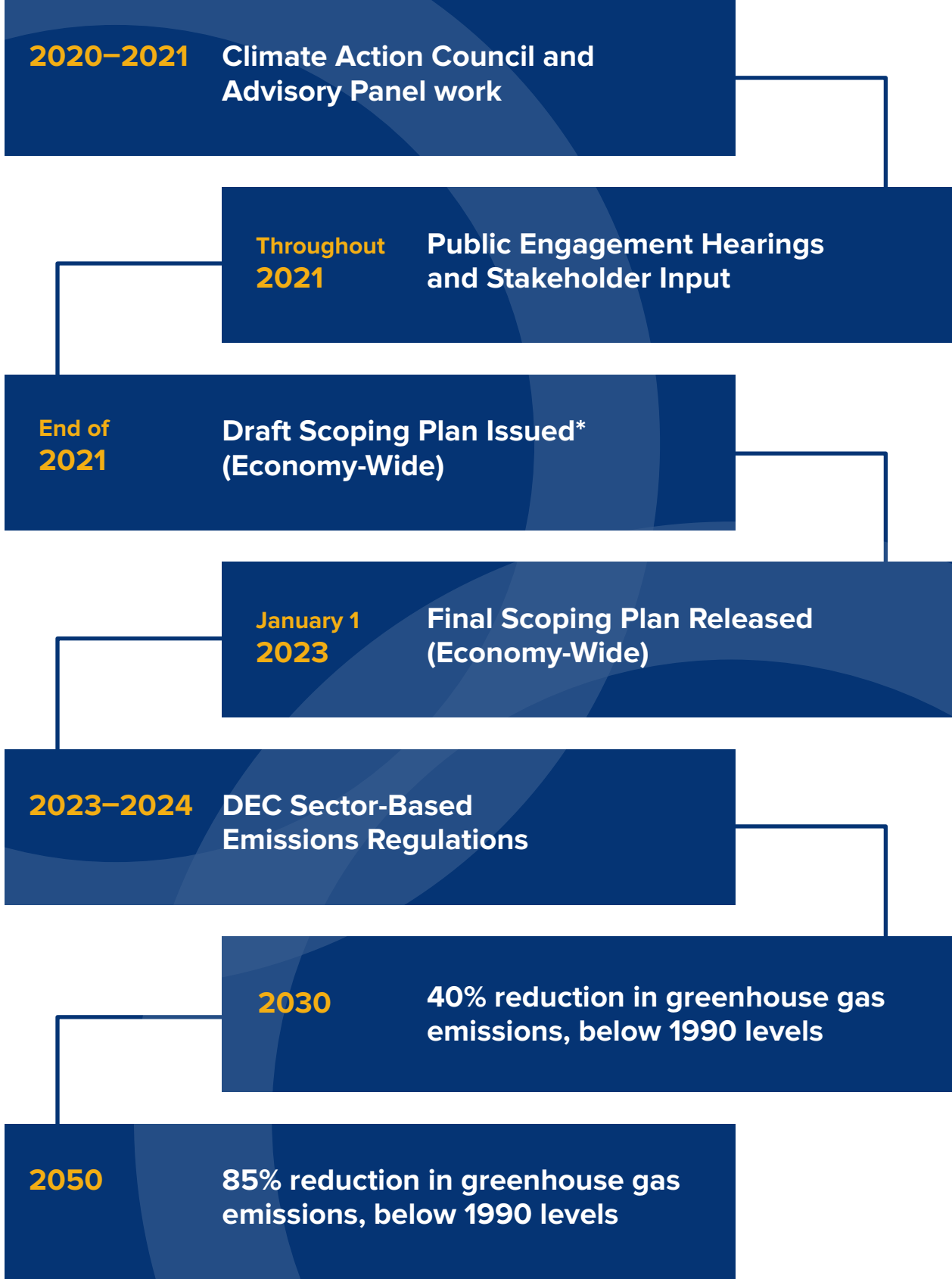


Greenhouse Gas Emissions Reduction

STATE POLICY GOAL
FOR GREENHOUSE GAS (GHG) EMISSIONS REDUCTION

The Climate Act sets a greenhouse gas reduction target of 40% by 2030 and 85% by 2050, each below 1990 levels.

Hitting these targets will enable the State to advance economy-wide carbon neutrality. In other words, it would mean that New York State is doing its part to reduce carbon pollution and the causes of climate change, while establishing a model for other jurisdictions to follow. The Climate Act also sets in motion a process to develop an updated GHG accounting methodology, which the Department of Environmental Conservation (DEC) is now implementing. Due to these methodological changes reflecting the latest scientific findings — accounting for New York’s in-state and upstream emissions footprint under a 20-year horizon for global warming potential — achieving a 40% reduction in GHG emissions by 2030 and 85% by 2050 have become significantly more difficult, requiring swifter, more transformative changes to our energy systems and economy.



* View the Draft Scoping Plan at climate.ny.gov/Draft-Scoping-Plan



NYSERDA'S ROLE

Co-Chair the Climate Action Council to craft a roadmap of policies needed to achieve the Climate Act's goals, including through leadership of the Scoping Plan development as well as support of integration and jobs study analyses.

Guide and facilitate State Energy Plan development and shape energy policies throughout New York State, by catalyzing market transformation and through development/ implementation of mandates and Executive Orders.

Identify and implement strategies for energy, buildings, and transportation sector emissions reductions and other GHG mitigation strategies.

Develop and track statewide greenhouse gas inventory, supporting DEC in updated emissions methodology rulemaking and implementation.

Facilitate State agencies' efforts to Lead-by-Example and drive toward carbon-neutral operations.



INDICATORS OF PROGRESS

- Levels and trends in GHG emissions from sources statewide and within priority sectors under updated emissions methodology

STRATEGIES FOR 2022–2025

- Support policy development and planning, including finalization of Climate Act Scoping Plan, Carbon Neutral Buildings Roadmap, Building Electrification Roadmap, Clean Transportation Roadmap, 10 GW distributed solar white paper, Hydrogen Roadmap, and more.
- Develop communications strategies that support individual/local understanding of the Scoping Plan and translate the plan to facilitate individual “what can I do, what should I do?” action.
- Advance solutions to drive emissions reductions in all areas of New York's economy—through a foundation of energy efficiency, decarbonizing electricity supply, and beneficial electrification of buildings, transportation, and industrial applications.
- Spur development of innovative, next-generation solutions driving emissions reductions in hard-to-reach sectors and hard-to-electrify applications, from hardware, software, and materials to natural carbon solutions.
- Refocus efforts to market segments needing attention, such as medium- and heavy-duty, and off-road vehicles, as indications of market-based movement in light-duty vehicles grow.
- Help spearhead regional GHG program reviews alongside other states, including notably the periodic RGGI program review beginning fall 2021 and expected to conclude early 2023.
- Support communities across the State in implementing their own sustainability and clean energy goals, including localized clean heating and cooling campaigns, and widespread adoption of new stretch energy/building codes.
- Formalize approach to inter-agency engagement, providing support for agency shifts with data, policy options, lead-by-example exemplars, strategic planning, and budgetary engagement.
- Conduct analysis and program development to better spotlight and target the co-benefits of GHG reductions, especially the public health benefits that can be delivered to Disadvantaged Communities via reduction of co-pollutants, as seen in the Clean Energy Standard Tier 4 petition/filing.
- Collaborate with other public entities on tough to decarbonize sub-sectors such as medium- and heavy-duty transportation, including work with DPS to expand the EV make-ready program for trucks and buses and engagement with transit agencies in developing tools and resources to support 100% zero-emissions bus transit.
- Enact and implement new legislation to require that, by 2027, all new school bus purchases will be zero-emissions, and by 2035, all school buses on the road will be zero-emissions — as announced by Governor Hochul in January 2022.



TRANSFORMATION 2030

2030 target: 40% reduction from 1990 emissions baseline

New York — at all levels of government — has re-oriented its policies and programs to drive low-carbon solutions and equity into decision-making from Buffalo to the Capital, to New York City, and all the town halls across the State.

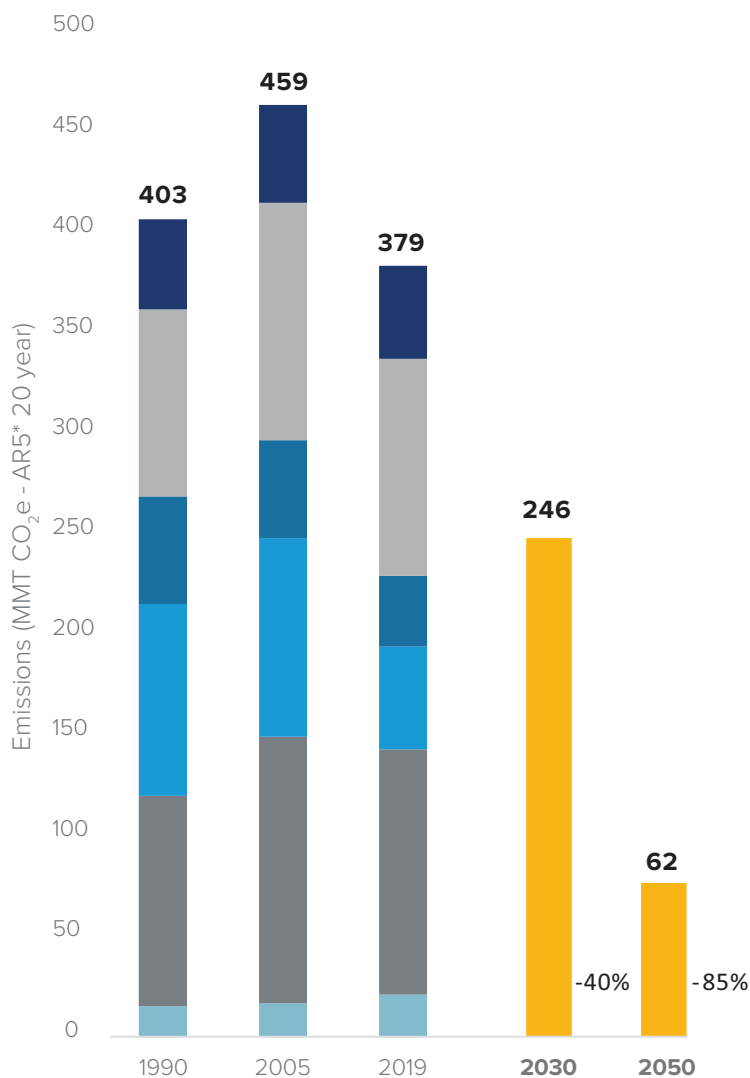
- The power industry is building new power plants fueled by wind, water, and sun, with 20,000 MW to reflect share of offshore wind by 2030.
- Infrastructure improvements are making public transit viable for even more New Yorkers and the industry is well on its way to a new generation of transport, with EVs comprising over 90% of new cars sales in 2030.
- Modern and efficient heat pumps are the preferred option for customers.
- Businesses across the State are embracing ESG goals (environmental, social and governance) and showing that sustainability can be aligned with their bottom line.
- This transformation has driven a thriving clean energy industry with nearly a half a million people employed in the sector and has improved local air quality for all New Yorkers.

2050 target: 85% reduction from 1990 emissions baseline

NOTE: all emissions inventory numbers were updated at the end of 2021 following DEC rulemaking on emissions accounting methodology to align with the Climate Act. The new inventory numbers put New York's baseline of emissions at roughly 70% higher than pre-Climate Act accounting, due to the changes in accounting for upstream emissions, global warming potential, and other updates to more properly gauge the near-term impact of our emissions.

- Waste
- Transportation
- Industry
- Electricity
- Buildings
- Agriculture
- Goal

Due to methodological updates included in DEC's GHG Emissions Report, the 1990 baseline differs slightly from the 1990 baseline incorporated into DEC's Statewide Greenhouse Gas Emission Limits regulation (Part 496) that informed the establishment of the 2030 and 2050 values. The 2030 and 2050 values shown here are based on regulation, while the 1990 value shown here is based on the latest information developed for the annual GHG Emissions Report.

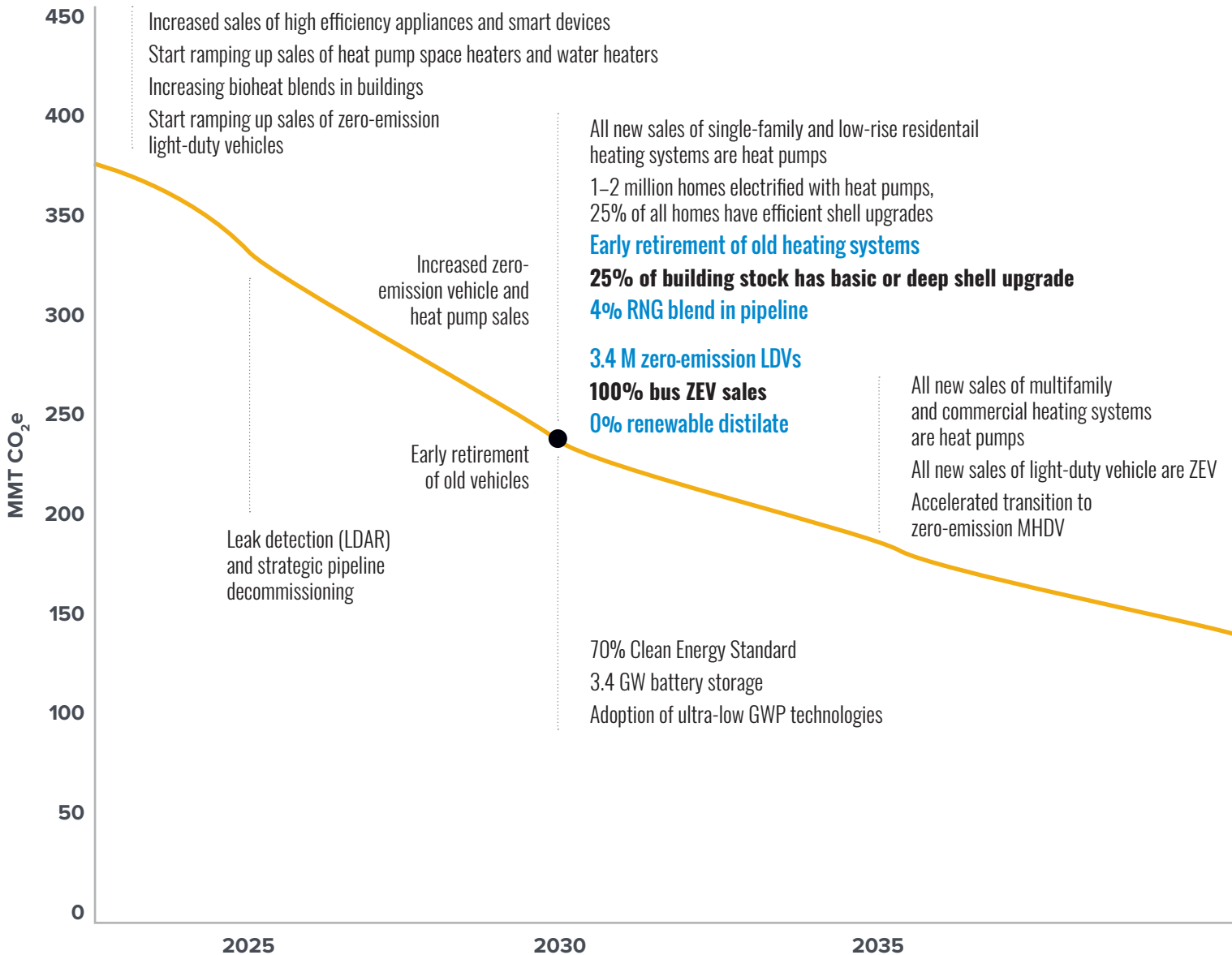


* AR5 – Fifth Assessment Report of the IPCC



CLIMATE ACTION SNAPSHOT: NEW YORK'S DRAFT SCOPING PLAN

Highlights from the draft Scoping Plan issued by the Climate Action Council in December 2021



— Draft Scoping Plan Scenario 3: Accelerated transition away from combustion

● Climate Act gross emissions limits

Blue text indicates additional action beyond CAC Advisory Panel recommendations

Blue text indicates differences vs. Draft Scoping Plan Scenario 2: Strategic Use of Low-Carbon Fuels

HIGHLIGHTED PROGRAMS AND INITIATIVES

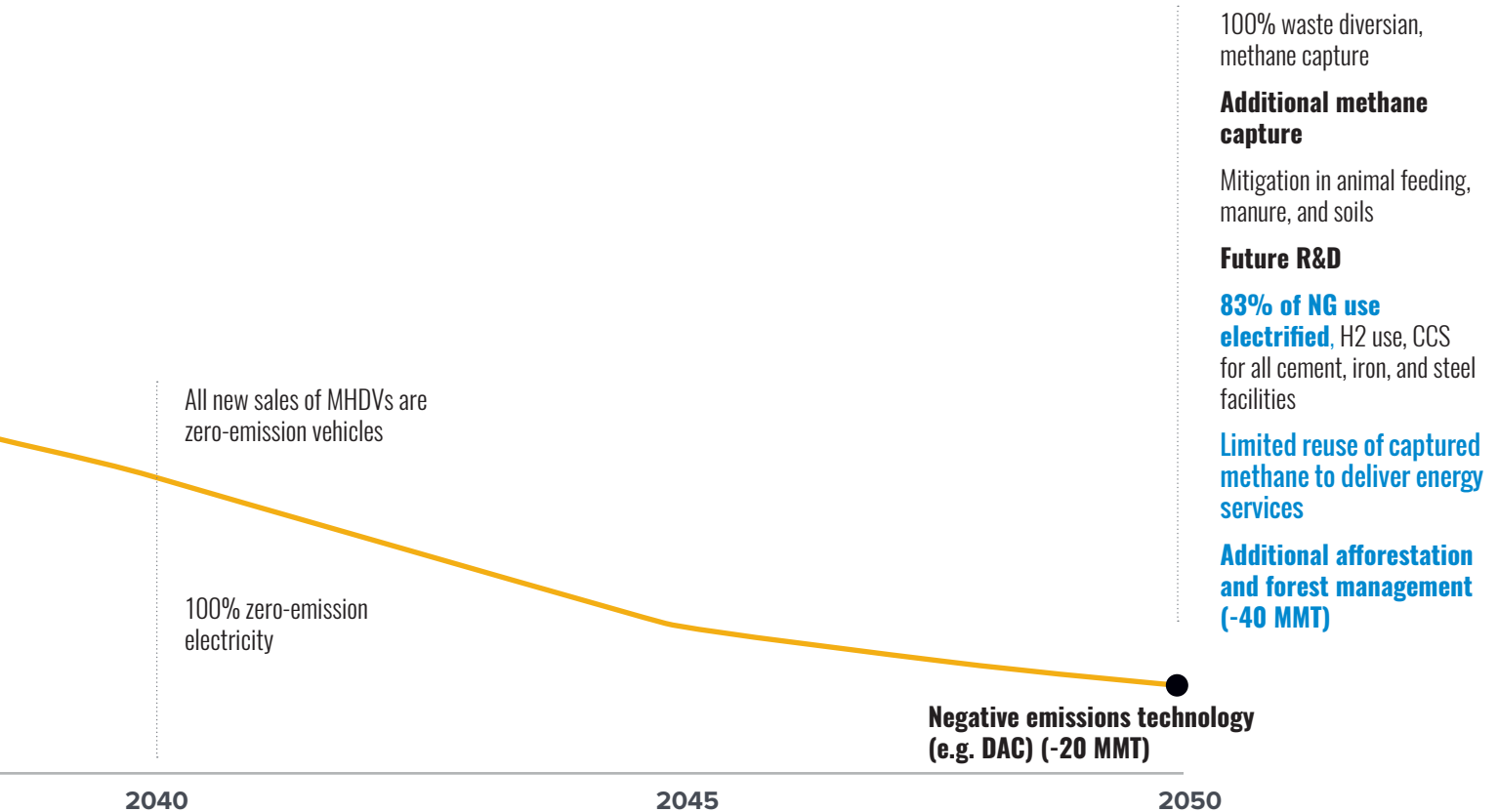
Clean Energy Fund accelerates the deployment of clean energy solutions while driving economic development.

Clean Energy Standard provides the framework for achieving 70% renewable electricity by 2030 via the build-out of large-scale renewable resources for New York State. Achievement supported by complementary actions initiated in 2020 legislation (Build Ready, Office of Renewable Energy Siting [ORES], Power Grid Study) and 2021 budget provisions (Prevailing Wage/Project Labor Agreements, MWBE/SDVOB requirements; Buy America preferences, renewable taxation model).

Energy Storage deployment and other **renewable energy integration measures** to get more renewables on the grid, minimize and avoid delivery impacts, bolster system flexibility, and support resiliency.

CLIMATE ACTION SNAPSHOT: NEW YORK'S DRAFT SCOPING PLAN

Highlights from the draft Scoping Plan issued by the Climate Action Council in December 2021



HIGHLIGHTED PROGRAMS AND INITIATIVES

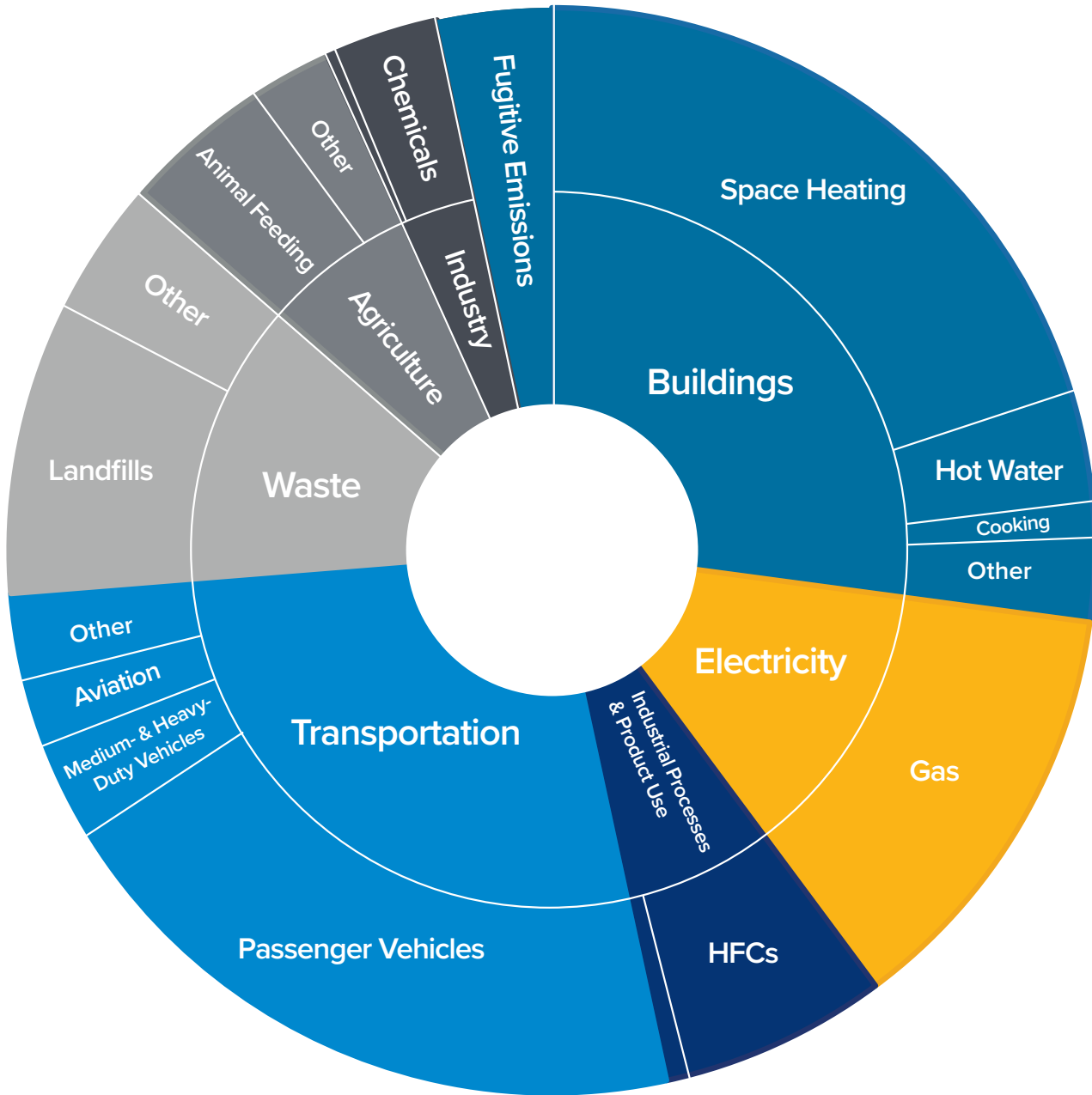
Regional Greenhouse Gas Initiative (RGGI) assigns a price to power plant emissions and directs revenue to clean energy initiatives.

EV Make Ready Order and Clean Transportation Prizes represent an important expansion in the State's commitment and investment to zero-emission vehicle adoption, with funding for grid infrastructure to support electric vehicles and NYSERDA-run prizes around environmental justice, advanced mobility, and medium- and heavy-duty vehicle innovation.

Clean Energy Communities recognizes and rewards communities for implementing clean energy actions that save taxpayer dollars, create jobs, and improve the environment.



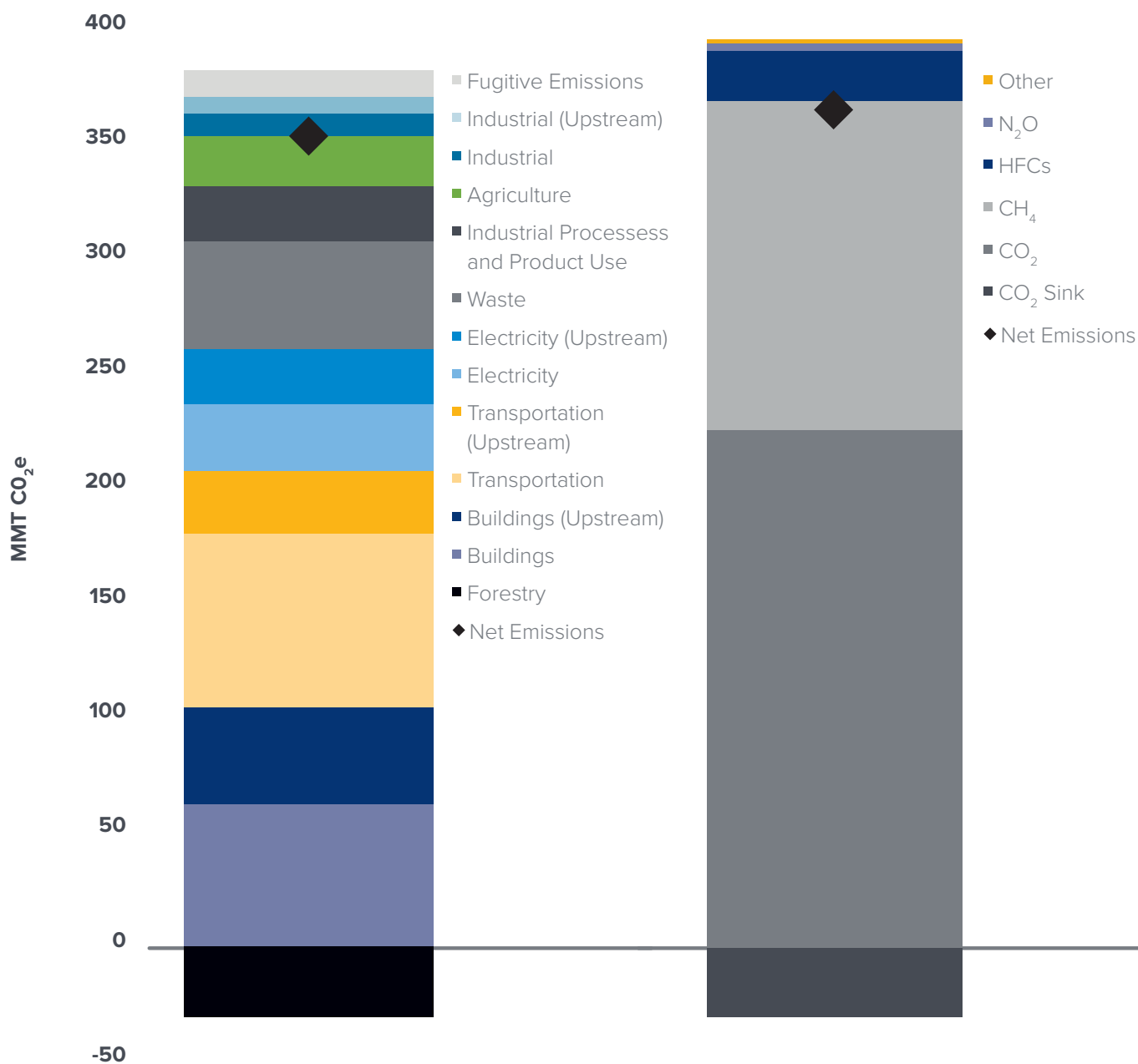
CURRENT ESTIMATED 2020 GREENHOUSE GAS EMISSIONS BY SECTOR*



*Draft 2020 results in line with DEC Climate Act accounting including upstream emission factors, 20-year Global Warming Potential (GWP), and estimates from NY PATHWAYS analysis. Sub-sector figures not yet re-benchmarked to DEC's updated GHG Inventory Report issued December 2021.



CURRENT ESTIMATED 2020 GREENHOUSE GAS EMISSIONS BY SECTOR*





Renewable Energy

STATE POLICY GOAL
FOR RENEWABLE ENERGY

The Climate Act mandates that at least 70% of New York’s electricity come from renewable energy sources such as wind and solar by 2030 (70x30).

As a companion to the Climate Act, the Accelerated Renewable Energy Growth and Community Benefit Act followed in the Spring of 2020 to address the urgency of our climate transition. The intent is to integrate the acceleration of permitting timelines, seeking regulatory efficiencies, mandating careful study of our electricity grid and the identification of priority upgrades, and deepening community engagement. Armed with the nation’s most aggressive climate goals and expedited processes to match, achievement of the 70 x 30 mandate will move the State closer to delivering just, equitable climate action to New Yorkers, including improving air quality, buttressing a more resilient grid, and spurring a clean economy through supply chain investments, workforce development, and job creation.

In the 21st century, the future is electric and NYSERDA is working tirelessly to remove barriers and deliver our State’s goals and benefits to New Yorkers — including more than \$17 billion in net benefits estimated over the lifetime of Tier 1 and offshore wind procurements under the Clean Energy Standard (not yet inclusive of the benefits from the Tier 4 awards announced in 2021).



NYSERDA'S ROLE

Facilitate continued ramp-up of steady, predictable procurements for renewable generation, offering market confidence and supply chain stability.

Support smart siting policies to maximize co-benefits between industries, cultivate infrastructure ecologies, and build community engagement.

Support climate equity through the prioritization of benefits and workforce development delivered to Disadvantaged Communities across the State.

Drive supply chain localization, local port and manufacturing investments, and job creation and training, including through new \$500 million State investment to support offshore wind ports and manufacturing.

Reduce costs by delivering economies of scale, removing barriers to deployment, and supporting innovation.

Participate actively in transmission analysis needed to cost-effectively accommodate 25+ GW of Tier 1 and Offshore Wind renewable projects anticipated for State goals.

Develop a blueprint to guide the retirement and redevelopment of New York's oldest and most-polluting fossil facilities by 2030, working with DEC and DPS – as announced in January 2022.

INDICATORS OF PROGRESS

- MWh: progress toward the 70x30 and 100x40 targets
- MW and facilities (large-scale, offshore, and behind-the-meter) completed and in the pipeline: progress toward goals
- Benefits of renewable energy investments accruing for Disadvantaged Communities (%) and M/WBE engagement
- Private market investment, clean energy jobs, and costs per Renewable Energy Credit (REC)

STRATEGIES FOR 2022–2025

- Accelerate efforts to achieve the Climate Act's 70x30 renewable goal via build-out of on- and off-shore resources, as well as construction of new Tier 4 transmission line projects into Zone J/New York City.
- Continue the sprint toward and past Climate Act goals of 6,000 MW of solar by 2025, 3,000 MW of storage by 2030, 9,000 MW of offshore wind by 2035, and the delivery of benefits to Disadvantaged Communities.
- Collaborate with market participants to complete technical studies, such as New York State Cable Corridor Study announced in January 2022, and promote infrastructure investments like transmission and energy storage that will unlock system efficiencies and unbottle resources to drive progress on our goals and ensure cost savings to ratepayers.
- Collaborate with utilities and other market participants to build transparency in interconnection processes, overcome grid constraints on project capacity, and pricing/curtailment issues.
- Develop and launch new 'Offshore Wind Master Plan 2.0 – Deep Water' as planning and execution framework for at least 9,000 MW of offshore wind by 2035, featuring pursuit of next-generation floating turbine technologies and preparation for a mesh-ready offshore buildout.
- Engage in detailed sector studies of evolving resiliency design approaches and best practices to mitigate future climate risks and to deepen the carbon performance of projects through reducing embodied carbon.
- Continue working to dramatically reduce project development timelines under new 94C siting process and via interconnection efficiencies.
- Work closely with communities to inform and spur adoption of smart local siting rules/laws and cultivate welcoming renewable energy zones.
- Engage with NYS Tax and Finance to implement and refine successful model renewable energy taxation policy.

TRANSFORMATION 2030

- New York is well on its way to powering electricity with wind, water, and solar
- 70% renewable electricity statewide
- Virtually all large-scale resources procured by 2026/2027 to complete 2030 portfolio
- At least 10 GW of distributed solar, roughly 16 GW of large-scale solar, approximately 4 GW of onshore wind, and at least 6 GW of offshore wind to serve expected statewide annual load of 151,678 GWh
- Build-out of inter- and intra-regional transmission infrastructure, long-duration storage underway



The Climate Act and new, expanded goals ramp up renewable energy, including:

QUADRUPLING NEW YORK'S OFFSHORE WIND TARGET TO

9,000 MW by 2035

up from 2,400 MW by 2030

DOUBLING DOWN ON DISTRIBUTED SOLAR DEPLOYMENT TO AT LEAST

10,000 MW BY 2030

up from 6,000 MW by 2025

New York State continues to grow a strong pipeline of projects to meet the 70x30 goal.

AS OF DECEMBER 2021,
THERE WERE APPROXIMATELY:

32 GW

**OF ACTIVE RENEWABLE
ENERGY PROJECTS
IN THE NYISO
INTERCONNECTION QUEUE**

Additionally, there are currently **more than**

Additionally, there are currently more than **35 PROJECTS** in or in the process of applying for the Active Article 10 and Article 94c (ORES) queues, with nine certificates/permits granted in 2021 – indicating more of the pipeline is coming to fruition.

There have been **MORE THAN 1.2 GW OF ENERGY STORAGE** awarded statewide, with another **400+ MW OUT TO BID** as of the end of 2021 and several hundred MWs expected to be built in 2022.

In addition, there have been **MORE THAN 3.5 GW OF DISTRIBUTED SOLAR** installed statewide, with a **PIPELINE OF 2.6 GW** (high project maturity – lower than 10% attrition).

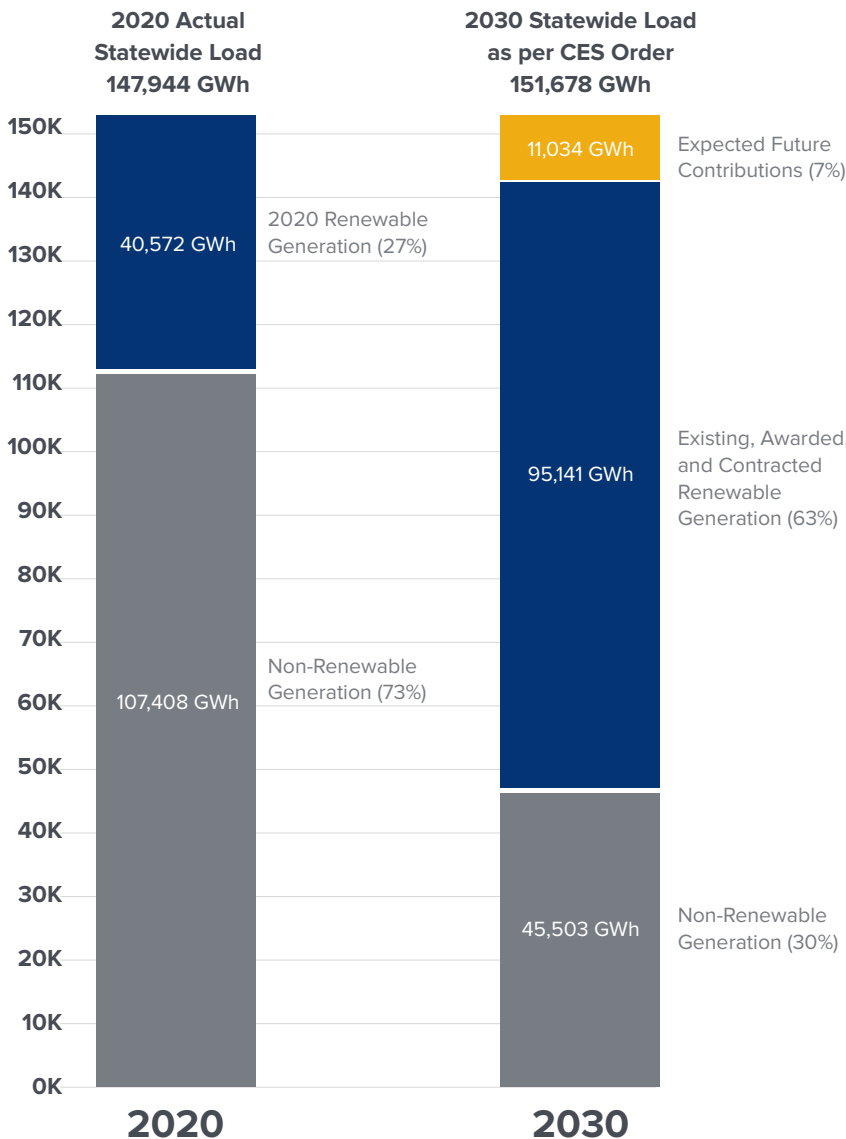


2030 Clean Energy Standard target: 70% electricity from renewable sources

PROGRESS TOWARDS 70X30 GOAL

106,174 GWh to reach goal*

*GWh required to meet goal is based on 2020 Clean Energy Standard Order load projection for 2030 and is subject to future adjustment.



HIGHLIGHTED PROGRAMS AND INITIATIVES

Large-Scale Renewables

supports the development of large-scale renewable energy projects.

Offshore Wind establishes a significant, cost effective, renewable generation source with promise of new industry in New York State.

Tier 4** is a new tier of the Clean Energy Standard helping bring forth new transmission and new renewables to serve New York City, via two major projects selected for award in 2021.

Build-Ready complements private sector development and expedites the pre-development of large-scale renewable assets with a **focus on underutilized, previously developed sites.**

Community Solar makes solar affordable and accessible for all New Yorkers.

Solar for All makes subscriptions to community solar projects available at no cost for low-income consumers.

NY-Sun and Energy Storage drive distributed solar adoption through residential/commercial rooftop and larger community solar projects, reducing costs, making solar accessible to all New Yorkers, while deploying at least 1,500 MW of energy storage by 2025 with a goal of realizing a self-sustaining market.

** Pipeline of existing, awarded, and contracted renewable generation includes 14,636 GWh of hydroelectric, land-based wind, and utility-scale solar large-scale renewables generation contracted under the Clean Energy Standard 2021 Tier 4 solicitation, T4RFP21-1, currently subject to approval by the Public Service Commission.



Energy Efficiency and Building Decarbonization

STATE POLICY GOAL FOR ENERGY EFFICIENCY AND BUILDING DECARBONIZATION

The Climate Act codifies a 2025 statewide energy efficiency target of 185 TBtu of cumulative site energy savings. Governor Hochul, in her 2022 State of the State Address, has called for two million climate friendly homes by 2030, with one million electric and efficient homes and one million electrification-ready homes.

The 2025 Climate Act energy efficiency target will deliver near-term progress toward New York's 40x30 climate goals, but it is only the beginning of a much more ambitious change needed to decarbonize New York's six million buildings consistent with Climate Act. Building energy efficiency and electrification will play a dominant role in putting the State's building sector on a course to carbon neutrality, while creating better living and working spaces for New Yorkers and economic opportunity in the form of clean energy jobs. Advances in load flexibility will minimize the grid impacts of statewide beneficial electrification of buildings. Efforts will focus on delivering benefits to Disadvantaged Communities and low- and moderate-income New Yorkers. As we look to the future, our strategy will need to go beyond building-by-building energy efficiency upgrades to decarbonization approaches that can work block-by-block and community-by-community — moving at the scale and pace needed to address the climate crisis.



NYSERDA'S ROLE

Deliver policy and strategic leadership

on energy efficiency and building electrification through Climate Action Council, Carbon Neutral Buildings Roadmap, Building Electrification Roadmap, and decarbonization partnerships with other state agencies.

Provide technical and regulatory assistance

to advance building mandates that send a clear signal to the market that New York is phasing out the use of fossil fuel in buildings and moving to cleaner, healthier options.

Develop and manage programs to eliminate barriers and increase adoption of carbon neutral building strategies, providing financial and technical assistance to solution providers and consumers, particularly low- and moderate-income consumers.

Work with HCR, DPS, and Department of State (DOS) to deliver an executable plan for the achievement of the two million climate friendly buildings goal, as charged by Governor Hochul in January 2022.

Support product innovation to deliver better solutions for the New York market and build a local clean energy industry.

Provide financing for energy efficiency and building electrification market participants.

INDICATORS OF PROGRESS

- Number of buildings that are efficient and all electric, as a percent of New York's six million buildings
- Avoided energy use: total TBtus across all fuels (natural gas, electricity, etc.)
- GHG emission reduction from the building sector (annual CO₂e)
- Investment in buildings in Disadvantaged Communities
- New York's Clean Energy Dashboard can be used to track indicators of progress, found at nyscrda.ny.gov/view-clean-energy-dashboard.

STRATEGIES FOR 2022–2025

- Leverage insights from the **Carbon Neutral Buildings Roadmap** and Building Electrification Roadmap in designing market interventions to incorporate deep efficiency, more efficient electric heating and cooling technologies, and grid-connected capability.
- Build the market for carbon neutral buildings and drive deeper levels of efficiency using a variety of strategies, including peer-based challenges and public-private demonstration partnerships; support of long-term energy planning within the capital improvement cycle; support of health-based studies; demand aggregation, supply-side engagement, community-scale systems, and other cost reduction strategies; as well as development and demonstration of new solutions to deliver higher performing buildings products and systems.
- Develop a robust portfolio of programs that create more efficient and healthier buildings for low-income families and disadvantaged communities, with a focus on schools and affordable housing, in coordination with housing agencies and utilities — including through HCR's new \$25 billion, five-year housing capital plan.
- In partnership with utilities, deliver comprehensive building electrification initiative with consumer incentives and market support, including development of workforce and supply chains, to move New York toward all-electric homes and buildings and accelerate transition away from fossil fuel.
- Build market demand by increasing consumer awareness and providing decision-quality information, tools, and playbooks on energy efficiency and building electrification opportunities for building owners and tenants — capitalizing on key points in a building life cycle (e.g., tenant turnover, major renovations, property transfer, equipment replacement).
- Support statewide building decarbonization in new construction through a combination of market demonstrations over the next three years paving the way for a mandatory low energy-use-intensity and zero on-site GHG new construction code phasing in from 2024 through 2027.
- Support statewide building decarbonization in the existing building stock with development of appliance efficiency standards, mandatory benchmarking for large buildings, home energy disclosure upon property sale, and building performance standards, consistent with the recommendations emerging from the Climate Action Council.

TRANSFORMATION 2030

To achieve New York's climate goals, by 2030 we will need to have 1–2 million buildings equipped with modern electric heating and cooling and paired with energy efficiency. This will create better living and working spaces for New Yorkers — especially low- and moderate-income New Yorkers — and will build healthier communities. Achieving this calls for a skilled workforce and will create job opportunity throughout the State and will create close to 100,000 jobs throughout the State.



ATTRIBUTES OF A CARBON NEUTRAL BUILDING

- Maximizes energy efficiency
- No fossil fuel combustion for building energy services (all-electric and uses)
- Produces or procures zero-emission electricity
- Designed with flexible loads and/or storage that can respond to grid conditions
- Features resiliency measures that protect building occupants
- Designed with attention to embodied carbon and refrigerants

nyscrda.ny.gov/Carbon-Neutral-Buildings

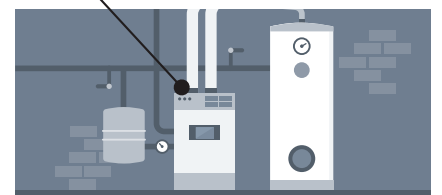
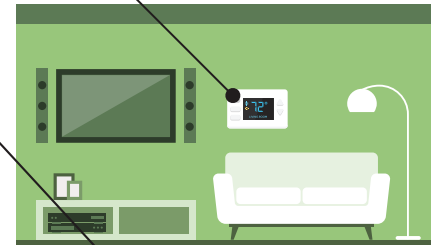
COMMUNITY WIND TURBINES

HIGH PERFORMANCE BUILDING ENVELOPE

BUILDING/HOME CONTROLS

EFFICIENT ELECTRIC WATER HEATER

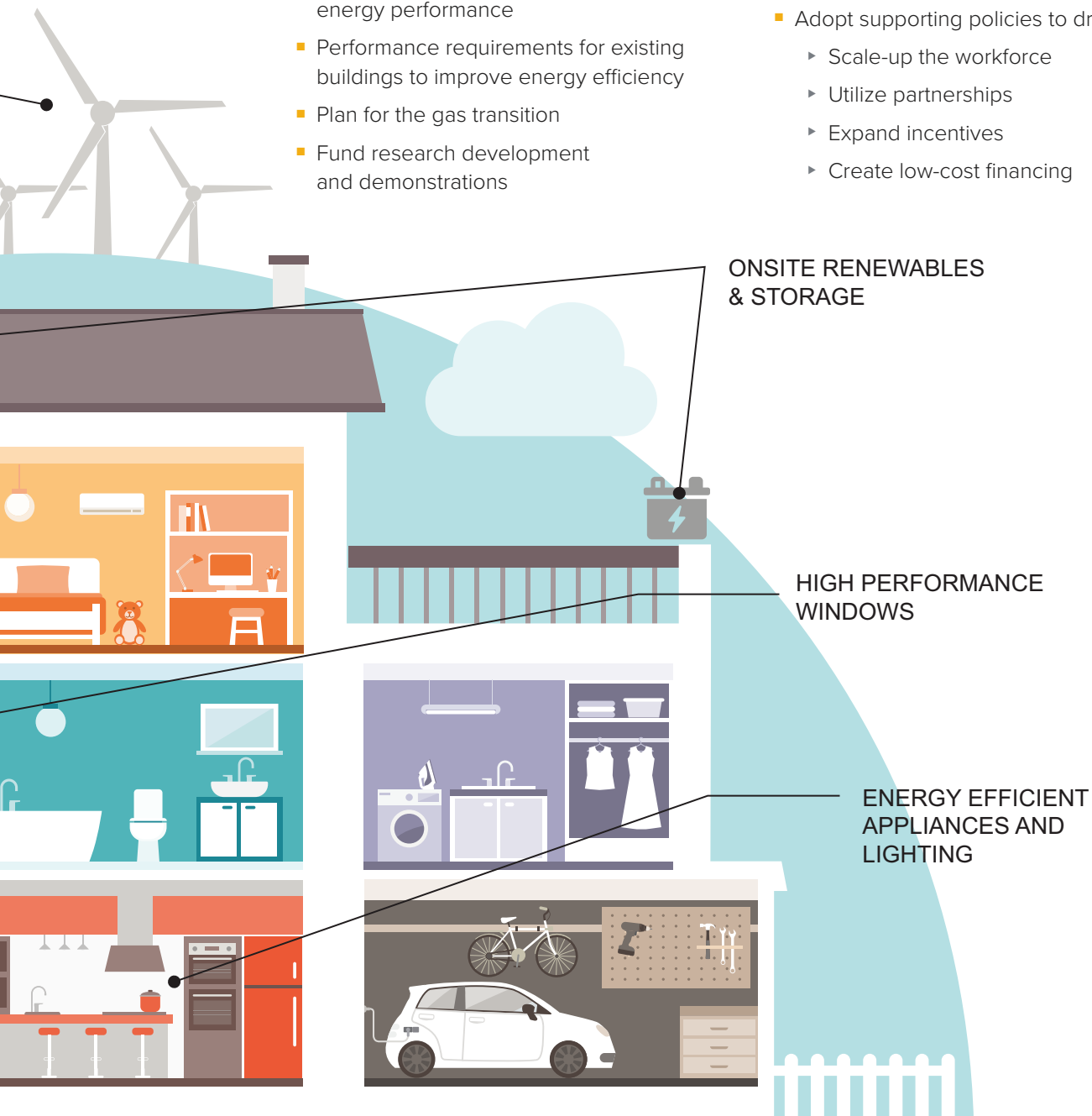
EFFICIENT HEAT PUMP HVAC





STRATEGIES NEEDED TO DRIVE PROGRESS IN CARBON NEUTRAL BUILDINGS

- Advanced codes for new construction
- Prohibit replacement of fossil-fuel heating and hot water equipment
- Benchmarking and disclosure of energy performance
- Performance requirements for existing buildings to improve energy efficiency
- Plan for the gas transition
- Fund research development and demonstrations
- Lead by example on embodied carbon
- Reduce the use of hydrofluorocarbons (HFCs)
- Prioritize low- and moderate-income residents and those in Disadvantaged Communities
- Adopt supporting policies to drive action:
 - ▶ Scale-up the workforce
 - ▶ Utilize partnerships
 - ▶ Expand incentives
 - ▶ Create low-cost financing



ONSITE RENEWABLES
& STORAGE

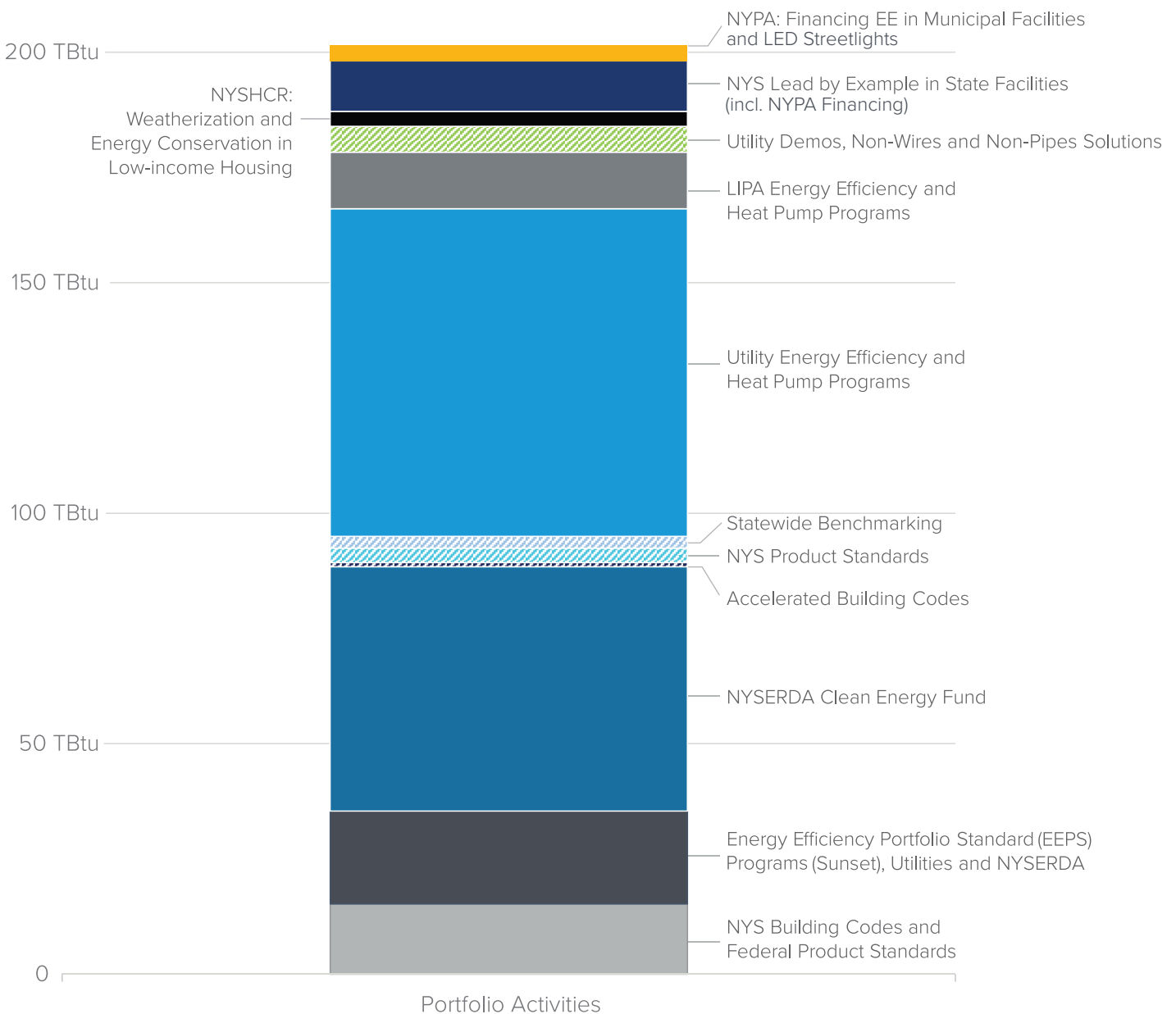
HIGH PERFORMANCE
WINDOWS

ENERGY EFFICIENT
APPLIANCES AND
LIGHTING



2025 target: 185 TBtu of onsite energy savings*

ENERGY EFFICIENCY ACTIVITIES TOTAL SITE TBTU SAVINGS
BY 2025 (CUMULATIVE ANNUAL, 2015–2025)



* Graphic does not reflect roughly 15 TBtu of overlap between policies



PROGRESS TOWARD THESE GOALS

The combined activities of NYSERDA, investor-owned utilities, and LIPA across historic and ongoing energy efficiency programs have so far achieved more than 75 TBtu of avoided energy use in the building sector — equivalent to fueling and powering more than 730,000 New York homes.

185 TBtu New Efficiency: New York Energy Goal

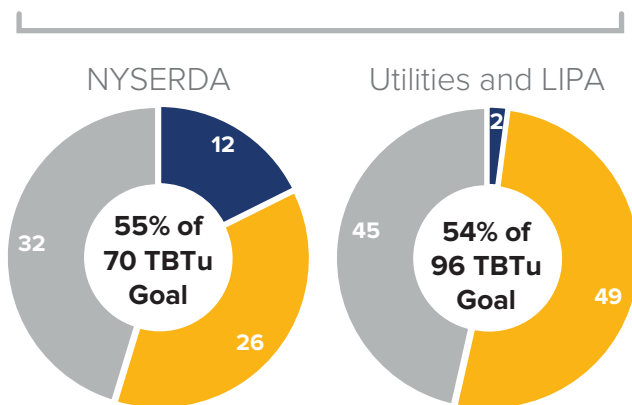
82
TBtu Total
Progress

- Pipeline
- Installed
- Future Contribution



37% Installed
(68 TBtu)

8% Pipeline
(14 TBtu)



HIGHLIGHTED PROGRAMS AND INITIATIVES

New York State Clean Heat provides consumer incentives and develops the market for building electrification in coordination with utilities.

Empire Building Challenge demonstrates low-carbon solutions for tall buildings, in partnership with real estate industry and solution providers; the Empire Technology Prize program spurs new innovations.

Buildings of Excellence supports the design, construction, and operation of carbon neutral multifamily buildings, including affordable housing.

EMPower New York and **Assisted Home Performance** provides no- and low-cost energy efficiency solutions to income-eligible New Yorkers.

Raise the Green Roof partners with **HCR** to deliver energy efficiency and electrification right into affordable housing financing transactions.

Clean Heat For All Challenge partners with New York City Housing Authority (NYCHA) and NYPA to develop and deploy affordable window-based heat pumps in thousands of low-income apartments.

Clean Green Schools provides assistance to more than 1,000 public schools in under-resourced communities to improve environmental sustainability, create healthier learning environments, and build the clean energy talent pipeline as announced by Governor Hochul in January 2022.



Clean Energy Economy

STATE POLICY GOAL FOR
THE CLEAN ENERGY ECONOMY

With nearly 160,000 clean energy jobs across the State at the end of 2020 — and with hundreds of thousands of new jobs to be created by Climate Act investments on the near-horizon — New York’s nation-leading climate policies continue to drive investment and job-creation.

Following the setbacks in the aftermath of the early phases of the coronavirus pandemic, subsequent job rebounds have shown tremendous resilience in the sector — only 4% of New York’s clean energy workers lost their job as of the end of 2020, compared to 9% of clean energy workers nationally. The resilience of the clean energy bounce-back is also on display benchmarked against both the rest of the New York State economy, and compared to other regional clean energy industries. Nonetheless, the State needs the clean energy industry to continue to grow and thrive in the years ahead, helping drive a sustainable, equitable, and enduring economic recovery for New York.



NYSERDA'S ROLE

Unlock new job growth, leveraging marquee program investments such as offshore wind port infrastructure and competitions for deep building retrofits to bring global industries to New York.

Provide workforce development and training programs to grow the training capacity and human resources needed to build the clean energy economy, and support a just transition for historically disadvantaged populations and industries affected by the transition away from fossil fuels.

Incorporate new progressive labor and economic development provisions, including prevailing wage/project labor agreements, MWBE/SDVOB prioritization, Buy America provisions, and more.

Cultivate demand for clean energy solutions to attract clean energy companies from all ends of the global supply chain looking to serve the growing local market, supported by proactive cross-agency attraction efforts.

Foster capital attraction and support commercialization of products, services, and business models (deployment models) from clean energy startups and maturing companies.

Deliver more targeted assistance to energy startups/innovation firms, leveraging support from federal stimulus efforts and future federal incentives to advance clean energy innovation.

Establish precedent for encouraging greater private sector investment and business models through new, substantial commitments of institutional capital in the clean energy economy.

Achieving the Climate Act's nation-leading goals and building back a thriving industry sector will mean expanded deployment of existing technologies as well as substantial investment in the State's clean energy innovation economy to develop new solutions for a low-carbon future.

New York's ecosystem of start-ups will develop these technology and business-model solutions for demonstration and use in the State, as well as for export to markets across the globe. Growing new industries in our state, such as battery manufacturing and research in Binghamton, will help realize significant positive economic impacts in the form of job creation and community investment. Furthermore, to build an inclusive clean energy economy and cultivate a just transition, NYSERDA, other State agencies, and clean energy industry partners will be ramping up efforts to develop a pipeline of skilled labor and open-up economic opportunities to workers, communities, and historically disadvantaged populations who may be transitioning from fossil fuel-based economic activities.

STRATEGIES FOR 2022–2025

NY Green Bank

- Increase the size, volume, and breadth of sustainable infrastructure investment activity throughout the State, expand the base of investors focused on clean energy, and increase market participants' access to capital on commercial terms.
- Address barriers to mobilization of private capital and financing for clean energy projects: identify where barriers exist, demonstrate investment model, entice private capital, and repeat.
- Replicate and refine the transaction-model executed in 2021 with major U.S. bank to expand impact in the private financial world, boost liquidity, and deliver value for ratepayers.
- Support priority policy areas through a growing pipeline of investments in energy efficiency, energy storage, electric vehicles, affordable housing, offshore wind port infrastructure, and beyond.
- Consistent with the goals of the Climate Act, expand the impact of the new initiative to invest in projects that support and deliver benefits to Disadvantaged Communities.
- Explore and refine new financing models (e.g., energy efficiency pay-for-performance) and new technology/solution areas (e.g., microgrids).
- Continue issuing targeted RFPs and organizing convenings in strategic areas to grow the clean energy investment pipeline.
- Develop strategy for supporting full life-cycle supply chain build-out in New York, from manufacturing to recycling and reuse.



TRANSFORMATION 2030

- Nearly Half-a-Million Climate Jobs in New York by 2030
- Good-quality clean energy jobs supporting workers' families and delivering high-value to customers
- Fine-tuned matching of workforce development programs to the job creation from expected Climate Act investments
- An additional roughly \$12–\$15 billion in capital leveraged via NY Green Bank and Innovation.
- Comprehensive economic development strategy has made New York the leading market for clean energy business growth and supply chain localization
- The Southern Tier of New York has become the nation's next battery manufacturing and research hub



INDICATORS OF PROGRESS

- Statewide clean energy industry jobs, job creation driven by Climate Act investments
- Priority populations trained and employed in clean energy
- Commercialized climate solutions and launches of incubated firms, including related revenues
- Total value of capital mobilized using NY Green Bank support, and capital mobilized in Disadvantaged Communities

Innovation

- Support the development of climate technologies necessary to meet the State's Climate Act goals through funding, developing teams, customer introductions, advisory services, and the development and support of independent innovation organizations.
- Address barriers and support regulations, processes, and rulemaking that enable a robust climate innovation economy by stimulating demand and supporting private sector innovation efforts.
- Invest in the development of New York's green economy, supporting relocation of climate-tech companies to New York, the growth of existing companies already in the State, and the human capital of the innovation ecosystem across the State.
- Consistent with the goals of the Climate Act, ensure the State's innovation development system, as well as the innovations developed, deliver benefits to Disadvantaged Communities.
- Coordinate and partner with the national innovation ecosystem to align and leverage State priorities and support New York climate-tech companies' access to finance and expertise.
- Demonstrate the role of innovation in deep decarbonization, helping New York State to develop pathways to achieve the most challenging last 20% of our long-term emission reduction goals.
- Partner with existing industries to collaborate on and grow the new carbon-to-value (C2V)/carbontech hub, and to support pre-commercial deployment opportunities related to a wide-variety of applications from CO₂-products and new battery chemistries to hydrogen infrastructure/hardware.

Workforce Development

- Prioritize and scale-up our impact on the recruitment, training, job preparedness, and placement for priority populations and Disadvantaged Communities.
- Develop training infrastructure to upskill existing workers and prepare the next generation of clean energy workers in high-growth areas like high-efficiency HVAC, building electrification, energy storage, and offshore wind.
- Ensure training curricula and programmatic support respond to industry and market needs.
- Provide targeted support to reduce the time it takes to bring a new worker to full productivity and offset risks that might prevent clean energy firms from hiring or training new workers, particularly workers with additional barriers to employment.
- Boost partnership and collaboration with labor unions, community-based organizations, helping develop and place employees firmly in career pathways.



Economic Development

- Establish strategy to help organize and make State economic development resources more impactful, via greater strategic alignment and less episodic engagement on supply chain, community-center developments.

New York's clean energy industry can help drive a **sustainable recovery** for the State's economy

HIGHLIGHTED PROGRAMS AND INITIATIVES

NY Green Bank works with the private sector to increase investments into the State's clean energy markets, including through transactions related to:

- Community solar/Community distributed generation
- Affordable housing and energy efficiency
- Electric vehicles, charging infrastructure, and clean transportation
- Energy storage

Innovation supports an affordable and just transition and the achievement of New York's climate goals through investments in and advisory services to researchers and companies, including:

- Carbontech support programs with Activate and Columbia University
- Hydrogen and other solutions for deep decarbonization and a resilient energy system
- Long-duration energy storage solutions supporting a resilient, flexible, clean grid
- Natural solutions to mitigation greenhouse gases
- Building the grid of the future
- Clean heating and cooling research and development
- Tech to Market resources including accelerators like the Clean Fight and Cleantech Open Northeast; the M-Corps manufacturing scaleup program; and the Entrepreneur in Residence (EIR) mentorship program

Workforce Development supports training for new clean energy workers, driven by industry needs, and develops the clean energy sector talent pipeline:

- HVAC/Building Electrification Career Pathway Program
- Climate Justice Fellowship Program
- Building Operation and Maintenance Staff Training
- On-the-Job Training
- Clean Energy Internships
- Clean Energy Talent Pipeline Development



Through programs, partnerships, and catalytic investments, **NYSERDA's innovation team** is mitigating technical and commercial risk for key climate solutions to enable faster broader commercialization for the innovations New York needs to meet its ambitious climate goals.

SELECT INNOVATION RESOURCES FOR CLIMATE TECH STARTUPS IN NEW YORK

Clean Tech Center Incubator
CenterState CEO

Wind Turbine Blade Test Facility
Intertek / Clarkson University

intertek

Mobile PV Test Center
Intertek

Test & Commercialization Center
NY-BEST

NY BES+

VentureFor ClimateTech
Venture For ClimateTech
Early Stage Accelerator

Emerging Cleantech Opportunity Incubator
Launch NY

ScaleFor ClimateTech
Scale For ClimateTech
Manufacturing Scaleup

R.I.T | VENTURE CREATIONS

Venture Creations Incubator
Rochester Institute of Technology

Southern Tier Clean Energy Incubator
Binghamton University

Southern Tier Clean Energy Incubator

THE CLEAN FIGHT
The Clean Fight
Growth Stage Accelerator

Business Model Innovation
NYSERDA

NY Climate Progress Investment Program

National Offshore Wind R&D Consortium
Stony Brook University

Clean Energy Business Incubator Program
Stony Brook University

NATIONAL OFFSHORE WIND
POWER EDUCATION CONSORTIUM

Clean Energy Business Incubator Program
AT STONY BROOK UNIVERSITY

C-Level Matching
Columbia Technology Ventures

ACRE Incubator
NYU Tandon School of Engineering

Entrepreneurs-In-Residence Program
Columbia Technology Ventures

Carbon to Value Initiative
Urban Future Lab

COLUMBIA TECHNOLOGY VENTURES

BCFE

CARBON TO VALUE INITIATIVE

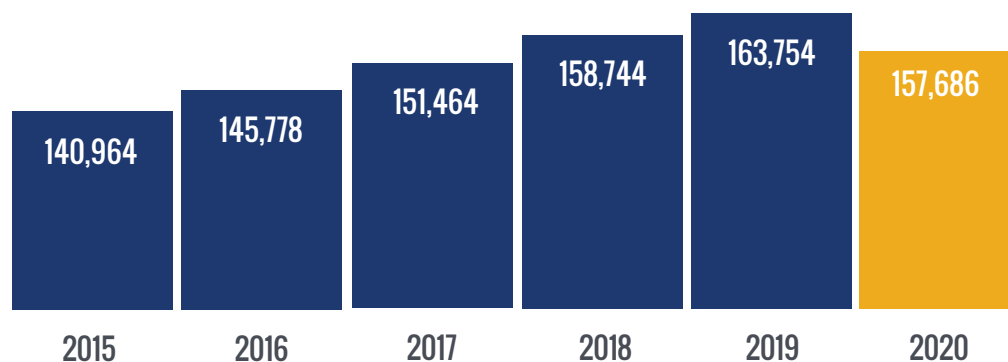
nyserda.ny.gov/innovation



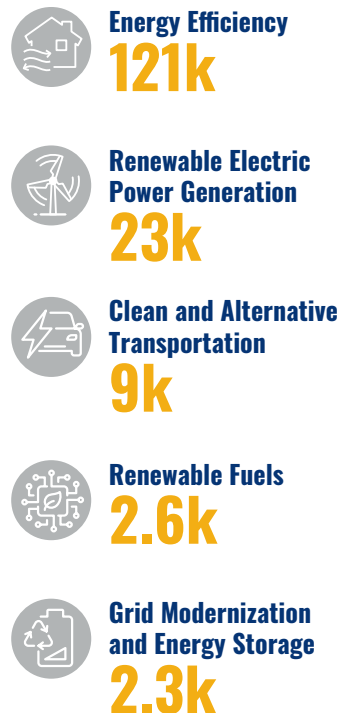
157,000+ clean energy jobs in 2020

across New York State

ANNUAL CLEAN ENERGY EMPLOYMENT IN NEW YORK
(2015–2020 COVID-ADJUSTED)



CLEAN ENERGY EMPLOYMENT
BY TECHNOLOGY
(number of jobs, December 2020)



New York lost approximately 6,000 clean energy jobs amidst the COVID-19 pandemic. This represents the first employment decline since the annual Clean Energy Industry reporting series began in 2015.

However, clean energy in New York fared better than clean energy in neighboring states and New York's economy at large.

Amid the pandemic, New York made modest employment gains in key sectors, including wind energy, clean and alternative transportation, energy storage, and grid modernization. Despite the challenges COVID-19 introduced, New York continues to advance the ambitious goals laid out by its Climate Leadership and Community Protection Act, positioning the clean energy industry to be a cornerstone for economic recovery.

nyserdera.ny.gov/Clean-Energy-Jobs



Resilient and Distributed Energy System

STATE POLICY GOAL
FOR THE ENERGY SYSTEM

Build a resilient and distributed energy system — and supportive social infrastructure — that can anticipate, absorb, adapt to, and recover quickly from a wide range of shocks and stresses, including climate, environmental, cyber, financial, aging infrastructure, and other emerging vulnerabilities.

In this period of dynamic and fast-paced change, marked by a global pandemic, wildfires, extreme storms, record-breaking heat, and cyber threats, the energy system faces a range of new risks and disruptions, even as the system moves away from a more vulnerable centralized power generation towards an increasingly balanced, diversified, and digitalized network.

As New York strives to meet its aggressive climate targets, the State will need to contend with new risks and opportunities.

With electric power enabling nearly all critical infrastructure and services, including communications, emergency systems, banking, and transportation, it is crucial that the transition to clean energy and net zero emissions also advances via a resilient and modernized grid. This includes considerations for infrastructure given changing flood zones, sea level rise, and storm surge zones as well as new solutions and designs to withstand high windspeed, hail, and higher temperatures, and advancements in flexible, responsive resources such as energy storage and building load flexibility. Measuring and valuing risk reduction and resilience can help catalyze opportunities to harness the market system in service of these important goals.

Climate impacts land disproportionately on Disadvantaged Communities — populations that often have fewer resources to respond — so it is vital that investments also address questions of equity with targeted approaches for vulnerable communities. To this end, building a resilient and distributed energy system can also generate new workforce opportunities and create avenues to strengthen social cohesion, a quality of community resilience, through citizen engagement with shared energy and infrastructure.



NYSERDA'S ROLE

Lead-by-example by factoring resilience goals in the State's clean energy infrastructure investments.

Partner with other State agencies to identify and implement best practices around climate resilience, including through the Extreme Heat Action Plan announced with DEC in January 2022.

Spearhead next generation of climate adaptation research to provide insights for infrastructure, investment, and energy system planning decisions based on new/updated climate projection data.

Spur development and integration of a wide array of smart grid technologies that support a distributed energy system and advance resilience including storage, smart demand response, and vehicle to home/grid (V2H/G) flexible charging.

Continue to administer and refine flagship distributed energy resources (DER) programs like NY-Sun, and energy storage incentive programs to boost resilience, provide grid value, and reduce costs.



INDICATORS OF PROGRESS

- Progress toward storage (6,000 MW by 2030) and distributed solar (10,000 MW by 2030) deployment goals
- Statewide grid-interactive building load
- Percentage of NYSERDA solicitations that incorporate resilience provisions
- Penetration of homes and buildings equipped with onsite generation and energy storage (stationary batteries, electric vehicles)

STRATEGIES FOR 2022–2025

- Accelerate pace of deployment for energy storage technologies to achieve updated 2030 goal of 6 GWs, as announced by Governor Hochul in January 2022.
- Incorporate resilience considerations and incentives into NYSERDA programs, including floodplain mapping, onsite generation and storage, and other means to ensure investments factor in shifts like increased electrification, future climate impacts, and other energy system disruptions.
- Explore potential mechanisms for the finance and insurance of resilient energy infrastructure, in partnership with the Department of Financial Services; support efforts to price resilience into everything touching energy, transport, and buildings, from insurance to construction codes and utility regulation.
- Spur development and integration of smart grid technologies to ensure buildings are flexible and responsive under changing conditions, with a focus on load pockets where environmental and health outcomes are critical (e.g., Disadvantaged Communities).
- Work with Public Service Commission to effectuate systemic grid operation changes, including to better make use of DER, including transportation and storage, in a way that fully integrates them and allows for greater self-healing capabilities.
- Support resiliency and grid flexibility, i.e., balance the growing intermittent renewable resources. Continue efforts to scale up energy storage to achieve statewide goals, with a focus on the Downstate region where energy storage is critically needed to replace dirty peaker plants, support grid congestion, and offshore wind procurements. Foster virtual power plant (VPP) pilots into robust, mature programs offered ubiquitously by utilities.
- Drawing from the Carbon Neutral Buildings Roadmap work, develop solutions and playbooks for resilient communities and resilient housing focusing on passive survivability, resilience solutions for all-electric buildings and facilities of refuge to withstand future disruptions to the energy system system — all recognizing that in an electrified future, efficiency is an inherent resilience measure.
- Leverage engagement with communities to catalyze county and municipal resilience strengthening, from backup for critical loads to physical spaces embodying a comprehensive vision for social cohesion and emergency resilience.
- Partner with NYS Division of Homeland Security and Emergency Services (DHSES) to refine model local laws based on climate assessment study findings, integrate clean resilience solutions into state hazard mitigation plan program and funding for backup power, and develop local guidebooks for resilience to supplement Community Risk and Resilience Act (CRRA) plans



TRANSFORMATION 2030

- At least 10 GW of distributed solar; 6 GW of energy storage; and more.
- Ubiquitous and actionable energy data-access, allowing thousands of distributed energy assets (PV, EV, grid-interactive buildings) to communicate and participate responsively, delivering value to customers and to grid.
- Resilience considerations and investments imbedded in all energy/clean energy infrastructure and programming, with near full GHG-alignment for resilience solutions.
- Community-, neighborhood-, and household-level infrastructure investments to boost social cohesion and people-centric resilience, with physical refuges from extreme heat and weather events.

at least

10 GW
distributed solar

6 GW
energy storage

HIGHLIGHTED PROGRAMS AND INITIATIVES

The **New York State Climate Impacts Assessment**, launched in November 2021, is a multi-year study to explore how climate change affects New York State communities, ecosystems, and economy. Led and funded by NYSERDA, this collaborative climate research effort is being conducted in partnership with academic institutions, science organizations, community leaders, and industry representatives.

Innovation's Smart Grid and Technology to Market teams will launch **initiatives to support a resilient, affordable, flexible clean grid.**

New York Power Grid Study as required in April 2020 by Accelerated Renewable Energy Growth and Community Benefit Act legislation

Energy Storage engages those involved in building, installing, integrating, or researching energy storage technology, including efforts to expand opportunities to pair solar and storage statewide (continuing and expanding the strong Residential PV + Storage program on Long island through the DLM tariff).

The Extreme Heat Action Plan, announced in January 2022 as a collaboration between NYSERDA and DEC, will address the threat of extreme heat in disadvantaged communities, areas of employment, and recreational zones across the state, and will help coordinate interagency investments to ensure that priority assistance goes to disadvantaged communities on the front lines of heat exposure.

Offshore Wind, including new analysis and program measures related to resilience.

Real Time Energy Management provides the ability to shed or shift loads in response to grid needs as well as the capability to stage critical equipment to maintain building services most needed to support safety and recovery.

Carbon Neutral Buildings Roadmap places strong emphasis on resilience with a full chapter dedicated to resiliency considerations related to building decarbonization.



Building an Inclusive Clean Energy Economy

LONG-TERM VISION AND VALUE PROPOSITION

A strong and inclusive clean energy economy will lead to economic opportunities, improved health, and engagement for all New Yorkers especially those who have not benefitted in the past.

New York State's frontline communities, including environmental justice, LMI, communities of color, and otherwise Disadvantaged^{*} Communities, have disproportionately been impacted by energy costs; pollution from fossil fuel combustion; disinvestment in housing; systemic inequities in education and workforce opportunities; and limited ability to engage in and inform policy making that affects their community.

^{*} As part of the implementation of the Climate Act, the Climate Justice Working Group is charged with developing criteria for Disadvantaged Communities for prioritization and benefit through New York State investments in clean energy.



Realizing the objectives of the Climate Act will require foundational shifts in the development and implementation of clean energy policy, programs, and processes to ensure opportunities for residents and communities to participate in and benefit from the clean energy economy.

In advancement of the Climate Act objectives, the NYSERDA clean energy portfolio will focus investments to:

- Improve energy affordability.
- Reduce pollution from fossil fuel combustion across all sectors for environmental justice.
- Create new economic development opportunities for communities.
- Advance workforce development and training.

In addition, NYSERDA will focus on community capacity development and engagement to ensure the perspectives of residents are incorporated into the development and implementation of clean energy initiatives.

Improving diversity, equity, and inclusion within and across NYSERDA's teams and functions has been prioritized to ensure the operations and practices of the Authority are more representative and responsive to the diverse needs of New Yorkers.

NYSERDA is positioned to drive equity and help realize an inclusive clean energy economy through its direct investment, as well as through its work with State agencies, utility companies, and community-based organizations.



KEY CHALLENGES/ BARRIERS

- Systemic and institutional inequities have led to limited opportunities for communities of color and other frontline or Disadvantaged Communities to participate in and benefit from the clean energy economy, including access to green jobs, ownership of distributed energy resources, and informing policy and programs.
- Energy burden for lower-income households can exceed 20% of annual income, and nearly half of New York's population has annual income below 80% of the Area Median Income, especially within communities of color.
- Access to capital, misaligned incentives, and historically fragmented administration of key programs present barriers to scaling clean energy solutions within the LMI market segment and Disadvantaged Communities.
- The size of income-eligible and disadvantaged populations requires innovative approaches to achieve adoption at scale, with careful attention to program/policy designs to avoid regressive outcomes/impacts.
- Engaging with Disadvantaged Communities and bringing their voice to the table is inherently challenging given chronic lack of resources within LMI and EJ communities.

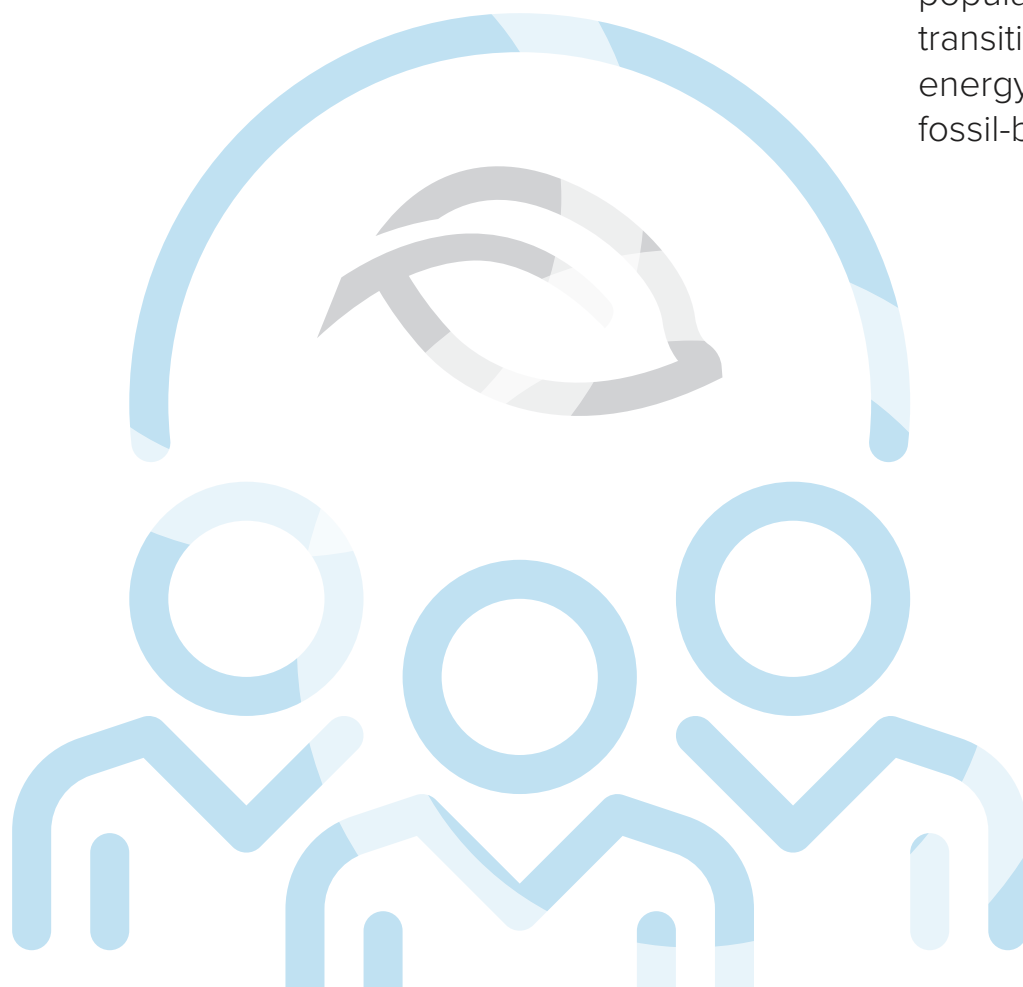
PRIORITY ACTIONS FOR NEW YORK

- Work toward a goal of driving 40% of the benefits of clean energy spending to Disadvantaged Communities.
- Increase engagement of frontline, climate-vulnerable communities in developing the clean energy economy, including ensuring community representation in decision-making and policymaking.
- Align State resources and strategy to increase impact from public investments in energy affordability and expand access to clean energy solutions for lower-income households, affordable housing, and Disadvantaged Communities.
- Leverage regulatory, policy, and financing mechanisms to increase adoption of clean energy solutions in affordable housing, including beneficial electrification.
- Facilitate a just transition to a clean energy economy by supporting unemployed or underemployed workers and priority populations, including workers in fossil-based industries, by addressing barriers to training and job opportunities for residents of Disadvantaged Communities and priority populations.
- Advance resilience to climate change and extreme weather events including within affordable housing and Disadvantaged Communities through clean energy solutions such as solar, energy storage, and passive house standards.
- Advance access to clean transportation for residents of Disadvantaged Communities and accelerate the transition to electric vehicles within EJ areas to reduce emissions and improve air quality.
- Develop solutions and models for deploying utility-scale DER, clean transportation, and energy efficiency in the built environment to reduce emissions and co-pollutants especially within Disadvantaged Communities.
- Quantify and maximize health and economic benefits from deploying clean energy solutions, especially within Disadvantaged Communities.
- Develop a path for decarbonizing affordable housing, including models that advance beneficial electrification across the LMI market segment.
- Publish, finalize, and implement findings from the Climate Act Disadvantaged Communities Barriers Report.



NYSERDA KEY ACTIONS FOR 2022–2025

- **Build community capacity** through the Clean Energy Hubs to engage residents and increase awareness of clean energy solutions, advance job opportunities and economic development, and facilitate community input in policy and program decision-making.
- **Ensure robust engagement opportunities** for local communities in program planning and design by providing a structured engagement process and financial support for stakeholders.
- **Expand workforce development** to include social service wrap-around support through partner organizations and forge effective partnerships with organized labor to expand energy- and climate-related job opportunities for all New Yorkers, especially those from Disadvantaged Communities, underserved populations, and those transitioning to the clean energy industry from a fossil-based job.
- **Develop replicable solutions** to advance beneficial electrification across the LMI market.
- **Advance models** that maximize community benefits from distributed energy resources, including ownership models.
- **Ensure that all New Yorkers have opportunities** to understand the health, economic and resiliency benefits from clean energy deployment, and have access to these solutions.
- **Implement a statewide portfolio** of energy efficiency initiatives with utilities to increase the impact and reach of LMI clean energy investments.
- **Integrate clean energy subsidies** from NYSERDA and utilities into affordable housing finance to advance the energy performance of these buildings and deliver co-benefits to tenants.





ILLUSTRATIVE INITIATIVES TO ADVANCE AN INCLUSIVE CLEAN ENERGY ECONOMY BY PORTFOLIO

MARKET DEVELOPMENT

Clean Green Schools – funding solutions for eligible P-12 schools to reduce school energy use and assist in the conversion to carbon-free fuels

EmPower New York – no-cost and discounted efficiency solutions to income-eligible New Yorkers, helping save energy and money

Technical Assistance and Predevelopment – support for housing agencies, contractors, developers, and builders for clean energy, high-performance building, and retrofits

Beneficial Electrification for LMI and Affordable Housing – replicable solutions for heat pump adoption in the LMI and affordable housing sectors, while ensuring customer protections

Raise the Green Roof – pre-development support, grants and financing for building decarbonization measures deployed in Homes and Community Renewal's (HCR) affordable housing portfolio

Community-Based Workforce Development – community-based training partnerships between clean energy businesses, training organizations, industry associations, and un/underemployed residents in Disadvantaged Communities

On-the-job training for priority populations – support for clean energy businesses to hire persons from priority populations

Career Pathways Funding and Training – solicitation to train and place new entrants to the HVAC and building electrification industry

Climate Justice Corps – funding for fellows to improve engagement of Disadvantaged Communities, identify community-based, climate justice focused projects and solutions, and build capacity of local organizations to advance climate justice

NY GREEN BANK / FINANCE

Financing for Affordable Housing and Energy Efficiency in Disadvantaged Communities – new initiative using financing to catalyze clean energy within the existing capital stack for affordable housing, aiming to invest at least \$150 million in clean energy and energy efficiency solutions that benefit the State's affordable multifamily housing market

Exploring tariff-backed and other innovative, inclusive financing models – approaches to overcome LMI/Disadvantaged Communities finance challenges, stabilize energy costs, and improve air quality in Disadvantaged Communities

Partnering with other agencies to explore innovative opportunities to put NY Green Bank capital to work, including new areas such as energy resiliency

Through Green Jobs–Green New York – providing New Yorkers with access to energy assessments, installation services, low-interest financing, and pathways to training for various green-collar careers

Cultivating diverse ecosystem of investment partners and counterparties – explore funding to cover transaction costs and/or pro bono/in-kind transaction support

NY-SUN / DISTRIBUTED ENERGY RESOURCES

Solar for All – utility bill assistance program funding solar to benefit homeowners/renters unable to access solar

Affordable Multifamily Housing Incentive – PV installations serving affordable housing properties

Technical Assistance and Predevelopment – grants to address key barriers to PV and storage projects providing benefits to LMI, Environmental Justice and Disadvantaged Communities

Community Solar, Solar paired with Storage, and Energy Efficiency – incentive adders for community PV, projects that pair PV and energy storage and provide resiliency and/or financial benefits to LMI customers and affordable housing

Peaker Reduction and Replacement – project deployments that support the potential for solar and energy storage to repower, replace, and back-down electric generating peaker units

Good-Paying Community Solar Jobs – require prevailing wage for workers on projects above 1 MW

Place-based decarbonization models – work with sister agencies to demonstrate novel partnerships surrounding place-based decarbonization with a focus on Disadvantaged Communities, such as the new interagency team we will lead with NYPA on Hunts Point in the Bronx



INNOVATION AND RESEARCH

Advanced HVAC Challenge – heating and cooling technology innovations targeting common LMI building types and needs

Innovation for Affordable Decarbonization – investments designed to reduce the cost of clean energy through optimization of the power grid, clean building technologies, and clean gas and liquid fuels

Evolving work on resilience – tools to support adaptation to climate change for all New Yorkers, including those most vulnerable

Clean Neighborhoods Challenge – scalable, community-aligned clean transportation solutions that reduce local air pollution and remove barriers to widespread electric and active transportation use in disadvantaged communities

Electric Mobility Challenge – community-informed clean transportation solutions that transform access to electric mobility options and reduce emissions in disadvantaged communities

Electric Truck & Bus Challenge – innovative demonstrations that accelerate medium- and heavy-duty vehicle electrification, expand access to cost-effective, user-friendly solutions, and reduce emissions

LARGE-SCALE RENEWABLES

RFP Design – prioritize in the evaluation of projects' economic benefits to disadvantaged communities, the role of renewables and energy storage to support the phaseout of the most polluting fossil generators downstate

Agriculture, natural resources and smart siting policies – maximize co-benefits between industries and cultivate infrastructure ecologies (e.g., supporting supplemental income diversification, promoting carbon sequestration through soil enrichment, water quality improvements)

Implement 2021 Executive Budget proposals – complete Buy American market assessment, MWBE and SDVOB assessment, and implement updated prevailing wage requirements for project construction and operation.”

Transmission planning – active participation in transmission planning to align with project development and seek important partnerships and cultivate benefits with communities, including via Tier 4

OTHER AUTHORITY-WIDE PRIORITY EFFORTS

Capacity-building and community engagement – Clean Energy Hubs to build local capacity and advance opportunities for residents within the clean energy economy; development of multilingual communication materials; providing financial support to encourage stakeholder engagement in processes; streamlining stakeholder engagement Authority-wide through equitable engagement framework

Community Ownership of Clean Energy and Distributed Energy Resources – New models for community ownership of distributed energy resources

■ **NYSERDA Diversity, Equity, and Inclusion (DE&I)** – Implementation of DEI Strategic Plan released in 2021 to promote DE&I progress Authority-wide

Grow MWBE Contracting – NYSERDA to increase utilization of MWBE contractors

■ LEARN MORE ABOUT
NYSERDA'S DE&I EFFORTS

nyserdera.ny.gov/DEI



Supporting Clean Energy Jobs and New York's Economic Recovery

LONG-TERM VISION AND VALUE PROPOSITION

New York's nation-leading climate action policies and investments have driven steady growth in the State's clean energy economy, outpacing economy-wide growth for the last three years.

However, like other sectors, the clean energy industry suffered significant job losses as a result of the pandemic. Jobs are rebounding, but continued investment is needed to address current worker dislocation in the near term, build labor capacity, and ensure that New Yorkers and New York firms reap the financial benefits that will result from delivering clean energy solutions at the scale needed to meet Climate Act goals. The State's continued leadership and investment in its clean energy workers and businesses will also create the foundation for a just transition in the decades to come, beginning with prioritizing training, job placement, and wrap-around support for individuals from Disadvantaged Communities, underserved populations, or those entering the clean energy workforce from a fossil-based job.



KEY CHALLENGES/BARRIERS

- Historically marginalized populations face greater barriers to employment.
- Strains on businesses as a result of the pandemic threaten the recruitment, retention, and training of workers.
- Public, private, and philanthropic resources are increasingly scarce, and in some cases, have constraints on how they can be used (e.g., geography, direct technical training versus wrap-around services).
- Ongoing demographic transitions and retirements require the State to entice new entrants to this energy field and ensure that training is in sync with job placement opportunities.

PRIORITY ACTIONS FOR NEW YORK

- Harness the State's clean energy investments to provide economic opportunity and quality jobs for New Yorkers, including LMI and historically disadvantaged populations.
- Support the work of the Climate Action Council and Just Transition Working Group to ensure workforce development considerations are prioritized.
- Integrate the definition of Disadvantaged Communities and guidance from the Climate Justice Working Group into workforce-related programs and offerings
- Advocate for climate/clean energy investments as part of State and federal stimulus efforts.

NYSERDA KEY ACTIONS FOR 2022–2025

- **Scale-up Career Pathways** and other successful models for clean energy apprenticeships, pre-apprenticeships, and job-readiness programs to build a talent pipeline especially from individuals within Disadvantaged Communities, priority populations, and fossil-based incumbent workers transitioning into clean energy.
- **Support build-out of OSW workforce training** supporting SUNY in advancing the Offshore Wind Training Institute (OSWTI), and coordinating industry efforts already underway.
- **Leverage NYSERDA's purchasing power** to maximize opportunities for New Yorkers and New York firms — especially MWBE and Service Disabled Veteran-Owned Businesses — installing, servicing and supplying clean energy solutions.
- **Identify and work with partners** including Empire State Development to grow key supply chains where NYS firms can have a competitive advantage.
- **Support community based economic development projects** by leveraging existing NYSERDA clean energy programs, identifying more comprehensive funding strategies, and working with State, local and utility partners.
- **Focus NYSERDA's relationship with other agencies and channel partners** on workforce development and training to develop complementary offers that increase collective impact and serve a wider base of workers.
- **Pursue funding opportunities** to complement/supplement our traditional funding sources to deliver wrap-around services (such as funding for transportation, tools, daycare, etc.) to help priority populations pursue clean energy workforce opportunities.
- **Continue to fund Climate Justice Fellows** to place individuals working in and for Disadvantaged Communities to advance local climate action priorities.
- **Explore novel community-based clean energy investments**, including Build-Ready project development to provide workforce support alongside renewable development and leveraging DOL resources where feasible.



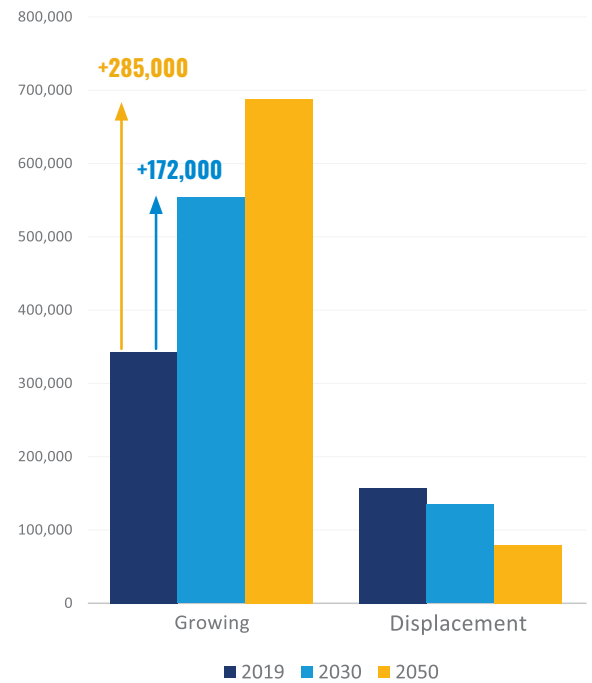
Spotlight

New York State Climate Jobs Study

Based on independent research conducted for New York's Just Transition Working Group, Climate Act Scoping Plan Investments are expected to spur hundreds of thousands of new jobs in coming decades.

Expected clean energy job growth 2X greater than 2016–2020	More than half of new jobs will tackle building decarbonization	Offshore wind will be one of the fastest growing sectors
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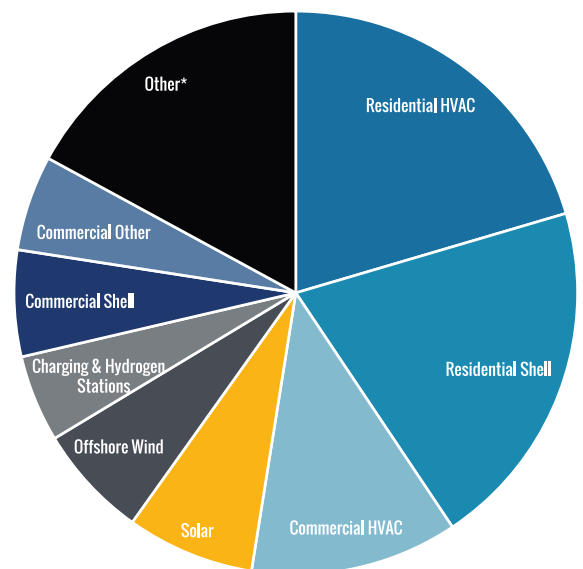
- Employment in growth sub-sectors increases by at least 172,000 jobs by 2030, a 55% increase in the workforce from 2019 to 2030
- Employment grows in these sub-sectors by at least 285,000 jobs through 2050
- In New York State, clean energy jobs, in their comparable sub-sectors, are expected to grow annually at more than twice the rate from 2021 through 2030 as the growth experienced between 2016 through 2020
- By 2050, growth sub-sectors, in New York State will reach nearly 600,000 jobs



Key Employment Findings — S2: LCF Scenario

- Sub-Sectoral Breakdown of 172,000 jobs Added by 2030
- Over half of the new jobs, in the growth sub-sectors, from 2019 to 2030, will be found in the buildings sub-sectors (shaded blue)
- The next largest growth sub-sectors are solar and offshore wind electricity generation, and electric vehicle charging and hydrogen fueling stations

* Includes Transmission, Storage, Other Generation, Bioenergy, Residential Other, Hydrogen, Onshore Wind, and Vehicle Manufacturing





Founded in 1622, First Presbyterian Church in Jamaica, Queens is one of the oldest churches in New York and the nation. Now it's one of the first to replace its fossil fuel-fired heating systems with efficient heat-pump heating and cooling systems.

The church removed eight gas boilers and installed a cold-climate heat-pump system. Financed and project managed by BlocPower, this will serve as one of 35 clean-energy demonstration projects being organized by Metro IAF with support from NYSERDA.

A crew from HVAC contractor VRF Solutions installed air handlers in the church's 96-year-old Magill Building as part of its installation of a 72-ton variable refrigerant flow (VRF) heat pump system. The project is projected to reduce the church's energy usage by 60%, saving 1,191 MMBtu's of energy per year and eliminating 51 tons/year of carbon emissions equivalents.





Accelerating the Transition from Fossil Gas to a Low-Carbon Future

LONG-TERM VISION AND VALUE PROPOSITION

In order to realize its goals of a carbon neutral economy by mid-century, New York needs to move away from its dependence on the combustion of fossil gas to heat homes and businesses and power industrial processes.

This transition away from fossil gas to lower-carbon energy sources may be one of the most challenging pieces of our decarbonization agenda.

In the near term, New York State needs to drive more uptake of demand-reducing solutions such as energy efficiency and electrification for heating. Over the longer term, the State will need to scale up these solutions and advance new alternatives to fossil gas.

In hard-to-electrify use cases, the State will need to pursue R&D to prove and deploy deep decarbonization innovations to replace fossil gas with alternatives with lower climate impact — such as green hydrogen, renewable natural gas, and carbon capture, among others.

Additionally, given the global warming potential of methane, losses/emissions of fossil gas will need to be reduced throughout the gas infrastructure for safety and environmental reasons.

KEY CHALLENGES/BARRIERS



- Significant disparity between the societal costs of fossil gas and the costs realized by consumers, resulting in a market signal that is inconsistent with New York’s public policy objectives.
- Near-term affordability of gas makes it favorable among residents for home heating and hot water, and also among businesses and particularly industrial users, where high quality heat for process applications is prized and there are few commercially available electric solutions. While most industry experts agree that retail gas prices are likely to increase significantly within the next decade, this long-term price risk is not yet considered in most consumer decisions.
- While efficient, all-electric alternatives can fulfill most/all residential applications and many commercial ones, alternatives do face several limitations, including high upfront cost, lack of awareness among consumers, lack of market infrastructure (familiar installers, marketing), and technical barriers for certain buildings.
- Given affordability barriers, fossil gas transition creates regressive outcome risks for those unable to swiftly move off.
- The existing gas distribution system is a multibillion-dollar asset that will remain in place even as consumption is reduced, and it needs investments to be maintained to keep people safe.

PRIORITY ACTIONS FOR NEW YORK

- Address near-term downstate gas supply constraints minimizing investment in infrastructure and maximizing demand-side solutions to reduce winter gas peak including energy efficiency, demand response, and electrification.
- Launch a comprehensive gas transition planning process to advance a managed, phased, and just transition from fossil gas, focusing on safety, equity, reliability, and affordability.
- Build market capacity, expand product availability, and drive cost reductions in commercially available fossil gas alternatives like electrification (through NYS Clean Heat), while developing new long-term solutions.
- Advance recommendations for building and industrial sectors via Climate Action Council, including codes and standards aimed at driving adoption of efficient, low-carbon solutions and clean alternatives for heat/industrial process.
- Level the playing field for clean energy alternatives and end the legal obligation to serve customers with fossil gas, while maintaining affordability for New York’s most vulnerable customers.

NYSERDA KEY ACTIONS FOR 2022–2025

- **Develop and publish long-term roadmaps** for advancing all-electric clean homes and buildings; and green hydrogen, as alternatives to fossil gas.
- **Phase out support for fossil gas** in all programs within three years and reorient investments around building shell improvements, electrification, and development of deep decarbonization alternatives.
- **Prove-out solution set** for LMI/Disadvantaged Communities electrification — tailored to building stock and housing energy affordability needs.
- **Focus on reducing cost of alternative clean heating/cooling through innovation** — demonstrate heat pump technologies (and other carbon-reducing solutions) in large commercial/multifamily buildings, working with property owners, and engaging manufacturers to define/deliver/tailor products to meet New York’s building needs.
- **Support cutting edge innovations** to reduce dependence on fossil gas for heating and process loads.
- **Build understanding of and momentum** for deep decarbonization technologies, including green hydrogen, carbon capture, and other forms of carbotech, leveraging federal funding opportunities — including via New York Green Hydrogen Hub efforts announced in January 2022.

Hydrogen Roadmap

A comprehensive strategy to advance green hydrogen as a solution in New York, considering technology needs and risks, infrastructure, resiliency, costs, and environmental justice. Along with several other actions announced in January 2022, including a regulatory framework and prize program, the Hydrogen Roadmap will help position New York to compete for nearly \$10 billion in federal funding for green hydrogen R&D.

Building Electrification Roadmap

A roadmap offering a deep-dive on electrification solutions and needs, charting course for progress by 2030 consistent with Climate Act milestones.



Fostering Healthy and Resilient Communities

LONG-TERM VISION AND VALUE PROPOSITION

New York's diverse communities have a critical role to play in the State's clean energy transition.

They serve as essential partners both in the rapid expansion of clean energy generation as well as the decarbonization of society — including the built environment and the transportation and industrial sectors — thereby creating healthy, livable environments and supporting larger projects with far-reaching statewide benefits.

But to succeed, we need to provide communities with the necessary tools and other resources to carry out this work. On the renewable generation side, efforts such as the Office of Renewable Energy Siting (ORES), NYSERDA's Build-Ready program, and the new host community benefits framework, are designed to reduce barriers for localities and overcome obstacles to mutually beneficial project development.



In order to decarbonize the State's building stock by mid-century, New York will have to quickly move beyond a building-by-building approach to a neighborhood-by-neighborhood approach, developing carbon neutral communities.

There are more than 6 million buildings in New York. More than 200,000 buildings per year would need to be decarbonized for the next 30 years to address the entire existing building stock by 2050. The State needs to build scale to succeed, and action at the community-level will be critical.

NYSERDA provides planning resources for community-scale decarbonization projects, and is supporting several communities as they embark on the decarbonization transition. Integrating decarbonized transportation solutions will also be paramount in providing holistic community-scale climate solutions with neighborhood-level impact.

The disparate health and air quality impacts borne by Disadvantaged Communities as a result of historical and continuing environmental injustice remain front of mind, a reality that has been underscored and exacerbated by the COVID-19 pandemic. We can begin to reverse and repair these inequitable community outcomes by providing resources to Disadvantaged Communities that ensure all New Yorkers benefit from the clean energy transition. Decarbonized communities will have improved outdoor air quality (e.g., through the elimination of peaker plants and on-site combustion of fossil fuels), safer and healthier buildings (through electrification, energy efficiency and measures to guard against airborne pathogens), job and economic opportunities, and increased economic activity, collectively fostering healthy communities.



KEY CHALLENGES/BARRIERS

- Communities lack resources to adequately address many on-the-ground challenges associated with the energy transformation — from competing interest for land use and challenging siting issues, to a diverse building stock coupled with complex and evolving building codes and aging infrastructure.
- Local resource constraints were exacerbated by COVID-19 and the associated economic challenges.
- Some communities have a negative perception of large-scale renewable projects, and are negatively disposed to development of these projects.
- Disadvantaged communities face disparate exposure to air pollution from multiple sources (vehicles, power plants, industrial facilities) and often are burdened with a building stock that does not provide healthy indoor air quality.
- Health and safety benefits that result from community decarbonization are not always well understood and can be difficult to quantify and monetize.

PRIORITY ACTIONS FOR NEW YORK

- Continue to provide and expand upon training and technical resources to help communities prepare for responsible renewable energy development, embrace decarbonization and energy efficiency, and support progressive building codes.
- Facilitate paths for community engagement on decarbonization wherever possible, including through grants and financial support, local coordinators, clear technical guidance and templates, recognition, and interagency coordination.
- Incorporate decarbonization into various existing State funding programs, like the Downtown and Upstate Revitalization Initiatives and other opportunities under the Consolidated Funding Application.
- Develop and establish a robust framework for host community benefit agreements as part of large-scale renewable projects clarifying local benefits and making benefits packages more compelling.
- Through the Office of Renewable Energy Siting, issue new uniform, standardized guidelines for responsible large-scale renewable siting to improve consistency, expedite approval of projects not located on greenfield sites, and reduce burdens for local community intervention.
- Focus on turning underutilized lands, such as brownfields, landfills, and former industrial properties, into revenue-generating clean energy projects, and advance project development on other sites that present development challenges for commercial developers.
- Facilitate passage and/or implementation of proactive community-level clean energy policies such as Community Choice Aggregation (CCA), benchmarking, and other climate-friendly codes, standards, and mandates recommended by the Climate Action Council.



NYSDERDA KEY ACTIONS FOR 2022–2025

- **Site and build renewable power and distributed clean energy projects** that provide community benefits by providing guidance on project economics, PILOTs, siting assistance to local communities, and ensuring projects deliver tangible benefits to host communities.
- **Encourage adoption of CCAs** where localities use 100% renewable energy as default supply.
- **Grow local partnerships and drive investment** in clean energy on brownfields or otherwise underutilized land, offering support like Just Transition site reuse planning grants.
- **Build local capacity** and develop programs to support community-scale decarbonization through the Clean Energy Communities Leadership Round, Clean Energy Hubs, and clean energy training opportunities for local officials.
- **Develop programs** that provide technical and financial assistance for communities to adopt comprehensive plans and local legislation aimed at full decarbonization.
- **Directly partner with municipalities, communities, and individual landowners** to promote neighbor-to-neighbor clean energy campaigns and testimonials, sharing best practices by local government champions for clean energy.
- **Partner with stakeholders and Community-Based Organizations (CBOs)** within Disadvantaged Communities to co-develop local clean energy agendas and deploy climate resilience hubs that enable residents to safely shelter in place through community-scale distributed energy resources including solar, storage, green hydrogen, and district geothermal systems.
- **Catalyze novel clean transportation and zero-emission vehicle/mobility deployments** with prize funding supporting clean vehicles, personal mobility, and medium- and heavy-duty transportation transformations that benefit environmental justice communities.
- **Help communities address the dual challenges of sustainability and COVID mitigation**, providing building science expertise and creating greener and healthier schools.
- **Leverage funds that can drive novel approaches** to realizing health and energy benefits, including the Healthy Homes pilot that is using health dollars and avoided health/insurance costs to finance electrification, energy efficiency, and clean energy upgrades.
- **Develop and implement the Extreme Heat Action Plan** in partnership with DEC, as announced in January 2022, to address the threat of extreme heat in Disadvantaged Communities, areas of employment, and recreational zones across the state and to mitigate neighborhood climate impacts associated with extreme heat via measures such as shade structures, cool roofs, cool pavements, parks, natural canopies, spray pads, and more.



Funding

FUNDING SOURCES

Several funding sources help NYSERDA advance the State’s clean energy goals and achieve the its mission. NYSERDA invests these funds in a fiscally responsible manner that maximizes benefits to New Yorkers, fills critical gaps, and addresses the needs of the market.

Clean Energy Fund

Authorized by the Public Service Commission (PSC) and derived from an assessment on retail sales of electricity by State utilities — it is comprised of four portfolios: Market Development, Innovation and Research, NY-Sun, and NY Green Bank. The CEF was reaffirmed by PSC Order in August 2021.

Clean Energy Standard

As authorized by the PSC, these funds are realized by NYSERDA through the sale of Tier 1 Renewable Energy Credits (RECs), Offshore Wind Renewable Energy Credits (ORECs), and Zero Emission Credits (ZECs) as well as receipt of Alternative Compliance Payments from New York’s Load Serving Entities (LSEs). Through PSC orders, LSEs are obligated to meet annual compliance obligations for RECs, ORECs and ZECs. As needed, utility financial backstop collections may be called on to meet funding shortfalls. These commitments are typically paid out over a 20–25 year contract term upon delivery of RECs (for Tier 1, OSW, and Tier 4; contract terms are shorter for Tier 2 RECs and ZECs).

Regional Greenhouse Gas Initiative (RGGI)

Derived from sale of carbon emission allowances as set forth in 6 NYCRR Part 242 and 21 NYCRR Part 507. The amount of revenues available is dependent on the variable auction prices for the allowances. Per requirements in 21 NYCRR 507, RGGI funds are used to advance energy efficiency, renewable energy, and carbon abatement projects in New York State.

Federal Funding

Federal funding will be leveraged to enhance NYSERDA’s most critical efforts and topline mission outcomes, including via partnership with sister State agencies. NYSERDA will be targeting, on a strategic basis, block grant and competitive funding opportunities via the Infrastructure Investment and Jobs Act (IIJA), as well as through additional spending appropriations made in 2022.

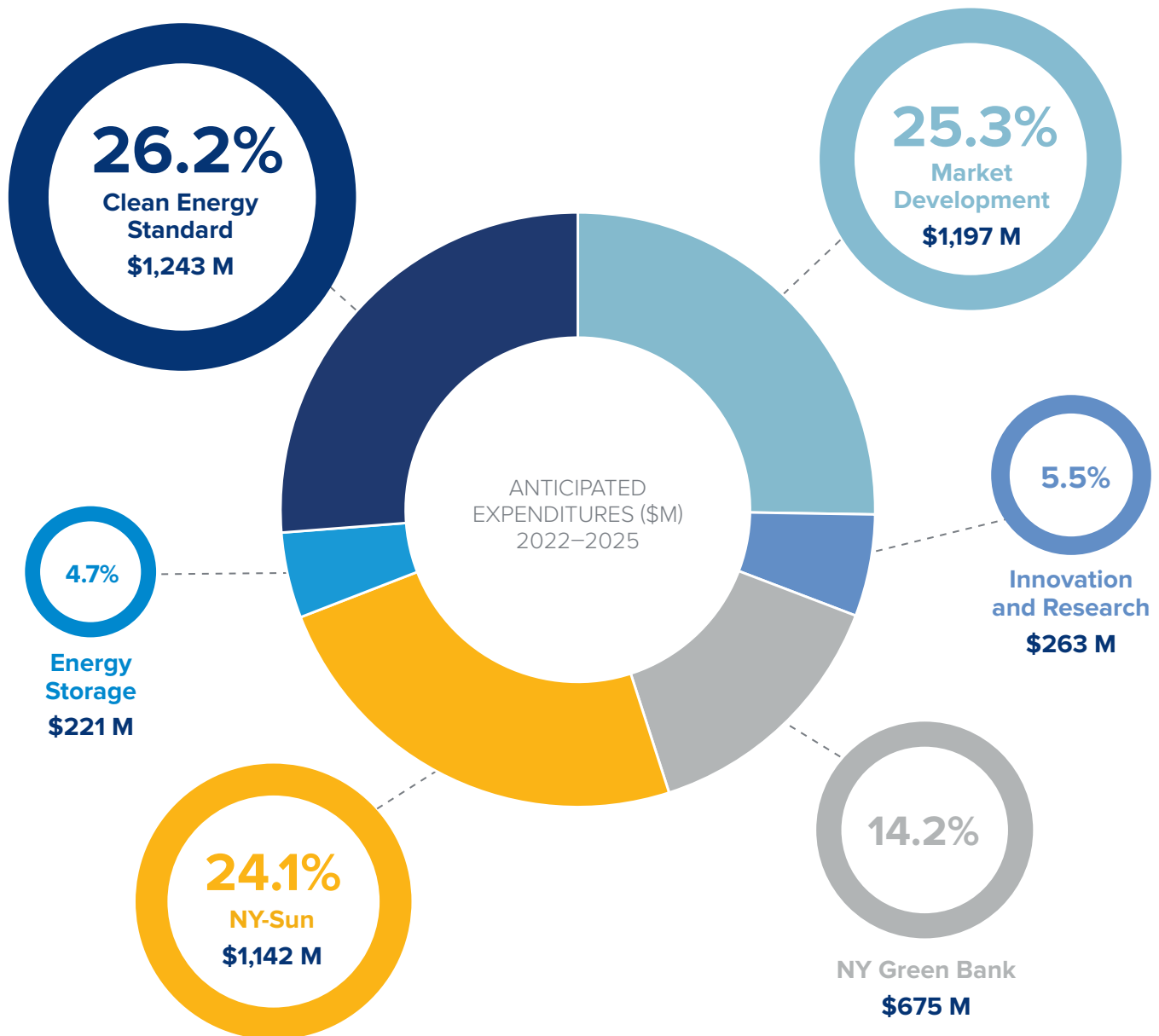
Other Funds

Includes sources provided by various sponsors used for specific purposes. Public funds are leveraged considerably with private sector funding through NYSERDA programs.

ANTICIPATED EXPENDITURES (2022-2025)

RENEWABLES
ENERGY EFFICIENCY
EMISSIONS REDUCTIONS
CLEAN ENERGY ECONOMY
DISTRIBUTED ENERGY SYSTEM

INVESTMENT AREAS AND PRIORITY INITIATIVES	ESTIMATED 3-YEAR INVESTMENT LEVEL	% OF TOTAL	NYSERDA MISSION OUTCOME(S) ICONS INDICATE RELEVANCE FOR PLANNED FUNDING				
			RENEWABLES	ENERGY EFFICIENCY	EMISSIONS REDUCTIONS	CLEAN ENERGY ECONOMY	DISTRIBUTED ENERGY SYSTEM
Clean Energy Standard ^{1, 2, 3}	\$1,243,492,396	26.2%					
Market Development	\$1,197,358,146	25.3%					
NY-Sun	\$1,141,582,806	24.1%					
NY Green Bank	\$675,000,000	14.2%					
Innovation and Research	\$262,880,535	5.5%					
Energy Storage	\$220,930,234	4.7%					
Total	\$4,741,244,117						



Appendix: NYSERDA's Structure

NYSERDA BOARD MEMBERS

Richard L. Kauffman

NYSERDA Chair

Sherburne B. Abbott

Vice President for Sustainability Initiatives and
University Professor of Sustainability Science and Policy, Syracuse University

Charles Bell

Programs Director, Consumers Union

Justin E. Driscoll

Interim President and Chief Executive Officer, EVP and General Counsel, New York Power Authority

Jay L. Koh

Managing Director and Founder, Lightsmith Group

Basil Seggos

Commissioner, New York State Department of Environmental Conservation

Marie Therese Dominguez

Commissioner, New York State Department of Transportation

Rory M. Christian

Chair and CEO, New York State Public Service Commission

Arturo Garcia-Costas

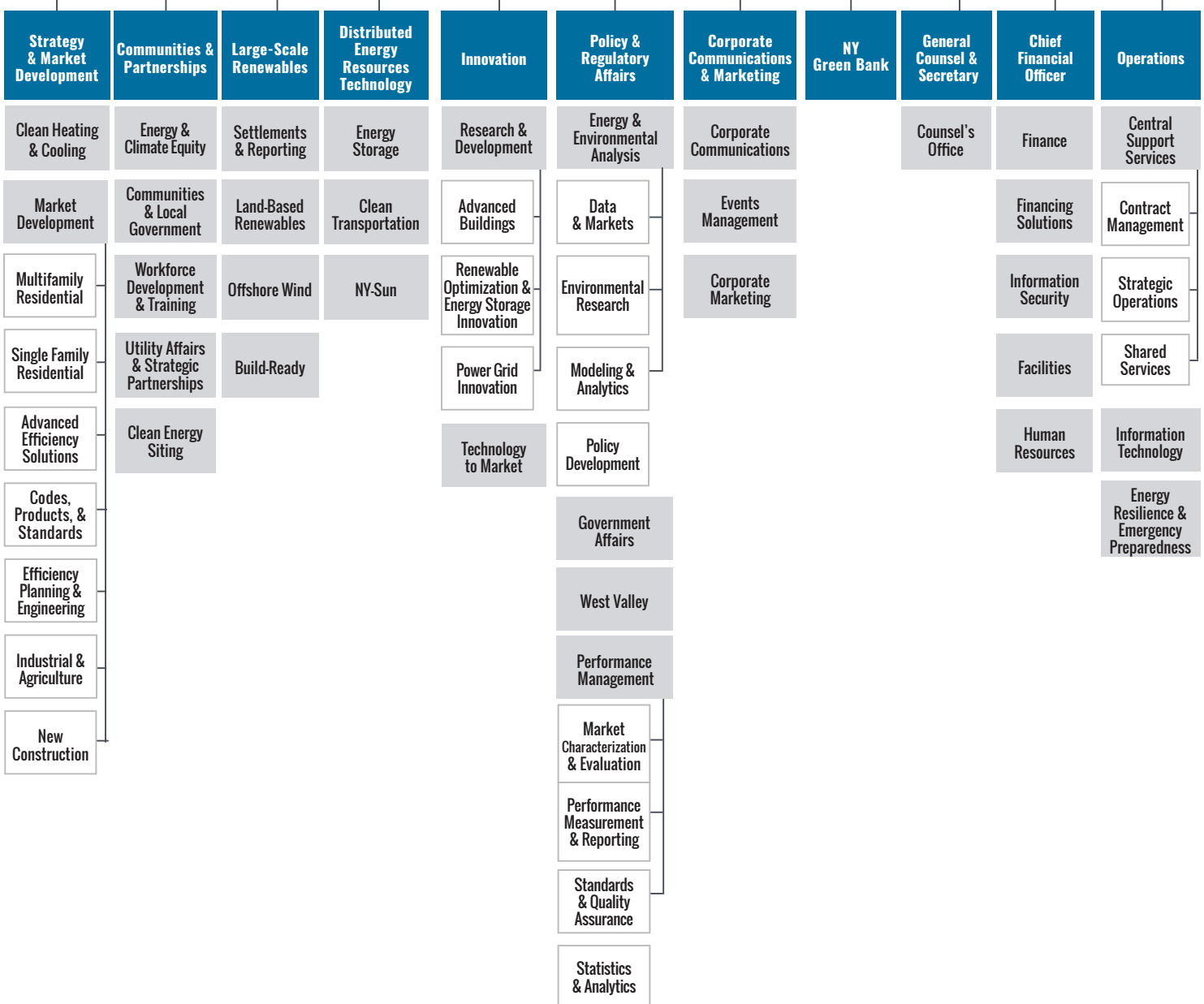
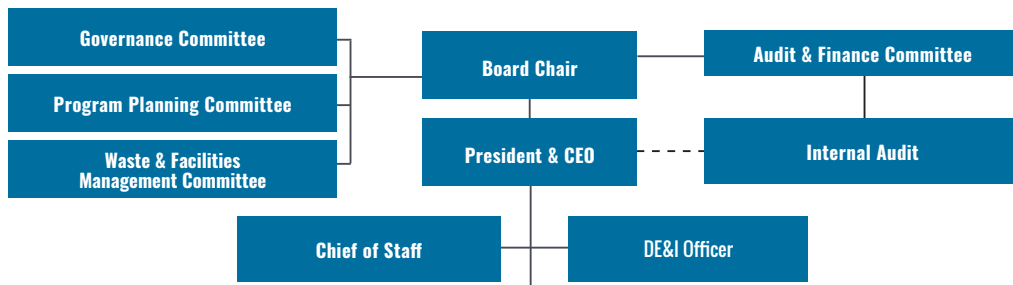
Program Officer for the Local, National and International Environment, The New York Community Trust

Frances A. Resheske

Senior Vice President, Corporate Affairs, Con Edison

Sarah Sadie McKeown

Executive Vice President, The Community Preservation Corporation



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State of New York

Kathy Hochul, Governor

New York State Energy Research and Development Authority

Richard L. Kauffman, Chair | Doreen M. Harris, President and CEO

Resolution No. _____

RESOLVED, that the outlook for the Authority's energy, economic environmental program priorities and strategic vision entitled *Toward a Clean Energy Future: A Strategic Outlook 2022-2025*, submitted to the Members for consideration at this meeting with such non-substantive, editorial changes and supplementary schedules as the President, in her discretion, may deem necessary or appropriate, is recommended to be adopted and approved by the Board as the Authority's updated Strategic Outlook.

New York’s Regional Greenhouse Gas Initiative Operating Plan Amendment for 2022

Background

In New York, responsibility for implementing the Regional Greenhouse Gas Initiative (RGGI) is shared by the Department of Environmental Conservation (DEC) and the New York State Energy Research and Development Authority (NYSERDA). DEC and NYSERDA program responsibilities are contained in coordinated regulations:

- DEC established New York's CO2 Budget Trading Program and the State’s share of the total regional cap through a rule (6 NYCRR Part 242) and revisions to an existing rule (6 NYCRR Part 200, General Provisions). Part 242 establishes the cap-and-trade provisions, as well as program compliance responsibilities and other program aspects.
- NYSERDA set up the CO2 Allowance Auction Program through regulations (21 NYCRR Part 507). Part 507 establishes administrative procedures for the auction process and provides that proceeds from the sale of the allowances will fund projects and programs for “energy efficiency, renewable or non-carbon emitting technologies, and innovative carbon emissions abatement technologies with significant carbon reduction potential, and for reasonable administrative costs incurred by the Authority.”

The NYSERDA regulations include a provision to annually convene a group of stakeholders representing a broad array of energy and environmental interests. This group advises NYSERDA regarding strategies to best utilize RGGI funds. NYSERDA’s RGGI Operating Plan is reviewed and revised on an annual basis. NYSERDA holds an open meeting of the stakeholder group each year, inviting input on how to achieve greater scale of implementation, advance activities that realize benefits in disadvantaged communities, expand private investments and partnerships, and address barriers to program success.

The Draft 2021 Operating Plan Amendment was presented to stakeholders for comment in December 2020 and was approved by NYSERDA's Board in January 2021. The 2021 Operating Plan was then compiled based on the NYSERDA Board approval.

This document represents the 2022 Operating Plan Amendment and provides program descriptions and funding levels through March 2025. Appendix 1 provides an analysis of the revenues and program funding allocations planned for the fiscal years ending March 31st, as compared to actual/projected results.

Review of Programs and Budgets for the 2022 Operating Plan

New York State invests RGGI proceeds to support comprehensive strategies that best achieve the RGGI greenhouse gas emissions reduction goals, through energy efficiency, renewable energy, and carbon abatement strategies, pursuant to 21 NYCRR Part 507. The programs in the portfolio of initiatives are designed to support the pursuit of the State’s greenhouse gas emissions reduction goals by:

- Deploying commercially available energy efficiency and renewable energy technologies;
- Building the State’s capacity for long-term carbon reduction;
- Empowering New York communities to reduce carbon pollution, and transition to cleaner energy;
- Stimulating entrepreneurship and growth of clean energy and carbon abatement companies in New York; and
- Creating innovative financing to increase adoption of clean energy and carbon abatement in the State.

The initiatives described below represent program activity proposed for the 2022 Operating Plan. The 2022 Operating Plan portfolio builds on the 2021 portfolio, with an increased focus on disadvantaged communities. The funding level for each program previously approved and the amounts planned for FY22-23 through FY24-25 are reflected in Table 1 on page 9.

RGGI programs have and will continue, alongside other state programs, to contribute to economy-wide greenhouse gas emissions reductions and provide benefits to New York’s historically overburdened and underserved communities. NYSERDA’s CO₂ Allowance Auction Program regulations reflect the provision of the Climate Leadership and Community Protection Act “that 40%, and no less than 35%, of the overall benefits from the investment of the [CO₂ Allowance Auctions] proceeds” will be realized in disadvantaged communities. Appendix 2 of this Operating Plan amendment provides an estimation of how RGGI program commitments are anticipated to result in benefits for disadvantaged communities based on an interim definition of disadvantaged communities and low-to-moderate-income investments, as the Climate Justice Working Group continues its work to arrive at a long-term definition. As such, Appendix 2 tracks post-2019 cumulative commitments, as this is the timeframe in which benefits are subject to the Climate Act. NYSERDA estimates that 42% of post-2019 commitments are expected to provide benefits to disadvantaged communities.

The funding allocation values represented in Table 1 provide an estimate of when funds will be assigned to each program. These figures do not reflect when funds will be spent or when contracts will be signed. The table also reflects cumulative funding allocations through FY20-21, original and revised funding allocations for FY21-22, and estimated allocations for FY22-23 through FY24-25.

Multi-year programs that have remaining funds available for program expenditures but are not receiving additional funding under this Plan Amendment are not described below. Those programs will continue with the planned expenditure of their previously allocated funding as outlined in the 2021 RGGI Operating Plan.

For all RGGI-funded activities, NYSERDA will provide timely progress reports utilizing best practice protocols for project tracking and evaluation.

Program Descriptions

Residential PV Plus Storage

The Amendment proposes \$9 million in FY23-25 to provide incentives to new and existing residential solar projects coupled with new energy storage. This program would allocate \$3 million to Long Island and \$6 million targeting the rest of the state. The program is expected to deliver 2,000 - 3,000 residential storage systems over more than two years, totaling around 10 megawatts (MW) of storage. Similar to the current offering on Long Island, the rest of state engagement is anticipated to leverage utilities by region. These storage projects will provide renewable resource integration, peak power support to the utility (e.g., virtual power plants, dynamic load management, other), with resiliency and clean power to homeowners.

Community Heat Pump Systems

Heat pump technology has become a proven decarbonization solution, providing buildings with clean thermal energy for space heating, cooling and domestic hot water. Existing heat pump programs to-date have targeted customers on an individual building-by-building basis, but community heat pump systems use a network of pipes to share heating water

among a cluster of buildings. The Amendment proposes \$9.7 million in FY23-25 to implement community heat pump systems as part of a statewide program. This program will also provide support for systems in state and local government facilities, as well as Affordable Housing Developments. A community-based program will develop the infrastructure for larger-scale distribution and accelerate the deployment of heat pump systems across the state.

LIPA Energy Efficiency and Renewable Energy

These funds enhance the portfolio of clean energy activities for energy consumers on Long Island, as approved by the Long Island Power Authority (LIPA) and administered by PSEG-Long Island. Funding and reporting requirements are established through a Memorandum of Understanding between NYSERDA and LIPA, which ensure that RGGI funds meet the requirements of the RGGI regulations that funds are used to support energy efficiency and clean energy activities, as well as advancing the goal of benefits of investments in disadvantaged communities. For this 3-year budget proposal, this operating plan amendment proposes to repurpose \$40 million in previously approved funds for energy storage projects on Long Island. LIPA has agreed to procure 200 megawatts of bulk storage or non-wires alternatives storage, allowing funds originally allocated for storage incentives on Long Island to be repurposed to support continuation of funding for LIPA's energy efficiency program. NYSERDA is working with LIPA to maintain the level of market activity designed with the previous RGGI allocations. With this funding re-allocation, as well as additional funds, the Operating Plan is proposed to maintain support for LIPA-implemented energy efficiency and clean energy activity in the amount of \$20 million each year for the calendar years 2022-2024. The LIPA Board of Trustees approves an annual energy efficiency program plan, which details the activities that these funds will support.

EmPower Plus: Decarbonizing Buildings for Low- and Moderate-Income Households

To maintain statewide access to fuel neutral, whole buildings energy efficiency opportunities, these funds will maintain support for low-to-moderate-income (LMI) customers of municipal utilities and/or customers using delivered fuel, which cannot be funded through the Clean Energy Fund, to access incentives through EmPower or Assisted Home Performance with ENERGY STAR, comprehensive energy efficiency services programs for income-qualified residents in existing one-to-four family homes. An additional \$8 million in proposed funding over FY22-25 will fund high-efficiency electrification upgrades for low- and moderate- income municipal utility customers using electric resistance heating or delivered fuels.

Disadvantaged Communities Schools and Buildings

The Amendment proposes an additional \$12 million through FY24-25 to fund high-performance energy efficiency and electrification in affordable housing. NYSERDA has partnerships in place with NYS Homes and Community Renewal (HCR), NYC Housing Preservation and Development (HPD) and the New York City Housing Authority (NYCHA) and seeks to continue supporting decarbonization projects with these agencies. In particular, this funding will allow HCR-regulated affordable housing located in non-SBC territories, including municipal electric territory or Long Island, to access building decarbonization grant funding as part of HCR's financing processes and 2) provide training, technical assistance, and strategic planning resources to support NYC HPD's development of a long-term portfolio-wide decarbonization strategy. Additionally, this initiative will support work with public housing authorities, like NYCHA, to decarbonize building with an emphasis on advancing packaged heat pump systems to develop clean heat for all.

Also, the Clean Green Schools Initiative will provide low-carbon solutions for schools located within disadvantaged communities. The Amendment proposes \$5 million of the \$12 million expansion over the three-year plan to invest in K-12 STEM, workforce activities, hands-on training, and technical training scholarships for students within disadvantaged communities. This program will meaningfully increase the number of students from within DAC schools who are trained on clean energy solutions, have on the job training and internships with companies, have scholarships for additional education including vocational training, and create family-sustaining jobs within the clean energy workforce.

ChargeNY

ChargeNY has been pursuing three strategies to promote plug-in electric vehicle (PEV) adoption by consumers across New York. First, NYSERDA implemented the Drive Clean rebate program for PEVs in March 2017, accelerating purchases of PEVs by reducing higher upfront costs. Second, NYSERDA will continue to invest in marketing and awareness-building activities to build interest in PEVs among the public. A focus on building greater public knowledge and awareness of the capabilities of PEVs is essential to spur more private investment in PEV purchases and PEV charging stations. This work may also include other market development activities, such as policy and business model development studies that support new ways for critical stakeholders, such as utilities, local governments, and car dealers, to get involved in the PEV market. Third, NYSERDA will also support the installation of PEV charging stations at workplaces, municipal lots, and multi-family buildings – location types that have been seen to be effective drivers for PEV adoption based on usage data reported from previous installations. Regions of the State that have seen faster PEV adoption will be identified for additional charging station support, which ensures investments in infrastructure support areas with the greatest potential for additional PEV drivers. This Operating Plan Amendment proposes to provide additional funding of \$35 million from FY22-23 through FY24-25 to support continuation of current and additional ChargeNY strategies to ensure effective engagement with the market to build scale and ensure a focus on a just transition into future years.

Natural Carbon Solutions

Achieving a net-zero carbon economy will require reducing emissions across all sectors. The agriculture and forestry sectors are looked upon to contribute carbon sequestration (i.e., negative emissions) as well as emissions reductions. The amendment proposes \$7 million over FY22-25 to catalyze technology and business solutions and lay the foundation for an economically self-sustaining bio-economy in New York State. By establishing a marketplace of natural emissions-lowering solutions the program will demonstrate pathways to support disadvantaged rural communities, economic development, existing agriculture, and forestry industries, while increasing jobs and revenue.

Equity and Climate Transformation Research

The amendment proposes an allocation of \$2 million over FY22-25 to establish an Equity and Climate Transformation Research Program. While the techno-economic pathways for decarbonization have been mapped out in the literature and in analysis for the Climate Action Council, less is known about the social and institutional dimensions of this deep and rapid transformation. This program would establish an engaged, participatory research framework to study the social dimensions of an equitable and inclusive transition in a manner that centers the lived experiences of underserved and overburdened communities and prioritizes beneficial outcomes for disadvantaged communities. This initial funding would provide the investment necessary to develop both formal proposals for long-term funding as well as pilot initiatives. These pilot initiatives would aim to 1) test initial research hypotheses, 2) engage with a diverse set of

NYS communities to understand how they would most benefit from this research and how they can be most effectively engaged in the process and 3) convene academics. The creation of an Equity and Climate Transformation Research Agenda would support scientifically rigorous inquiry that also advances transformative, inclusive solutions to climate action challenges in New York State. The work would inform strategies for effective climate awareness and consumer education initiatives.

Climate Mitigation and Resilience Research

The proposed allocation of \$1.5 million over FY22-24 seeks to support additional work done by the Climate Action Council Integration Analysis team and leverage current research investment to expand on energy and environmental analyses. This would include additional sensitivity analyses on land-use and climate change impact scenarios. This research would map out the risks and vulnerabilities related to climate change impacts for both the business-as-usual energy system and the carbon neutral energy system.

Healthy New Home Design & Construction Challenge

The Amendment proposes a \$7 million investment to go towards creating a healthy home builder and developer network to get builders to design and offer carbon neutral homes. Funding will also be used to run a healthy Neighborhood Design Challenge to support all electric sub-divisions and planned communities, as well as promote the benefits of healthy homes. Through this program, we can accelerate the pivot to decarbonization of residential new construction and build market capability across (i.e., focus on Long Island area to complement existing activities already using Clean Energy Funds elsewhere in the state), which will support requiring decarbonized new construction via code and regulations on an accelerated 5-year track.

Workforce Development Talent Pipeline & Priority Population

The proposed allocation of \$8 million over the three-year plan focusing on the workforce development talent pipeline and priority populations. Specifically, to expand access to NYSERDA's On-the-Job Training program, will provide wage subsidies to businesses that hire new workers in clean energy positions and career pathways training to prepare new and incumbent workers for clean energy jobs. All activities will have a focus on priority populations and disadvantaged communities.

Clean Energy Hubs: Community and Stakeholder Engagement

NYSERDA will continue building local capacity within disadvantaged communities and improve stakeholder engagement through this Amendment, which proposes \$10 million in additional funding from FY22-23 through FY24-25 to increase engagement of residents and communities in New York City, support the participation of community-based and advocacy organizations in stakeholder meetings, and supporting local projects. This will leverage the more than \$4 million for Clean Energy Hubs supported by the Clean Energy Fund. In 2022, NYSERDA will launch a network of Community Energy Hubs, which will build on the success of the Community Energy Engagement Program, wherein community and locally-based organizations across New York State provided outreach and education services to help low-income residents and small businesses make informed energy choices and access incentives and other resources to implement clean energy projects. The Hubs will be designed to enhance community-level engagement and capacity building by supporting clean energy concierge services. These services will be provided to

residents, small businesses, nonprofits, and multifamily building owners in disadvantaged and underserved communities to increase awareness and adoption of clean energy programs and solutions, with the focus of creating a more inclusive clean energy economy.

In addition, NYSERDA will help to increase the capacity of organizations to advance clean energy projects at the local level. NYSERDA will advance a pilot effort to increase the potential for community-based organizations to plan for and develop community-scale clean energy projects that can benefit disadvantaged communities with capacity development grants. Funds allocated in this operating plan will allow for statewide activities alongside efforts supported through the Clean Energy Fund.

NYSERDA will also seek to improve the ability for community-based organizations to actively participate, and formalize the process, for stakeholder engagement. Many local organizations often lack the resources and capacity to effectively engage on policy and initiative development, often excluding perspectives from their communities and constituents from the planning process. To ensure that community-based organizations have the resources to engage in stakeholder meetings and public comment processes, NYSERDA will allocate resources to provide stipends to offset the cost of participation as part of a pilot initiative to identify solutions for improving and increasing stakeholder engagement.

Climate Action Consumer Awareness & Education

The amendment proposes \$10 million over three years to increase awareness and understanding of the critical need for and benefits of climate action in New York State. This investment will include an umbrella campaign to encourage broad engagement that is coordinated with a targeted marketing effort to impact the purchase decisions and actions that are needed to reach the State's goals. The targeted effort will address specific barriers across critical sectors and encourage adoption of new technologies that will improve quality of life and help decarbonize our buildings and economy.

Community Air Monitoring

The amendment proposes \$8 million to support a program for community air monitoring. The statewide initiative will be designed to monitor air quality in 10 disadvantaged communities, home to approximately five million New Yorkers living in areas historically overburdened by environmental pollution. Using cloud-based software coupled with air monitoring technology, this initiative will be a first-of-its-kind effort to measure hyperlocal, community-based air pollution levels. The initiative will collect this hyperlocal data to inform solutions to reduce greenhouse gases and other harmful air pollutants.

Clean Energy Fund

Through the Clean Energy Fund (CEF) and its portfolios, NYSERDA is advancing the goals of the Climate Leadership and Community Protection Act (Climate Act). As approved by the Commission, the CEF delivers on its primary goals to reduce greenhouse gas emissions, increase renewable energy generation, increase energy efficiency, and attract greater private investment in clean energy, with investment portfolios that are designed to achieve scale in clean energy markets. These key CEF objectives dovetail with the RGGI investment parameters, creating a unique opportunity to leverage CEF and RGGI funds to help achieve New York's broader Climate Act and clean energy

objectives. In designing the CEF, NYSERDA planned to dedicate \$250 million in RGGI funds to the CEF portfolio over 10 years, supporting the \$3.42 billion Market Development and Innovation and Research activities.

In keeping with this plan, while accounting for new revenue and commitment projections, NYSERDA will allocate to the CEF \$34 million in FY21-22 and \$22 million annually through FY24-25.

Green Jobs-Green New York

The Green Jobs-Green New York (GJGNY) Program, created under the Green Jobs-Green New York Act of 2009, provides New Yorkers with access to energy assessments, installation services, low interest financing, and pathways to training for various green-collar careers. The GJGNY program was originally funded with \$112 million of RGGI funds, of which \$26 million was allocated to a residential revolving loan fund to provide low interest financing for residential energy efficiency improvements, residential solar photovoltaic (PV) systems (effective April 2014), solar thermal systems, and high efficiency pellet stove heating systems through NYSERDA's Renewable Heat NY program. Interest rate changes reviewed with the GJGNY Advisory Council and effectuated in September 2016 are resulting in a reduced level of RGGI funds required to support the financing and refinancing of GJGNY loans.

In June of 2020, as part of our pandemic economic stimulus portfolio, NYSERDA launched a 0% financing loan initiative available for up to 12 months or until \$20 million in loans were approved. Demand far exceeded estimates after only 15 days. Most of these loans were issued in FY20-21 and funded from the revolving loan fund (resulting in an increase in the funding allocation required for the program for FY20-21). Loan participation sales partially reimbursed the funding in FY21-22. The Amendment proposes RGGI funding totaling approximately \$48 million from FY22-23 through FY24-25 (an average of approximately \$16 million per year) for continuation of GJGNY residential financing, including making 3.49% 15-year unsecured financing available to consumers living in federal census block groups where more than 50 percent of households have household income less than 120% of area median income (and allowing consumers living outside of these communities to qualify for this rate if they meet this income threshold), and also offering access to financing for consumers who may not qualify for traditional unsecured loan underwriting criteria and meet NYSERDA's "Tier 2" underwriting criteria.

Transfer to State – Clean Energy Tax Credits

The New York State Budget for FY21-22 directed NYSERDA to transfer \$23 million in RGGI funds to the State General Fund to support clean energy tax credits. For the purpose of developing this proposed Operating Plan Amendment, NYSERDA assumes that the annual State Budget for FY22-23 through FY24-25 will include similar directives and has therefore allocated \$69 million in funding for such transfers for FY22-23 through FY24-25.

Transfer to State – Environmental Protection Fund

The New York State Budget for FY21-22 directed NYSERDA to transfer \$5 million in RGGI funds to the Environmental Protection Fund (EPF). This operating plan assumes annual funding to support EPF programs that advance New York's leadership in reducing greenhouse gas emissions such as Climate Smart Communities, Smart Growth, and Greenhouse Gas Management.

Anticipated Future Funding Allocations

The projected revenues and program funding allocations are presented below in Table 1. Additionally, the table presents program administration and evaluation costs, ongoing RGGI, Inc. costs, State Cost Recovery Fees, and other factors. The table below presents an increase in program administration funding, which reflect the projected increased need to support additional activities anticipated due to new program activity. As noted, program funding allocations are equal to projected revenues on an annual basis.

Funding Assumptions

This Amendment assumes that future auction proceeds are based on an auction allowance price of \$8.00 that is sustained through the end of the planning period. Relatedly, the revised auction allowance for FY21-22 is \$8.32, which is an average of the results of the two RGGI auctions already conducted this fiscal year and the \$8.00 per allowance estimate that is conservatively used going forward, based on a lookback average of the past five auctions, increased by a modest inflationary factor of 2.5% per year.

Opportunities for Other Allocations

New York has some of the most ambitious clean energy and decarbonization policies in the country, and NYSERDA has planned several initiatives and programmatic activities that are commensurate with the goals put forward in those policies.

In the event that future auction proceeds exceed the budgets presented in Table 1, NYSERDA intends to allocate additional funding to the program “Community Heat Pump Systems” presented on page 2, and also for New York City Retail Storage to establish a retail storage incentive block for New York City.

Funding for NYC Retail Storage will target supporting approximately 70 to 100 MW of storage in New York City, equivalent to a full power plant. The market for retail storage in NYC shows demand remaining from previous incentive blocks and the economics of the projects show that support is still needed to bridge the gap between current system costs and a self-sustaining market. The incentives would buy down the cost to purchase and install storage systems of up to 5MW that will participate under the VDER tariff and continue the growth of an important storage market in the State, particularly with regard to system benefits.

Another funding opportunity is to support targeted low-cost financing for Disadvantaged Communities to match potential Federal Funds that may be available. This financing will stimulate energy efficiency and renewable energy upgrades to New York Residences by providing low-cost capital for residential customers. It is intentionally structured to provide low-cost loans helping low-to-moderate income households in historically underserved areas convert to cleaner, healthier heating and electrical systems.

Lastly, additional proceeds can also be allocated to emerging or expanding program focused on serving consumers in disadvantaged communities.

Table 1: Revenues and Program Funding Allocations

Category	Program	Cumulative					Total
		FY20-21	FY21-22	FY22-23	FY23-24	FY24-25	
Proceeds	Number of allowances	412,511,868	21,502,096	20,924,243	20,043,750	19,163,257	494,145,213
	Allowance price	\$3.51	\$8.32	\$8.00	\$8.00	\$8.00	\$4.26
	RGGI Auction Proceeds	1,446,909,689	178,881,539	167,393,942	160,349,998	153,306,054	2,106,841,222
	Interest Earnings	18,156,696	217,000	237,000	224,000	199,000	19,033,696
	Total Revenues	1,465,066,385	179,098,539	167,630,942	160,573,998	153,505,054	2,125,874,918
Renewable Energy	NY SUN NYPA Customer Incentives	26,000,000	3,000,000	1,000,000			30,000,000
	NY SUN Community Solar/K-solar	7,500,000	-	-			7,500,000
	NY SUN Long Island incentives	55,000,000	-	-			55,000,000
	Residential PV Plus Storage	-			6,000,000	3,000,000	9,000,000
	Renewable Heat NY	10,300,083	-	-			10,300,083
	Community Heat Pump Systems	-			5,000,000	4,700,000	9,700,000
	Advanced Renewable Energy	2,837,698	-	-			2,837,698
	NYS Generation Attributes Tracking System	789,933	-	-			789,933
NYSERDA PV incentives	5,319,821	-	-			5,319,821	
Energy Efficiency	Clean Energy Workforce Opportunity Program	15,000,000	-	-			15,000,000
	LIPA Efficiency and RE	229,600,000	20,000,000	20,000,000	20,000,000	20,000,000	309,600,000
	Energy Storage (LIPA territory)	12,926,434					12,926,434
	EmPower Plus	53,975,905	1,500,000	3,000,000	3,000,000	3,000,000	64,475,905
	Pilot Projects with Municipal Utilities	-	1,000,000	1,000,000	1,000,000		3,000,000
	Disadvantaged Communities Schools/Buildings	-	13,000,000	12,600,000	17,300,000	6,500,000	49,400,000
	Multifamily Performance Program	15,046,683	-	-			15,046,683
	Multifamily Carbon Emissions Reduction	5,833,019	-	-			5,833,019
	Solar Thermal incentive	4,226,947	-	-			4,226,947
	Municipal Water/Wastewater	1,245,242	-	-			1,245,242
Green Residential Buildings	2,744,601	-	-			2,744,601	
Innovative GHG Abatement Strategies	Southern Tier Competition (76 West)	11,000,000	-	-			11,000,000
	Brookhaven National Lab- ION Collidor	25,000,000					25,000,000
	Electric Vehicle/Charge NY	23,500,000	21,500,000	42,400,000	8,000,000	15,900,000	111,300,000
	Advanced Buildings & Industrial Innovations	13,307,654	-	-			13,307,654
	Climate Research & Analysis	8,729,296	-	-			8,729,296
	Competitive GHG Reduction Pilot	972,650	-	-			972,650
	Clean Energy Business Development	5,809,987	-	-			5,809,987
	Transportation Research	3,819,311	-	-			3,819,311
	Natural Carbon Solutions	-	-	2,000,000	3,000,000	2,000,000	7,000,000
	Equity and Climate Transformation Research	-	-		1,000,000	1,000,000	2,000,000
	Climate Mitigation and Resilience Research	-	-	500,000	1,000,000		1,500,000
	PV Manufacturing consortium	8,480,000	-	-			8,480,000
Carbon Sequestration	1,000,000	-	-			1,000,000	
Community Clean Energy	Cleaner Greener Communities	94,261,895					94,261,895
	Clean Energy Communities	4,273,120	3,000,000	3,000,000	3,000,000	3,000,000	16,273,120
	Climate Smart Communities	7,674,999					7,674,999
	Community Energy Engagement	1,400,000	1,000,000	1,000,000	1,000,000		4,400,000
	Economic Development Growth Extension	5,843,047					5,843,047
	Energy to Lead	3,000,000	-				3,000,000
	Renewable/Net-Zero Energy Demonstrations	6,000,000	1,000,000	500,000	-		7,500,000
	Healthy New Homes Design & Construction Challenge	-		1,000,000	3,000,000	3,000,000	7,000,000
	Workforce Development Talent Pipeline Priority Population	-	2,000,000	2,000,000	11,000,000	4,000,000	19,000,000
	Clean Energy Hubs	-		3,000,000	3,000,000	4,000,000	10,000,000
	Climate Action Consumer Awareness & Education	-		500,000	5,000,000	4,500,000	10,000,000
	Air Monitoring	-	2,000,000	6,000,000			8,000,000
	Regional Economic Development & GHG Reduction	10,246,443	-	-			10,246,443
Directed	NYS Environmental Tax Credits	156,000,000	23,000,000	23,000,000	23,000,000	23,000,000	248,000,000
	NYS Environmental Protection Fund	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	25,000,000
	Electric Generation Facility Cessation Mitigation/ Just Transition	50,000,000	-	-	-		50,000,000
	Green Jobs-Green NY- Original Legislation	112,000,000	-	-	-		112,000,000
	Green Jobs-Green NY- Additional Funding	142,725,275	12,000,000	29,936,974	4,370,498	14,071,993	203,104,740
	Transfer to Clean Energy Standard	719,424					719,424
	NYS Budget Transfer	90,000,000	-	-	-		90,000,000
	NYS Temporary Budget Transfer		-	-	-		-
CEF	Transfer to(from) Clean Energy Fund	130,437,540	33,789,264	22,000,000	22,000,000	22,000,000	230,226,804
Administration and Other Non-Program Costs	Program Administration	39,596,359	7,500,000	11,475,000	11,475,000	11,475,000	81,521,359
	Program Evaluation	9,155,429		1,000,000	1,000,000	1,000,000	12,155,429
	Commensurate Benefit/Litigation reserve	21,900,366	-	-	-		21,900,366
	RGGI Inc Startup Costs	1,598,204	-	-	-		1,598,204
	RGGI Inc pro-rata costs	9,183,667	825,000	825,000	825,000	825,000	12,483,667
	State Cost Recovery	14,085,353	1,204,304	1,673,939	1,603,500	1,533,061	20,100,157
Total Funding Allocations		1,465,066,385	152,318,568	194,410,913	160,573,998	153,505,054	2,125,874,918
Surplus/(Shortfall)		-	26,779,971	(26,779,971)	-	-	-
Cumulative Surplus(Shortfall)		-	26,779,971	-	-	-	-

Highlighted programs indicate newly funded programs or a dditional funding to existing programs

Table 2: RGGI Cash Flow

Category		Cumulative 3/31/21	FY21-22	FY22-23	FY23-24	FY24-25	Thereafter
Proceeds	Number of allowances	412,511,868	21,502,096	20,924,243	20,043,750	19,163,257	
	Allowance price	\$3.51	\$8.32	\$8.00	\$8.00	\$8.00	
	RGGI Auction Proceeds	1,446,909,689	178,881,539	167,393,942	160,349,998	153,306,054	
	Interest Earnings	18,156,697	217,000	237,000	224,000	199,000	
	Total Revenues	1,465,066,385	179,098,539	167,630,942	160,573,998	153,505,054	
Renewable Energy	NY SUN NYPA Customer Incentives	4,072,420	3,000,000	8,000,000	8,000,000	3,500,000	3,427,580
	NY SUN Community Solar/K-solar	1,209,292	200,000	1,200,000	1,200,000	1,200,000	2,490,708
	NY SUN Long Island incentives	47,611,962	500,000	3,500,000	3,388,038	-	-
	Residential PV Plus Storage	-	-	-	1,000,000	3,000,000	5,000,000
	Renewable Heat NY	9,317,387	434,536	363,910	184,250	-	-
	Community Heat Pump Systems	-	-	-	1,000,000	3,000,000	5,700,000
	Advanced Renewable Energy	2,837,698	-	-	-	-	-
	NYS Generation Attributes Tracking System	585,409	102,262	102,262	-	-	-
	NYSEERDA PV incentives	5,319,821	-	-	-	-	-
Energy Efficiency	Clean Energy Workforce Opportunity Program	15,000,000	-	-	-	-	-
	LIPA Efficiency and RE	229,600,000	20,000,000	20,000,000	20,000,000	20,000,000	-
	Energy Storage (LIPA territory)	1,178,825	1,417,061	1,500,000	2,500,000	3,000,000	3,330,548
	EmPower Plus	53,530,393	1,500,000	1,500,000	2,500,000	2,000,000	3,445,512
	Pilot Projects with Municipal Utilities	-	-	1,000,000	1,000,000	1,000,000	-
	Disadvantaged Communities Schools/Buildings	-	50,000	3,040,000	6,360,000	13,130,000	26,820,000
	Multifamily Performance Program	14,711,711	162,752	172,220	-	-	-
	Multifamily Carbon Emissions Reduction	5,833,019	-	-	-	-	-
	Solar Thermal incentive	4,226,947	-	-	-	-	-
	Municipal Water/Wastewater	1,245,242	-	-	-	-	-
Green Residential Buildings	2,744,601	-	-	-	-	-	
Innovative GHG Abatement Strategies	Southern Tier Competition (76 West)	10,223,649	444,830	331,521	-	-	-
	Brookhaven National Lab- ION Collidor	24,999,638	362	-	-	-	-
	Electric Vehicle/Charge NY	22,503,073	22,878,755	21,000,000	21,000,000	21,000,000	2,918,172
	Advanced Buildings & Industrial Innovations	10,854,772	500,000	1,000,000	500,000	452,882	-
	Climate Research & Analysis	8,618,850	41,516	68,930	-	-	-
	Competitive GHG Reduction Pilot	972,650	-	-	-	-	-
	Clean Energy Business Development	5,625,889	-	184,098	-	-	-
	Transportation Research	3,773,206	46,105	-	-	-	-
	Natural Carbon Solutions	-	-	1,000,000	1,000,000	1,000,000	4,000,000
	Equity and Climate Transformation Research	-	-	-	200,000	400,000	1,400,000
	Climate Mitigation and Resilience Research	-	-	300,000	700,000	500,000	-
	PV Manufacturing consortium	8,480,000	-	-	-	-	-
	Carbon Sequestration	1,000,000	-	-	-	-	-
Community Clean Energy	Cleaner Greener Communities	72,584,734	2,447,830	3,710,503	7,579,029	7,761,693	178,106
	Clean Energy Communities	1,505,713	500,000	775,000	1,750,000	2,200,000	9,542,407
	Climate Smart Communities	5,003,147	500,000	768,212	644,808	529,586	229,246
	Community Energy Engagement	515,755	516,162	976,165	597,979	597,979	1,195,960
	Economic Development Growth Extension	5,562,723	-	280,324	-	-	-
	Energy to Lead	699,049	389,391	500,000	500,000	500,000	411,560
	Renewable/Net-Zero Energy Demonstrations	3,000,000	2,000,000	250,000	1,250,000	1,000,000	-
	Healthy New Homes Design & Construction Challenge	-	-	500,000	1,000,000	3,000,000	2,500,000
	Workforce Development Talent Pipeline Priority Population	-	55,868	3,029,000	4,328,000	6,058,000	5,529,132
	Clean Energy Hubs	-	-	3,000,000	3,000,000	3,000,000	1,000,000
	Climate Action Consumer Awareness & Education	-	-	500,000	3,500,000	3,000,000	3,000,000
	Air Monitoring	-	2,000,000	6,000,000	-	-	-
	Regional Economic Development & GHG Reduction	9,807,611	238,832	200,000	-	-	-
Directed	NYS Environmental Tax Credits	156,000,000	23,000,000	23,000,000	23,000,000	23,000,000	-
	NYS Environmental Protection Fund	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	-
	Electric Generation Facility Cessation Mitigation	45,000,000	2,500,000	2,500,000	-	-	-
	Green Jobs-Green NY- Original Legislation	112,000,000	-	-	-	-	-
	Green Jobs-Green NY- Additional Funding	142,725,275	12,000,000	29,936,974	4,370,498	14,071,993	-
	Transfer to Clean Energy Standard	719,424	-	-	-	-	-
	NYS Budget Transfer	90,000,000	-	-	-	-	-
	NYS Temporary Budget Transfer	5,012,649	(166,000)	(859,581)	(3,306,082)	(680,986)	-
CEF	Transfer to Clean Energy Fund	130,437,540	33,789,264	22,000,000	22,000,000	22,000,000	-
	Transfer to NY Green Bank	-	-	-	-	-	-
Administration and Other Non-Program Costs	Program Administration	39,380,934	7,715,425	11,475,000	11,475,000	11,475,000	-
	Program Evaluation	6,162,155	300,000	500,000	1,000,000	1,000,000	3,193,274
	Commensurate Benefit/Litigation reserve	21,900,366	-	-	-	-	-
	RGGI Inc Startup Costs	1,598,204	-	-	-	-	-
	RGGI Inc pro-rata costs	8,644,798	825,000	825,000	825,000	825,000	538,869
	State Cost Recovery	13,840,970	1,050,816	1,355,533	1,439,478	1,504,559	908,801
Total Expenses		1,373,177,501	145,940,767	180,485,070	160,485,998	179,025,707	86,759,875
Cash Increase/(Decrease)		91,888,884	33,157,772	(12,854,128)	88,000	(25,520,653)	(86,759,875)
Cash Balance		91,888,884	125,046,656	112,192,528	112,280,528	86,759,876	0

Highlighted programs indicate newly funded programs or additional funding to existing programs

Appendix 1

January 2021 Operating Plan Revenues and Program Funding Allocations Compared to Actuals/Projections

Category	Program	FY20-21 Revised Plan	FY20-21 Actual
Proceeds	Number of allowances	20,308,920	20,323,443
	Allowance price	\$6.70	\$6.92
	RGGI Auction Proceeds	136,141,216	140,560,177
	Interest Earnings	199,000	235,000
	Total Revenues	136,340,216	140,795,177
Renewable Energy	NY SUN NYPA Customer Incentives	6,000,000	6,000,000
	NY SUN Community Solar/K-solar	-	-
	NY SUN Long Island incentives	-	-
	Renewable Heat NY	-	-
	Advanced Renewable Energy	-	-
	NYS Generation Attributes Tracking System	-	-
	NYSERDA PV incentives	-	-
Energy Efficiency	Clean Energy Workforce Opportunity Program	-	-
	LIPA Efficiency and RE	25,000,000	25,000,000
	Energy Storage (LIPA territory)	(40,000,000)	(40,000,000)
	EmPower NY	200,000	300,000
	Assisted Home Performance with Energy Star	300,000	200,000
	Multifamily Performance Program	(115,633)	(115,633)
	Multifamily Carbon Emissions Reduction	-	-
	Solar Thermal incentive	(115,730)	(115,730)
	Municipal Water/Wastewater	-	-
Green Residential Buildings	-	-	
Innovative GHG Abatement Strategies	Southern Tier Competition (76 West)	-	-
	Brookhaven National Lab- ION Collider	-	-
	Electric Vehicle/Charge NY	-	-
	Advanced Buildings & Industrial Innovations	(1,308,384)	(1,308,384)
	Climate Research & Analysis	(84)	(84)
	Competitive GHG Reduction Pilot	(40,883)	(40,883)
	Clean Energy Business Development	-	-
	Transportation Research	-	-
	PV Manufacturing consortium	(20,000)	(20,000)
Carbon Sequestration	-	-	
Community Clean Energy	Cleaner Greener Communities	-	-
	Clean Energy Communities	-	-
	Climate Smart Communities	-	-
	Community Energy Engagement	-	-
	Economic Development Growth Extension	-	-
	Energy to Lead	-	-
	Renewable/Net-Zero Energy Demonstrations	-	-
	Regional Economic Development & GHG Reduction	(43,502)	(43,502)
Directed	NYS Environmental Tax Credits	23,000,000	23,000,000
	NYS Environmental Protection Fund	5,000,000	5,000,000
	Electric Generation Facility Cessation Mitigation/ Just Transition	20,000,000	20,000,000
	Green Jobs-Green NY- Original Legislation	-	-
	Green Jobs-Green NY- Additional Funding	37,700,000	37,700,000
	Transfer to Clean Energy Standard	-	-
	NYS Budget Transfer	-	-
CEF	Transfer to(from) Clean Energy Fund	52,338,026	56,646,608
Administration and Other Non-Program Costs	Program Administration	6,500,000	6,500,000
	Program Evaluation	-	-
	Commensurate Benefit/Litigation reserve	-	-
	RGGI Inc Startup Costs	-	-
	RGGI Inc pro-rata costs	825,000	825,000
	State Cost Recovery	1,121,406	1,267,785
Total Funding Allocations		136,340,216	140,795,177
Surplus/(Shortfall)		-	-
Cumulative Surplus(Shortfall)		-	-

Appendix 2

RGGI Commitments Benefiting Disadvantaged Communities

RGGI Commitments		Cumulative Commitments 12/31/19	SUBJECT TO CLCPA			Total	
Category	Program		Post-2019 Commitments	Estimated LMI/ Disadvantaged Community Benefit	%		
SUBJECT TO CLCPA	Renewable Energy	NY SUN NYPA Customer Incentives	20,293,954	7,102,884	35%	30,000,000	
		NY SUN Community Solar/K-solar	1,249,272	6,250,728	-	0%	7,500,000
		NY SUN Long Island incentives	51,200,565	3,799,435	-	0%	55,000,000
		Residential PV Plus Storage	-	9,000,000	3,600,000	40%	9,000,000
		Renewable Heat NY	9,634,826	665,257	-	0%	10,300,083
		Community Heat Pump Systems	-	9,700,000	6,402,000	66%	9,700,000
		Advanced Renewable Energy	2,837,698	-	-	0%	2,837,698
		NYS Generation Attributes Tracking System	789,933	-	-	0%	789,933
		NYSEDA PV incentives	5,319,821	-	-	0%	5,319,821
	Energy Efficiency	Clean Energy Workforce Opportunity Program	15,000,000	-	-	0%	15,000,000
		LIPA Efficiency and RE	204,600,000	105,000,000	31,500,000	30%	309,600,000
		Energy Storage (LIPA territory)	301,575	12,624,859	-	0%	12,926,434
		EmPower Plus	52,857,971	11,617,934	11,617,934	100%	64,475,905
		Pilot Projects with Municipal Utilities	-	3,000,000	1,050,000	35%	3,000,000
		Disadvantaged Communities Schools/Buildings	-	49,400,000	49,400,000	100%	49,400,000
		Multifamily Performance Program	15,046,683	-	-	0%	15,046,683
		Multifamily Carbon Emissions Reduction	5,833,019	-	-	0%	5,833,019
		Solar Thermal incentive	4,226,947	-	-	0%	4,226,947
		Municipal Water/Wastewater	1,245,242	-	-	0%	1,245,242
	Green Residential Buildings	2,744,601	-	-	0%	2,744,601	
	Innovative GHG Abatement Strategies	Southern Tier Competition (76 West)	10,262,850	737,150	-	0%	11,000,000
		Brookhaven National Lab- ION Collider	25,000,000	-	-	0%	25,000,000
		Electric Vehicle/Charge NY	11,188,399	100,111,601	23,766,740	24%	111,300,000
		Advanced Buildings & Industrial Innovations	13,307,654	-	-	0%	13,307,654
		Climate Research & Analysis	8,729,296	-	-	0%	8,729,296
		Competitive GHG Reduction Pilot	972,650	-	-	0%	972,650
		Clean Energy Business Development	5,809,987	-	-	0%	5,809,987
Transportation Research		3,819,311	-	-	0%	3,819,311	
Natural Carbon Solutions		-	7,000,000	3,500,000	50%	7,000,000	
Equity and Climate Transformation Research		-	2,000,000	2,000,000	100%	2,000,000	
Climate Mitigation and Resilience Research		-	1,500,000	-	0%	1,500,000	
PV Manufacturing consortium		8,480,000	-	-	0%	8,480,000	
Carbon Sequestration		1,000,000	-	-	0%	1,000,000	
Community Clean Energy	Cleaner Greener Communities	94,261,895	-	-	0%	94,261,895	
	Clean Energy Communities	2,086,963	14,186,157	4,539,570	32%	16,273,120	
	Climate Smart Communities	5,321,157	2,353,842	-	0%	7,674,999	
	Community Energy Engagement	675,730	3,724,270	3,000,000	81%	4,400,000	
	Economic Development Growth Extension	5,562,723	280,324	-	0%	5,843,047	
	Energy to Lead	3,000,000	-	-	0%	3,000,000	
	Renewable/Net-Zero Energy Demonstrations	3,000,000	4,500,000	-	0%	7,500,000	
	Healthy New Home Design & Construction Challenge	-	7,000,000	-	0%	7,000,000	
	Workforce Development Talent Pipeline Priority Population	-	19,000,000	10,350,000	54%	19,000,000	
	Clean Energy Hubs	-	10,000,000	10,000,000	100%	10,000,000	
	Climate Action Consumer Awareness & Education	-	10,000,000	5,000,000	50%	10,000,000	
	Air Monitoring	-	8,000,000	8,000,000	100%	8,000,000	
	Regional Economic Development & GHG Reduction	10,246,443	-	-	0%	10,246,443	
Directed	NYS Environmental Tax Credits	133,000,000	115,000,000	17,250,000	15%	248,000,000	
	NYS Environmental Protection Fund	-	25,000,000	8,750,000	35%	25,000,000	
	Electric Generation Facility Cessation Mitigation/ Just Transition	30,000,000	20,000,000	20,000,000	100%	50,000,000	
	Green Jobs-Green NY- Original Legislation	112,000,000	-	-	35%	112,000,000	
	Green Jobs-Green NY- Additional Funding	105,025,275	98,079,465	60,809,268	62%	203,104,740	
	Transfer to Clean Energy Standard	719,424	-	-	0%	719,424	
	NYS Budget Transfer	90,000,000	-	-	0%	90,000,000	
	SUBTOTAL	1,066,063,956	679,824,976	287,638,397	42%	1,745,888,932	
Excluded	CEF	Transfer to(from) Clean Energy Fund	73,790,932	156,435,872		230,226,804	
	Administration and Other Non-Program Costs	Program Administration	31,931,071	49,590,288		81,521,359	
		Program Evaluation	5,999,519	6,155,910		12,155,429	
		Commensurate Benefit/Litigation reserve	21,900,366	-		21,900,366	
		RGGI Inc Startup Costs	1,598,204	-		1,598,204	
		RGGI Inc pro-rata costs	7,746,048	4,737,619		12,483,667	
		State Cost Recovery	12,606,619	7,493,538		20,100,157	
		SUBTOTAL	155,572,759	224,413,227		379,985,986	
TOTAL	1,221,636,715	904,238,203		2,125,874,918			

Resolution No. _____

RESOLVED, that revisions to the “Operating Plan for Investments in New York Under the CO₂ Budget Trading Program and the CO₂ Allowance Auction Program” as presented to the Members for consideration at this January 25, 2022 meeting, with such non-substantive, editorial changes and supplementary schedules as the President and Chief Executive Officer, in their discretion, may deem necessary or appropriate, are approved.

DRAFT

New York State Energy Research and Development Authority

Fiscal Year 2022-23 Budget and Financial Plan

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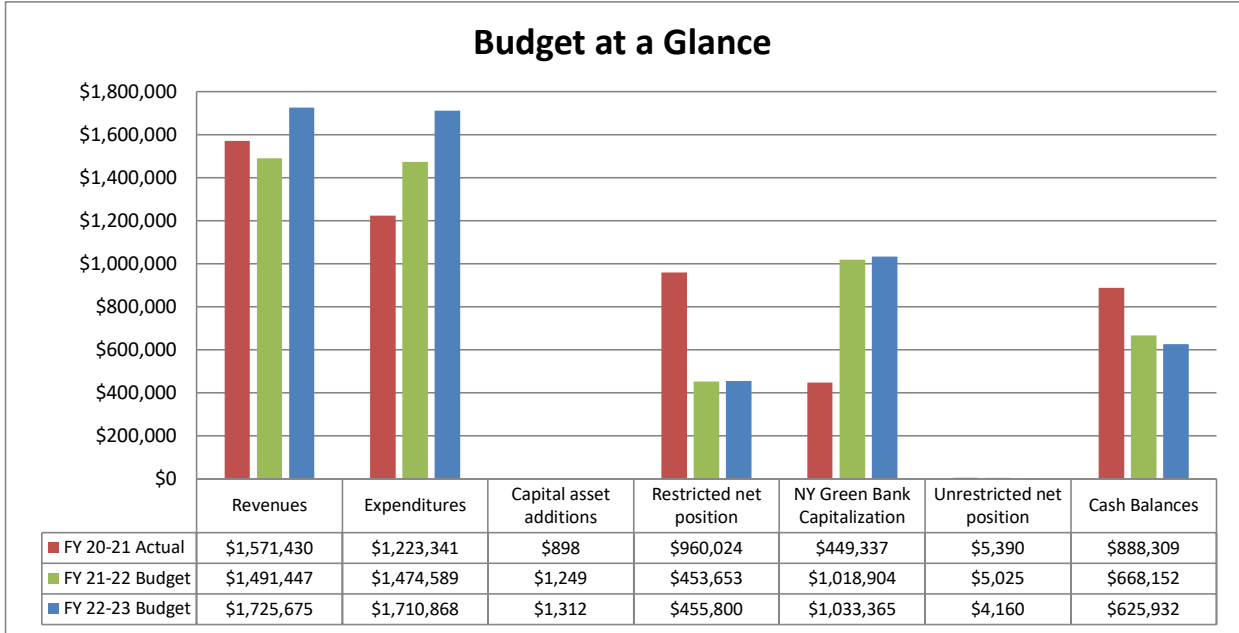
CERTIFICATION
DRAFT

I hereby certify that, to the best of my knowledge and belief after reasonable inquiry, the budget information contained herein for the fiscal year ending March 31, 2023 has been developed based on reasonable assumptions and methods of estimation.

Doreen M. Harris
President and Chief Executive Officer

Pamela C. Poisson
Chief Financial Officer

Budget FY 2022-23 (Amounts in thousands)



Capital asset additions and Unrestricted net position are not visible due to scaling of the chart.

INTRODUCTION

The New York State Energy Research and Development Authority (NYSERDA) is a public benefit corporation established in 1975 pursuant to Title 9 of Article 8 of the Public Authorities Law of the State of New York. NYSEDA is a component unit of the State of New York and, as such, the results of operation are reported in the State of New York's Comprehensive Annual Financial Report.

The mission of NYSEDA is to 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. NYSEDA plays a key role in implementing the State's nation-leading clean energy and climate policies, programs and actions, delivering a cleaner, healthier, and more prosperous future for all New Yorkers. With the enactment of the Climate Leadership and Community Protection Act (CLCPA) in 2019, advancing the state to a 100% zero-emission electricity sector by 2040, eliminating 85% greenhouse gas emissions from the state's economy by 2050, and investing up to 40% in clean energy that will benefit disadvantage communities, New York State has established itself as a global leader in the advancement of a clean energy economy. In support of this mission, NYSEDA prepares plans and budgets with the intent to fund prudently and in the interest of the public.

The Budget for the fiscal year ending March 31, 2023 (FY 2022-23), and the Financial Plan for FY's 2023-24 to 2025-26 were prepared in accordance with accounting principles generally accepted in the United States of America.

PROGRAM SUMMARY

NYSEDA programs at present are funded through a combination of vehicles primarily including the PSC-approved Clean Energy Fund (CEF), the Clean Energy Standard (CES), Regional Greenhouse Gas Initiative (RGGI) allowance auction proceeds, and various grants. A relatively small share of the budget is funded by direct state allocations and appropriations.

Following is a summary of the functions/activities included in the Budget:

Clean Energy Fund (CEF)

Pursuant to a January 2016 Order (CEF Order) and subsequent Orders, the Public Service Commission (PSC) authorized a ten-year commitment through 2025 of approximately \$5.322 billion to clean energy programs through a CEF. The CEF is designed to meet four primary objectives: greenhouse gas emission reductions; energy affordability; statewide penetration and scale of energy efficiency and clean energy generation; and growth in the State's clean energy economy.

Building on this, the Climate Leadership and Community Protection Act (Climate Act) passed by NYS in 2019 calls for the state to invest or direct resources to ensure that disadvantaged communities receive at least 35 percent, with the goal of 40 percent, of overall benefits of spending on clean energy and energy efficiency programs, as well as projects or investments in housing, workforce development, pollution reduction, low-income energy assistance, energy, transportation, and economic development. NYSEDA thus aims to deploy CEF funds so as to deliver the CEF primary objectives in a manner consistent with those Climate Act percentages.

The CEF Order provided for a ten-year funding authorization of \$3.43 billion for the Market Development and Innovation & Research activities, and also provided for additional funding

authorization of \$781.5 million for the NY Green Bank, \$960.6 million for NY-Sun, and \$150 million for the Renewable Portfolio Standard Program for a 2016 Main Tier solicitation. The NY-Sun and NY Green Bank programs are presented as separate Programs/Functions in the budget document as further described below. In the September 2021 Order approving the Clean Energy Fund Modifications, total funding for the CEF and its respective portfolios total \$6.17 billion.

Market Development and Innovation & Research

The CEF Market Development activities are designed to reduce costs, accelerate customer demand, and increase private investment for energy efficiency and other behind-the-meter clean energy solutions through strategies including financial support, technical knowledge, data, education to customers and service providers, and advanced workforce training. The CEF Innovation & Research activities are designed to invest in cutting-edge technologies that will meet increasing demand for clean energy including: smart grid technology, renewables and distributed energy resources, high performance buildings, transportation, and clean tech startup and innovation development.

NY-Sun

Pursuant to a 2012 Order and subsequent Orders, the NY-Sun program is designed to develop a sustainable and ultimately subsidy-free solar electric industry through a megawatt block approach. The CEF Order established the incremental collection schedule by utilities and reallocation of NYSERDA clean energy uncommitted funds to support program activities approved through the 2012 Order. A May 2020 Order was approved by the PSC to increase the NY-Sun funding level by \$573 million to expand the capacity target from 3 GW by 2023 to 6 GW by 2025. The budget presented herein reflects funding from the aforementioned orders. On December 17, 2021 NYSERDA filed a distributed solar roadmap charting a path to an expanded NY-Sun goal of at least 10 gigawatts by 2030 in a resilient, cost effective and responsible manner, consistent with the Governor's September 2021 call to expand this program to help bolster the State's economic recovery while benefitting disadvantaged communities and low-to-moderate income New Yorkers.

NY Green Bank

The key elements of NY Green Bank's mission are collaborating with private sector participants, implementing structures that overcome barriers and address gaps in current clean energy financing markets, and transforming those markets by enabling greater scale, new and expanded asset classes and liquidity. These factors combined have the objectives to motivate faster and more extensive implementation of clean energy assets within New York State, foster greater energy choices, reduce environmental impacts and accrue more green energy advantages per public dollar spent for the benefit of all New Yorkers.

NY Green Bank's initial capitalization was established from \$315.6 million in uncommitted utility surcharge assessment funds and RGGI allowance auction revenues. As discussed above, the CEF Order, and a subsequent Order authorized incremental collections for the remaining \$631.5 million of NY Green Bank's capitalization.

Clean Energy Standard (CES)

Pursuant to an August 2016 and subsequent Orders, the Clean Energy Standard was established adopting a State Energy Plan goal that 50% of New York's electricity is to be generated by renewable sources by 2030, as part of a strategy to reduce statewide greenhouse gas emissions by 40% by 2030. The mandated actions were divided into two categories, a Renewable Energy

Standard (RES) and a Zero-Emissions Credit (ZEC) requirement.

The RES directs NYSERDA to procure renewable energy credits from renewable energy generation from qualifying facilities through competitively selected long-term contracts, and to offer such credits for periodic sale to Load Serving Entities (LSE) to meet their obligations to serve their retail customers through the procurement of a minimum percentage of qualifying renewable energy credits. The RES also includes an obligation on distribution utilities on behalf of all retail customers to continue to invest in the maintenance of existing at-risk renewable generation attributes and a program to maximize the value potential of new offshore wind resources.

The ZEC requirement consists of an obligation for NYSERDA to provide payments to certain nuclear generation facilities for the production of zero-emissions attributes from such facilities, funded from monthly installment payments collected from LSEs for their proportionate share of such attributes to serve their retail customers evidenced by the procurement of qualifying zero emission credits.

In October 2020 the PSC approved an Order adopting modifications to the Clean Energy Standard to implement New York's Climate Leadership and Community Protection Act, specifically including an expanded goal to ensure that by 2030 70% of the state's electricity load is served by renewable resources.

All renewable energy consumed by end-use customers in the State contributes to the CES, including energy supported by past, present, and future State renewable energy policies such as the RES, RPS, NY-Sun, Clean Energy Fund (CEF), Value of Distributed Energy Resources (VDER), Offshore Wind, renewable energy procurements by LIPA and NYPA, and voluntary renewable energy purchases. Lowering overall demand through energy efficiency is also an important contributor in achieving the CES.

In support of this goal, the 2020 Order allowed for a continuation of "Tier 1" solicitations for new renewable energy development. Further, pursuant to the Order, NYSERDA created a competitive "Tier 2" program to ensure the continued availability of legacy baseline resources to meet the State's renewable energy goals and issued two competitive solicitations in 2021, and also created a competitive "Tier 4" issuing the first request for proposal in 2021 resulting in the announcement of two projects to increase penetration of renewable energy and reduce reliance on fossil fuels in New York City. The PSC also approved an October 2020 Order establishing the Build Ready program to facilitate the development of renewable generation. NYSERDA will competitively offer new sites to private renewable energy developers, bundled with a long-term contract for Renewable Energy Certificates (REC), akin to those offered through NYSERDA's annual Tier 1 CES solicitations authorized in the CES Order. The first Build Ready request for information was issued in 2020 and renewed in 2021. NYSERDA will also continue to conduct annual offshore wind solicitations to achieve the statewide goal of 9 GW by 2035.

Regional Greenhouse Gas Initiative (RGGI)

The Regional Greenhouse Gas Initiative, or RGGI, is an agreement among eleven Northeastern and Mid-Atlantic States to reduce greenhouse gas emissions from power plants. The RGGI states (Participating States) have committed to cap and then reduce the amount of carbon dioxide that certain power plants are allowed to emit, limiting the region's total contribution to atmospheric greenhouse gas levels. The Participating States have agreed to implement RGGI through a regional cap-and-trade program whereby the Participating States have agreed to auction annual

regional emissions. Rules and regulations promulgated by the NYS Department of Environmental Conservation (DEC) call for NYSERDA to administer periodic auctions for annual emissions. Pursuant to these regulations, the proceeds will be used by NYSERDA in consultation with stakeholder advisory group to administer energy efficiency, renewable energy, and/or innovative carbon abatement programs, including reasonable costs to administer such programs.

West Valley

NYSERDA manages, on behalf of the State, the Western New York Nuclear Service Center (West Valley), which is the site of a former plant for reprocessing used nuclear fuel. Through 1972, the former plant operator, Nuclear Fuel Services, Inc., generated as a by-product of its reprocessing operations, more than 600,000 gallons of liquid, high-level radioactive waste, which were stored at the site. In 1980, Congress enacted the West Valley Demonstration Project Act (West Valley Act). Pursuant to the West Valley Act, the U.S. Department of Energy (DOE) is carrying out a demonstration project to: (1) solidify the liquid high-level radioactive waste at West Valley; (2) transport the solidified waste to a permanent federal repository; and (3) decontaminate and decommission the reprocessing plant and the facilities, materials, and hardware used in the project. NYSERDA and the Federal government share the combined expenses incurred for this program.

NYSERDA also maintains, on behalf of the State, the State-Licensed Disposal Area (SDA), which is a shut-down commercial low-level radioactive waste disposal facility at West Valley. NYSERDA is evaluating how to remediate and close this facility in accordance with regulatory requirements.

Energy and Environmental Analysis

Through this program, NYSERDA provides objective and credible analyses of energy issues to various stakeholders. The program also includes activities for energy-related emergency planning and response, and support for State energy planning functions.

NYSERDA is also responsible for coordination of nuclear material matters, including serving as the State liaison with the Nuclear Regulatory Commission.

These activities are primarily funded through an assessment authorized under Section 18-a of Public Service Law and a Federal State Energy Plan grant.

Pursuant to the State Low-Level Radioactive Waste (LLRW) Management Act of 1986, NYSERDA is responsible for collecting information and providing regular reports to the Governor and Legislature on LLRW generation in the State. These activities are funded with a State appropriation sub-allocated from an appropriation provided to the NYS Department of Health, which is funded through an assessment collected on operating nuclear power plant licensees.

Other

Other programs represent an aggregate of smaller programs/functions. These activities are primarily funded through Commission Orders, Memoranda of Understanding with various utilities pursuant to Commission Orders, various third-party reimbursements, federal energy grants, State appropriations and assessments authorized under Section 18-a of the Public Service Law.

BUDGETARY ASSUMPTIONS

The following are the principal budget assumptions used in developing the Budget and Financial Plan:

- The CEF Order established a “Bill-As-You-Go” approach for revenue collection effective January 1, 2016. Under this approach, incremental CEF ratepayer collections and the previously approved collections for Technology and Market Development, and Renewable Portfolio Standard programs not yet paid to NYSERDA, will be held by the electric and gas utilities and used to reimburse NYSERDA for actual CEF program expenses provided that the reimbursement allows NYSERDA to maintain a sufficient cash balance based on projected expenses for the subsequent two-month period, subject to the utilities’ unremitted collection balances approved in the CEF Order. Utility surcharge assessments revenue is based on anticipated expenditures, prior fiscal year projected cash balances, and the resulting collections projected to maintain working capital pursuant to this approach. The scale of New York State’s climate goals requires NYSERDA to expedite performance and, as a result, materially increases the level of expenditures. The change in expenditures from year to year will have a direct relationship to the amount of Utility surcharge assessments required to be collected by the utilities pursuant to the BAYG Order but does not change the overall assessment of the ratepayer. In the September 9, 2021 Order approving the CEF modifications, the PSC adopted a revised collection schedule that changes by year but does not change the total statewide collections or collections by utility as authorized in the original CEF January 2016 Order.
- CES Financial Backstop Collection Process. In the Order Approving Administrative Cost Recovery, Standardized Agreements and Backstop Principles issued and effective November 17, 2016, the Commission directed that the electric distribution customers of the electric distribution companies (EDCs) serve as a financial backstop to ensure that NYSERDA has sufficient funds to make timely payments to generators. In collaboration with the EDCs, on July 1, 2021, NYSERDA filed a proposed CES Backstop Collection process. It’s anticipated that the Commission will issue an upcoming Order approving the process. Upon approval of the Order NYSERDA will immediately seek to recover the cumulative amounts due under the ZEC program for the first three compliance years ending March 31, 2019. Based on the timing of the approved Order its anticipated that NYSERDA will receive \$21.4 million in backstop revenues during FY 2022-23.
- CES implementation and transition to Tier-1 Index REC Structure. In a January 16, 2020 Order modifying the Tier-1 Renewable Procurements, the PSC directed NYSERDA to include additional options for bidders to offer an Index REC price starting with the 2020 solicitation. In an October 15, 2020 Order, the PSC also authorized NYSERDA to offer existing Tier-1 renewable energy projects in development and not yet operational a voluntary conversion to the Index REC structure. NYSERDA’s analysis indicates this shift is likely to result in significant cost benefits to ratepayers including REC pricing benefits in comparison to Fixed-Price REC contracts. Besides reduced costs, an Index Rec structure will likely have other ancillary benefits for ratepayers, such as reduced financing costs and a reduction in volatility of their energy bills. Staff have formulated several cost scenarios ranging from low case to high case price forecasts. A mid-range base case scenario has been used in projecting Tier-1 rec costs and revenues. The related assumptions and methodology used in the FY 2022-23 budget have been reviewed by an independent consulting firm.
- NY Green Bank loan interest and fees are based on estimates of committed and deployed capital.

- Allowance auction proceeds for the Regional Greenhouse Gas Initiative (RGGI) are based on the last five allowance prices realized through the September 2021 auction including inflationary assumptions.
- West Valley's State appropriation revenue for FY 2022-23 through FY 2025-26 is based primarily on the State's 10% share of West Valley Demonstration Project costs and the State's share under the Consent Decree. These estimates assume future U.S. Department of Energy (DOE) annual funding of approximately \$92.5 million for FY 2022-23 through FY 2025-26, for its share of project costs.
- Interest income is based on assumed balances available for investment and based on four and six month U.S. Treasury bond index yields.
- GJGNY budgeted loan interest income assumes additional loans to be issued during FY 2022-23 of up to \$32.3 million based on current loan origination volume. Debt service amounts reflect scheduled principal and interest expense payments based on each series' outstanding principal balance and rate of interest. Planning is currently underway for a 2022 bond issuance but the amount and scope of the bond issue will not be determinable for several months and as such has not been incorporated into the budget.
- Federal Funding as reflected in the budget is based on anticipated reimbursable expenditures of existing grants. It's anticipated that NYSERDA will also administer federal funds from the recent passing of the Federal Infrastructure Investment and Jobs Act but that amount is not yet known and therefore not included in this budget and financial plan. NYSERDA is actively working with the Federal government and New York State to assess the financial opportunities and impacts for investment in making our infrastructure more resilient to climate change.
- Saratoga Technology + Energy Park (STEP): In 2017, management determined that land development, leasing, and maintenance of STEP was outside of NYSERDA's core mission and as a result a 2017 resolution to dispose of STEP was approved by the Board. After some long term planning NYSERDA has recently placed the STEP facility on the market for disposition. The timing of such disposition is unknown and as a result no assumptions for disposition have been incorporated in the budget. The Board resolution provided that the net proceeds from the sale or sales of real and personal property located at Saratoga Technology + Energy Park shall be redirected to mission aligned Authority programs and initiatives and that such redirection of net proceeds furthers the public interest in safe, reliable and economical energy supplies.
- Salary costs for current staff and funded vacant positions expected to be filled are based on salary grades equivalent to the State Management/Confidential (M/C) employees. Salaries include an anticipated 2% cost-of-living-adjustment (COLA) to be effective April 1, 2022, pending authorization by the State. The COLA, if approved by NYS, will be in accordance with increases granted for M/C employees. Salaries also include performance-based salary increases and payments comparable to those which may be authorized for state employees. Each year, NYSERDA carefully assesses workscope and skillset needs and recommends staffing levels appropriate to successfully advance the State's nation-leading clean energy and climate policies and to meet the goals established by the CLCPA and the PSC.
- Fringe benefit costs are generally based on prior year actual costs as a percentage of salary costs. NYSERDA's pension expense is based on an actuarial calculation and is dependent upon multiple conditions and assumptions at a particular point in time (March 31, 2022). Given past volatility in the market, the FY 2022-23 budget is based on an average of the past five years' pension expense. The OPEB expense under Governmental Accounting Standards Board Statement No. 75 in the FY 2022-23 Budget

is based on preliminary actuarial estimates calculated, but the final amount may differ once a final actuarial calculation is prepared.

- The NYS Cost Recovery Fee represents the fee paid to the State under Section 2975 of the Public Authorities Law (Governmental Cost Recovery System) for general governmental services. The FY 2022-23 Budget assumes that NYSERDA's assessment will be \$12.7 million, which is based on the prior year assessed value.
- The Budget includes no significant or non-recurring revenue-enhancement or cost-reduction initiatives which shift resources from one year to another.

BUDGETARY RISKS

The following is a summary of significant budgeting risks:

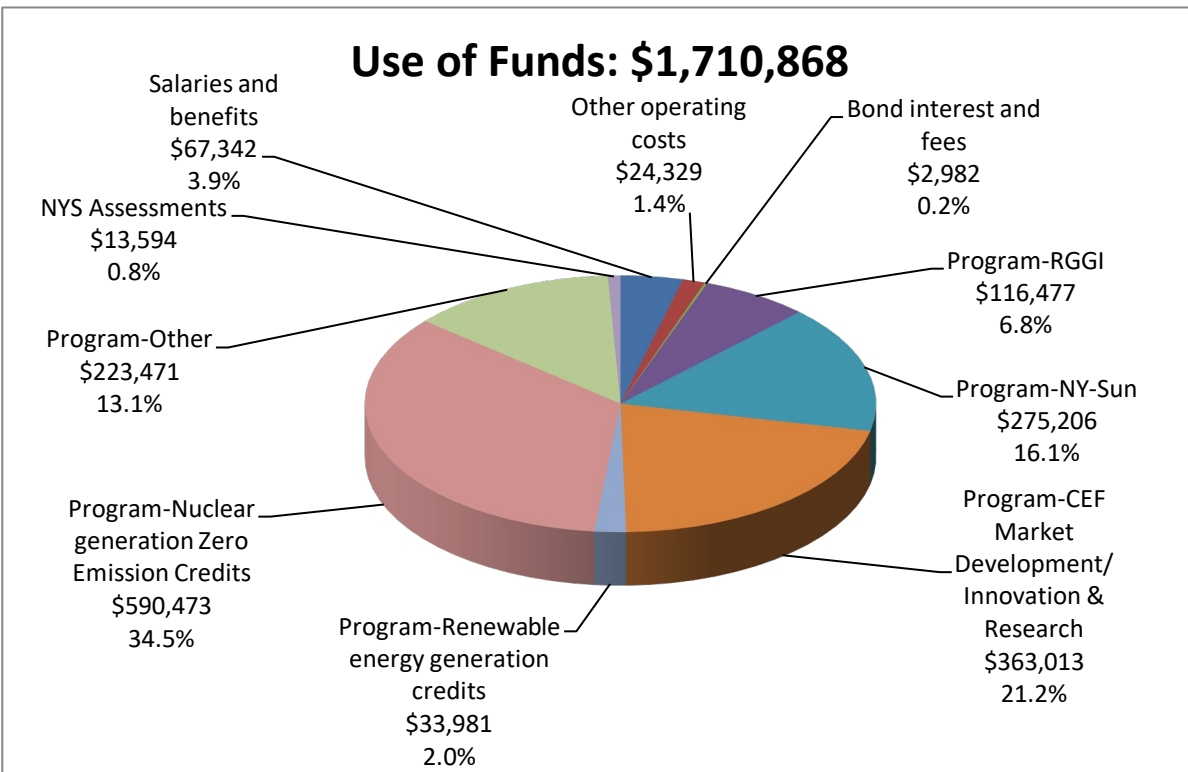
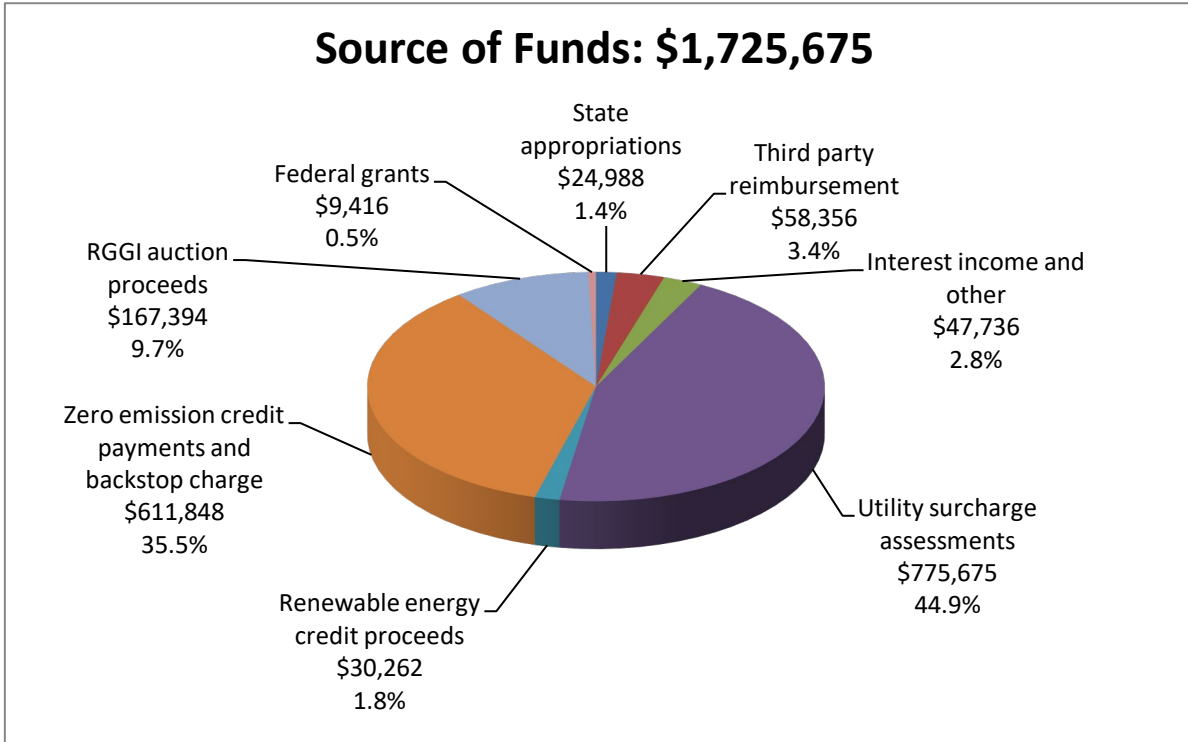
- NYSERDA's budgeting process is subject to inherent risks regarding the ability to accurately forecast revenues and expenditures. Over the past several years, NYSERDA has assumed responsibility for administering certain new programs, and additional program responsibilities may be added during FY 2022-23 that have not been included in the Budget. NYSERDA's programs can be impacted by a number of factors including, but not limited to, general economic conditions, energy prices, energy reliability, and energy technology advancements.
- Many of NYSERDA's programs are largely carried out by agreements with clean energy companies, consultants, and contractors, many of whom were impacted by COVID-19. Given the uncertainty of the COVID-19 health crisis the timing of program activity could be impacted causing variations in the forecasted revenues and expenditures. However, NYSERDA does not expect COVID-19 to have a material adverse impact on NYSERDA's operations and finances.
- Program expenditures for most programs are funded with revenues which are generally received in advance of those expenditures. Under the modified accrual basis of accounting, these funds are recorded as revenue when received, with any unexpended funds recorded as Restricted Net Position. Timing of program activity may result in either: (1) revenues exceeding expenses during the Budget period; or (2) expenditures funded in part, by unexpended revenues from prior fiscal periods.
- Revenues resulting from auctions of allowances under the Regional Greenhouse Gas Initiative (RGGI) have shown some volatility over the past few years. NYSERDA has developed a multi-year program planning approach for these revenues, but variations in actual proceeds realized makes it challenging to complete accurate long-term planning. Given that uncertainty, we have this year identified and vetted several priority initiatives that could be readily added for high positive program impact should auction proceeds trend higher than what our intentionally conservative budget estimates reflect.
- CES Tier-1 Indexed Rec revenues: Several ranges of possibilities were modeled using future price data with implied volatility scenarios and the most probable base case scenario is being incorporated in the budget and financial plan. These revenues may vary depending of future energy prices, future capacity prices, and the quantity of megawatts produced. The program is designed for NYSERDA to recover its costs through the quarterly sale of REC's to LSEs for satisfying their Tier 1 compliance obligations. Any shortfalls created through these sales will be fully recovered through the CES financial backstop collection process.
- Expenditures for the West Valley program are based primarily on the amount anticipated to meet the State's share of costs for West Valley under the Cooperative Agreement and

the Consent Decree which are dependent upon funds provided in the federal budget to the U.S. Department of Energy (DOE).

- Although DOE and NYSERDA have reached agreement on the allocation of costs (percentages) to be paid by each entity for remediating the West Valley site, the remedial action decisions for several significant facilities will not be finalized prior to 2023. In addition, DOE has taken the position that the State will be responsible for waste disposal fees when high level waste on-site reaches an ultimate repository destination, a figure to be calculated at the time of disposal pursuant to the Nuclear Waste Policy Act, 42 U.S.C. 10101 et seq. The agreement between the parties left this issue unresolved, as no national repository option will be in place for many years. Although NYSERDA has advanced, and will continue to advance, legal arguments as to why this responsibility is not one that rightfully falls on the State, additional State funding may be required once the issue is resolved.
- Pension costs and retirement health insurance costs are based on actuarial valuations, and such valuations could be impacted by a number of assumptions, general economic conditions, and future events which could lead to variances from estimated annual expenses.

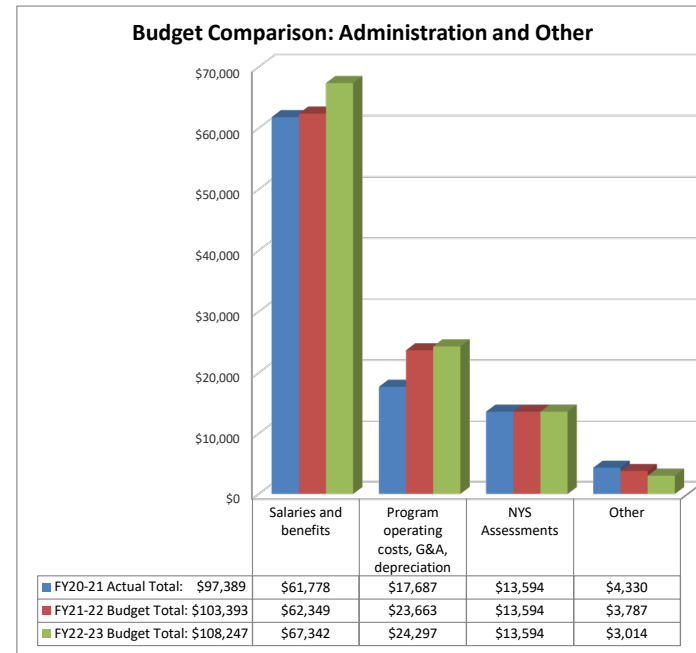
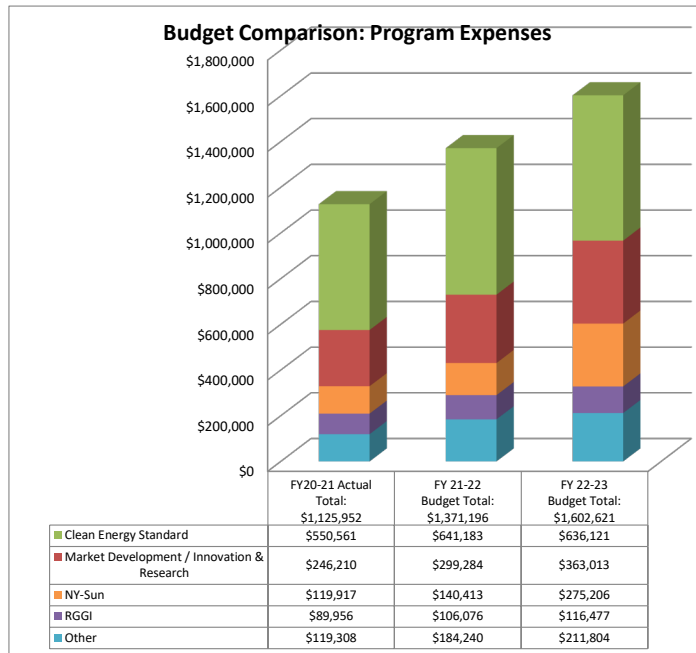
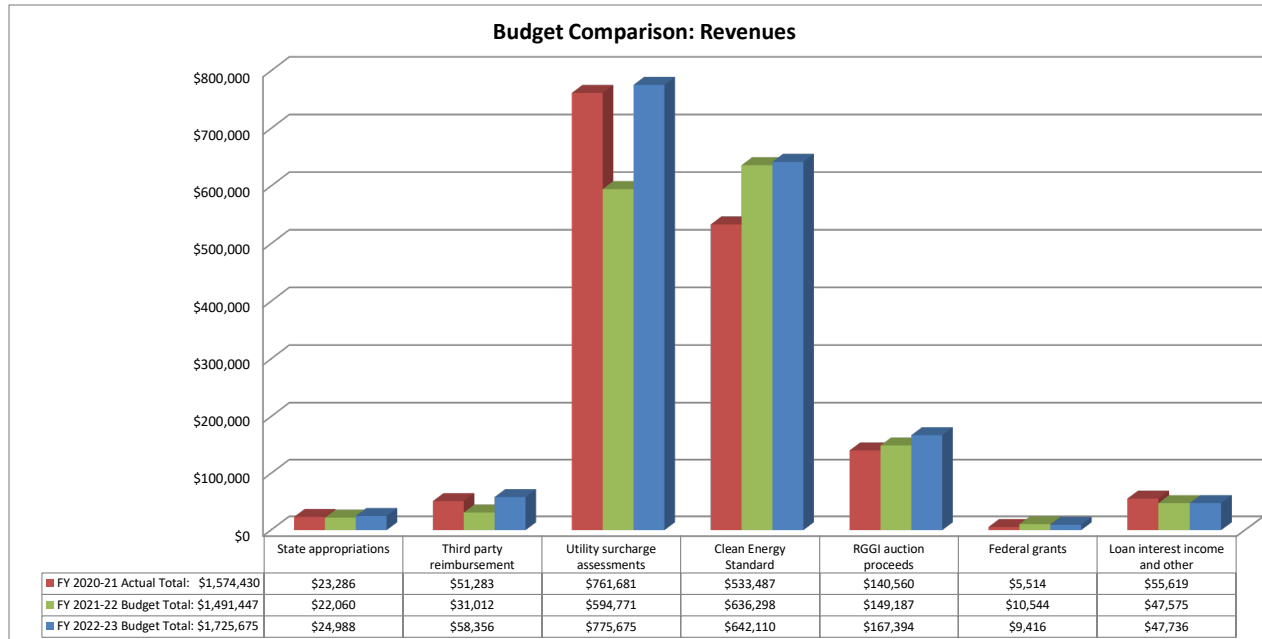
Budget FY 2022-23

(Amounts in thousands)



Budget FY 2022-23

(Amounts in thousands)



NYSERDA
 Budget FY 2022-23
 (Amounts in thousands)

	Budget FY 2022-23	Budget FY 2021-22
Net position beginning of year	\$ 1,489,281	1,427,220
<u>Revenues:</u>		
State appropriations	24,988	22,060
Third party reimbursement	58,356	31,012
Utility surcharge assessments	775,675	594,771
Renewable energy credit proceeds	30,262	45,825
Zero emission credit payments	590,473	590,473
Clean energy standard backstop charge	21,375	-
Allowance auction proceeds	167,394	149,187
Project repayments	215	200
Federal grants	9,416	10,544
Rentals from leases	1,005	996
Interest income	611	1,002
Loan interest	34,639	33,907
QECCB interest subsidy	258	306
Fees and other income	11,008	11,164
Total Revenues	1,725,675	1,491,447
<u>Expenses:</u>		
Salaries and benefits	67,342	62,349
Program expenditures	1,602,621	1,371,196
Investment related expenses	32	163
Program operating costs	4,773	4,514
General & administrative expenses	17,278	16,615
Depreciation	2,246	2,534
NYS Assessments	13,594	13,594
Bond interest and fees	2,982	3,624
Total Expenses	1,710,868	1,474,589
Net (expense) revenue and change in net position	14,807	16,858
Known timing differences to FY 2021-22 budget	-	45,203
<u>Net position end of year:</u>		
Restricted for specific programs	455,800	453,653
NY Green Bank Capitalization	1,033,365	1,018,904
Net Investment in Capital Assets	10,763	11,699
Unrestricted	4,160	5,025
Total net position end of year	\$ 1,504,088	1,489,281

Prior year beginning net position balance has been updated to reflect actuals; FY 2021-22 activity may vary from budgeted revenues and expenses as displayed.

NYSDERDA
Budget FY 2022-23
(Amounts in thousands)

Functions/Programs										
	Market Development / Innovation & Research	NY Green Bank	NY-Sun	Clean Energy Standard	RGGI	Energy & Environmental Analysis	West Valley	Other	Budget FY 2022-23	Budget FY 2021-22
Net position, beginning of year	\$ 96,527	1,018,904	34,717	(18,414)	75,591	2,489	1,756	282,737	1,489,281	1,427,220
<u>Revenues:</u>										
State appropriations	-	-	-	-	860	150	23,600	378	24,988	22,060
Third party reimbursement	30,884	-	-	-	-	-	2,516	24,956	58,356	31,012
Utility surcharge assessments	312,730	-	293,066	9,885	-	13,799	-	146,194.97	775,675	594,771
Renewable energy credit proceeds	-	-	-	30,262	-	-	-	-	30,262	45,825
Zero emission credit payments	-	-	-	590,473	-	-	-	-	590,473	590,473
Clean energy standard backstop charge	-	-	-	21,375	-	-	-	-	21,375	-
Allowance auction proceeds	-	-	-	-	167,394	-	-	-	167,394	149,187
Project repayments	-	-	-	-	-	-	-	215	215	200
Federal grants	-	-	-	-	-	2,853	-	6,563	9,416	10,544
Rentals from leases	-	-	-	-	-	-	-	1,005	1,005	996
Interest income	38	200	16	42	237	-	-	78	611	1,002
Loan interest	-	26,010	-	-	-	-	-	8,629	34,639	33,907
QECB interest subsidy	-	-	-	-	-	-	-	258	258	306
Fees and other income	-	4,662	-	6,150	-	-	-	196	11,008	11,164
Total Revenues	343,652	30,872	293,082	658,187	168,491	16,802	26,116	188,473	1,725,675	1,491,447
<u>Expenses:</u>										
Salaries and benefits	22,354	10,484	2,457	7,811	9,115	6,006	2,343	6,772	67,342	62,349
Program expenditures	363,013	535	275,206	636,121	116,477	7,950	22,754	180,565	1,602,621	1,371,196
Investment related expenses	-	32	-	-	-	-	-	-	32	163
Program operating costs	478	2,341	56	192	3	1,064	147	492	4,773	4,514
General & administrative expenses	5,729	2,681	624	2,012	2,352	1,531	612	1,737	17,278	16,615
Depreciation	890	206	149	192	181	118	51	459	2,246	2,534
NYS Assessments	3,168	132	2,248	5,217	1,035	134	209	1,451	13,594	13,594
Bond interest and fees	-	-	-	-	-	-	-	2,982	2,982	3,624
Total Expenses	395,632	16,411	280,740	651,545	129,163	16,803	26,116	194,458	1,710,868	1,474,589
Net sources / (uses) of net position other than transfers	(51,980)	14,461	12,342	6,642	39,328	(1)	-	(5,985)	14,807	16,858
Inter-program transfers	22,000	-	-	-	(51,937)	-	-	29,937	-	-
Net Investment in Capital Assets	(449)	-	(101)	(37)	-	-	(4)	(345)	(936)	(770)
Known timing differences to FY 2021-22 budget	-	-	-	-	-	-	-	-	-	45,973
<u>Net Position End of Year:</u>										
Restricted for specific programs	66,388	-	46,891	(11,787)	62,982	2,488	1,560	287,279	455,800	453,653
NY Green Bank Capitalization	-	1,033,365	-	-	-	-	-	-	1,033,365	1,018,904
Net Investment in Capital Assets	159	-	168	15	-	-	196	10,225	10,763	11,699
Unrestricted	-	-	-	-	-	-	-	4,160	4,160	5,025
Net position end of year	\$ 66,547	1,033,365	47,059	(11,772)	62,982	2,488	1,756	301,663	1,504,088	1,489,281

NYSERDA
FY 2022-23 Budget
Reconciliation of Budget Changes
(Amounts in thousands)

	Actual FY 2020-21	Budget FY 2021-22	Change	Budget FY 2022-23	Explanation for change
Revenues					
State appropriations					
West Valley	\$ 13,650	20,500	3,100	23,600	Reflects an increase in anticipated program expenditures for NYSERDA's share of federal and state spending at West Valley.
Energy & Environmental Analysis - Low-Level Radioactive Waste RGGI	150	143	8	150	(Minor change)
Other Programs - Energy/Environmental projects	667	1,141	(281)	860	Reflects a reduction in anticipated expenditures under the RGGI Cleaner Greener Community program (repayment of the FY 13-14 transfer of \$25 million to the State General Fund).
Total state appropriations	8,819	276	102	378	Reflects an increase in anticipated expenditures under a UDC Capital Budget appropriation.
Third party reimbursement	23,286	22,060	2,928	24,988	
Utility surcharge assessments	51,283	31,012	27,344	58,356	Reflects an increase in funding to be received from the "New Efficiency New York" initiative, Office of Temporary & Disability Assistance to help support the Empower program, and an increase in Federal Government Volkswagen settlement funds, offset in part by a reduction in National Fuel Gas efficiency program.
Market Development/ Innovation & Research	220,131	295,578	17,153	312,730	Reflects an increase in anticipated expenditures resulting from the implementation of an increase in approved program initiatives. Revenues for these reimbursable expenditures and appropriate working capital balances are collected under the "Bill-As-You-Go" (BAYG) funding approach.
NY-Sun	99,377	152,007	141,060	293,066	Reflects an increase in anticipated program expenditures based on project completion dates and timing of incentive payments. Revenues are collected under the BAYG funding approach.
Energy Storage	16,821	59,129	18,375	77,503	Reflects a ramp up in anticipated program spending which is based upon project completion dates. This program was authorized by the Public Service Commission in January 2019 and revenues are collected under the BAYG funding approach.
RPS/SBC(EEPS - FY2020-21 only)	64,629	54,750	(16,450)	38,300	Decrease reflects revenues based on anticipated expenditures under the BAYG approach for the wind down and closure of legacy RPS and SBC programs.
18-a funding	22,700	22,700	-	22,700	(No change)
EV Prize	1,042	1,500	19,990	21,490	Reflects and increase in anticipated program expenditures based on timing of incentive payments under the Clean Transportation Prize program. Revenues are collected under the BAYG funding approach.
Build Ready NY Green Bank	-	9,108	777	9,885	(Minor change)
Total utility surcharge assessments	336,981	-	-	-	(No change)
Renewable energy credit proceeds	761,681	594,771	180,904	775,675	
Zero emission credit assessments	6,969	45,825	(15,563)	30,262	Primarily reflects a reduction in Tier Two proceeds due to lower awards planned.
ZEC Backstop Charge	526,518	590,473	-	590,473	No change. Amounts are based on the maximum "zero-emission" credit price established pursuant to the Clean Energy Standard Order of the Public Service Commission (PSC) but the actual subsidy price will be determined prior to April 1, 2022.
Allowance auction proceeds	-	-	21,375	21,375	Reflects the anticipated collection of Electric Distribution Company's payments to support the Clean Energy Standard ZEC program pursuant to a November 2016 Order and upcoming Order authoring the collection process.
Project repayments	140,560	149,187	18,207	167,394	Reflects an increase in the anticipated allowance price and a slight reduction in the number of allowances to be auctioned consistent with the FY 22-23 RGGI Operating Plan. The allowance price is an average based on the last five auction results through September 2021 including inflationary assumptions.
Federal grants	361	200	15	215	(Minor change)
	5,514	10,544	(1,128)	9,416	Reflects a net decrease in anticipated reimbursable expenditures under the U.S. Department of Energy (DOE) 'Offshore Wind Consortium' grant, offset in-part by an increase in anticipated NYS Department of Transportation Congestion Mitigation Air Quality grant spending.

NYSERDA
FY 2022-23 Budget
Reconciliation of Budget Changes
(Amounts in thousands)

	Actual FY 2020-21	Budget FY 2021-22	Change	Budget FY 2022-23	Explanation for change
Rentals from leases	1,009	996	9	1,005	(Minor change)
Interest income	702	1,002	(392)	611	Decrease reflects a lower investment yield to align with the investment portfolio's weighted average maturity. Yields are based on a four and six month U.S. Treasury bond index rate.
Loan interest - NY Green Bank	24,327	25,578	432	26,010	Reflects an increase in anticipated loan activity.
Loan interest - GJGNY	8,096	8,329	300	8,629	Reflects a slight increase in anticipated loan activity.
QECCB interest subsidy	356	306	(48)	258	Primarily due to a lower outstanding principal balance on the 2013 Energy Efficiency Financing Revenue Bonds generating less interest expense qualifying for the subsidy.
Fees and other income					
NY Green Bank	5,284	3,967	695	4,662	Reflects an increase in estimated NY Green Bank closing and undrawn fees.
Clean Energy Standard	15,248	7,000	(850)	6,150	Reflects a reduction in anticipated non-refundable Clean Energy Standard bid fees.
Annual Bond Fees/Other	236	197	(1)	196	(Minor change)
Total Fees and other income	20,768	11,164	(156)	11,008	
Total Revenues:	1,571,430	1,491,447	234,228	1,725,675	
Expenses:					
Salaries and Benefits	61,778	62,349	4,993	67,342	Net increase is due to a combination of NYS-authorized merit based catch-up pay adjustments, staffing trends consistent with the growing complexity and scope of work needed to deliver on CLCPA goals, and assumed 2% COLA and performance-based pay adjustments predicated on state approval, offset in-part by an overall decrease in fringe benefit costs. Anticipated fringe benefits reflect lower anticipated pension costs based on an average of the past five year's pension expense, lower retirement health insurance premiums based on the most recent actuarial valuation, offset in-part with increases to compensated absences and health insurance estimates based on current spending levels.
Program expenditures					
NY-Sun	119,917	140,413	134,793	275,206	Reflects an increase in anticipated expenditures based on project completion dates and timing of incentive payments.
Market Development/ Innovation & Research	246,210	299,284	63,729	363,013	Reflects an overall increase in anticipated program activity resulting from the implementation of an increased number of approved initiatives.
Clean Energy Standard - REC	14,385	45,825	(12,324)	33,501	Primarily reflects a reduction of anticipated purchases of renewable energy credits under the Tier Two State-mandated compliance program and to a lesser extent under the Tier One compliance program.
Clean Energy Standard - ZEC	536,176	590,473	-	590,473	Represents an increase in payments to zero-emission generation facilities based on the maximum credit price established pursuant to the Clean Energy Standard Order of the Public Service Commission but the actual subsidy price will be determined prior to April 1, 2022.
Other Programs (individually < 5% of total)	100,791	161,234	31,478	192,712	Represents an overall increase in anticipated expenditures primarily for the "New Efficiency New York" initiative to support NYS's strategy to combat climate change and achieve efficiency goals established by a December 2018 PSC Order, the NY Clean Transportation Prize, and Energy Storage programs, offset in part by a decrease in RPS program expenditures from cancelled Main Tier contracts and for reduction in incentive payments for Customer-sited Tier technology projects based on program wind down.
Regional Greenhouse Gas Initiative	89,956	106,076	10,401	116,477	Reflects an increase in anticipated expenditures based on amounts included in the FY 22-23 RGGI Operating Plan.
West Valley	10,945	18,794	3,960	22,754	Reflects an increase in anticipated program expenditures for NYSERDA's share of federal and state spending at West Valley.
NY Green Bank	455	600	(65)	535	Reflects a decrease in anticipated Evaluation expenditures.
Energy & Environmental Analysis	7,117	8,497	(547)	7,950	(Minor change)
Total program expenditures	1,125,952	1,371,196	231,425	1,602,621	

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NYSERDA
FY 2022-23 Budget
Reconciliation of Budget Changes
(Amounts in thousands)

	Actual FY 2020-21	Budget FY 2021-22	Change	Budget FY 2022-23	Explanation for change
Investment related expenses - NY Green Bank	585	163	(131)	32	Represents a decrease in estimated non-reimbursed investment related costs to support investment portfolio transactions.
Program operating costs	3,557	4,514	259	4,773	Primarily reflects an increase in NY Green Bank professional services costs, offset in-part by a decrease in NY Green Bank temporary services costs.
General & administrative expenses	11,467	16,615	663	17,278	Reflects an increase in IT software needs and telecommunication costs, professional service & staff development costs associated with Diversity, Equity, and Inclusion training, and temporary services costs, offset in part by decreases in web hosting and other expense categories.
Depreciation	2,663	2,534	(288)	2,246	Reflects a decrease in projected depreciation on existing capital assets which is offset in part from planned additions in FY 22-23.
NYS Assessments	13,594	13,594	-	13,594	(No change)
Bond interest and fees	3,745	3,624	(642)	2,982	Decrease reflects scheduled interest expense payments based on lower aggregate outstanding principal balances.
Total Expenses:	1,223,341	1,474,589	236,279	1,710,868	
Net (expense) revenue and change in net position	348,089	16,858	(2,051)	14,807	
Net position beginning of year	1,079,131	1,427,220	62,061	1,489,281	Reflects adjustments for known timing differences (in FY 20-21).
Known timing differences to FY 2021-22 budget	-	45,203	-	-	
<u>Net position end of year:</u>					
Restricted for specific programs	449,337	453,653	2,147	455,800	Primarily from an increase in the anticipated effect of BAYG pursuant to the CEF Order, offset in part by a decrease in the anticipated timing of the Clean Energy Standard revenues and expenditures.
NY Green Bank Capitalization	960,024	1,018,904	14,461	1,033,365	Reflects the net effect of all undrawn capital, deployed capital, matured/recycled capital, and a cumulative result of revenues exceeding expenditures.
Net Investment in Capital Assets	12,469	11,699	(936)	10,763	Reflects anticipated asset purchases less depreciation.
Unrestricted	5,390	5,025	(865)	4,160	(Minor change)
Total net position end of year	\$ 1,427,220	1,489,281	14,807	1,504,088	

NYSERDA FY 2022-23 Budget
 Detail schedule: Salaries and benefits
 (Amounts in thousands)

	<u>Actual</u> <u>FY 2020-21</u>	<u>Budget</u> <u>FY 2021-22</u>	<u>Change</u>	<u>Budget</u> <u>FY 2022-23</u>
Salaries	39,459	41,567	8,151	49,718
Fringe Benefits:				
Health insurance	3,920	4,816	869	5,685
Social Security/Medicare taxes	2,905	3,025	636	3,661
Voluntary Defined Contribution Plan	939	1,057	362	1,419
Compensated absence leave accruals	1,830	1,581	148	1,729
Other employee benefits	646	742	147	889
Pension	9,033	6,739	(1,839)	4,900
Postemployment health insurance (GASB 75)	3,045	2,822	(3,481)	(659)
sub-total benefits	<u>22,318</u>	<u>20,782</u>	<u>(3,158)</u>	<u>17,624</u>
Percentage of Salaries	56.6%	50.0%		35.4%
Total Salaries and Benefits	<u><u>61,777</u></u>	<u><u>62,349</u></u>	<u><u>4,993</u></u>	<u><u>67,342</u></u>

Salaries as budgeted for FY 2022-23 include a 2% cost-of-living-adjustment which has not yet been authorized by the State. The increase, if approved by NYS, will be in accordance with increases granted for NYS M/C employees. The budget also reflects performance-based salary increases and payments generally equivalent to salary increases and total salary costs anticipated to be provided for NYS employees.

The FY 2022-23 budget reflects 398.5 Ftes.

The FY 2021-22 salary budget *excluded* certain prior year merit increases that were not yet anticipated to be approved through the NYS Budget process. NYS subsequently approved a “catch up” merit adjustment which will be reflected in current fiscal year expenditures. The FY 2021-22 salary budget, normalized to incorporate these approved increases, would be \$42.567 million.

NYSERDA FY 2022-23 Budget
 Detail schedule: Program Expenditures
 (Amounts in thousands)

<u>Function/Program</u>	Budget	Budget	Financial	Financial	Financial
	<u>FY 2021-22</u>	<u>FY 2022-23</u>	<u>Plan</u>	<u>Plan</u>	<u>Plan</u>
			<u>FY 2023-24</u>	<u>FY 2024-25</u>	<u>FY2025-26</u>
Market Development/ Innovation & Research	299,284	363,013	395,652	403,692	342,140
NY Green Bank	600	535	535	535	535
NY-Sun	140,413	275,206	321,604	230,273	88,285
Clean Energy Standard - Offshore Wind	4,885	5,000	5,000	5,000	149,483
Clean Energy Standard - REC	23,603	33,501	63,423	96,342	135,995
Clean Energy Standard - REC Tier 2	22,222	480	16,480	16,000	16,000
Clean Energy Standard - REC Tier 4	-	-	-	-	98,062
Clean Energy Standard - ZEC	590,473	590,473	186,650	186,650	65,411
Clean Energy Standard - Build Ready	6,000	6,667	9,018	11,476	8,469
RGGI	106,076	116,477	124,507	130,655	51,161
Energy & Environmental Analysis	8,497	7,950	7,588	7,326	7,058
West Valley	18,794	22,754	22,636	22,530	22,393
Other Programs	150,349	180,565	183,852	148,361	85,725
Total	1,371,196	1,602,621	1,336,945	1,258,840	1,070,717

NYSERDA FY 2022-23 Budget
 Detail schedule: Program Operating Costs
 (Amounts in thousands)

	<u>Actuals</u> <u>FY 2020-21</u>	<u>Budget</u> <u>FY 2021-22</u>	<u>Change</u>	<u>Budget</u> <u>FY 2022-23</u>
Professional Services:				
STEP & Other Consulting	80	52	3	55
NY Green Bank	1,699	1,429	742	2,171
Total Professional Services	1,779	1,481	745	2,226
Training, Recruitment & Relocation	42	59	136	194
Travel and Outreach Costs	56	555	70	625
Rent, Maintenance & Repairs, Utilities, Insurance	373	423	26	449
Office Supplies, Equipment Rental, and Other	272	423	(33)	390
Computer Services and Software	268	418	(155)	263
Temporary Staffing, Outside Technical Reviewer	1,167	1,155	(529)	626
Total Program Operating Costs	3,957	4,514	261	4,773

NYSERDA FY 2022-23 Budget

Detail schedule: General & Administrative Expenses

(Amounts in thousands)

	Actuals	Budget		Budget
	<u>FY 2020-21</u>	<u>FY 2021-22</u>	<u>Change</u>	<u>FY 2022-23</u>
Computer Services and Software	1,879	4,339	237	4,576
Training, Recruitment & Relocation	127	302	174	476
Professional Services:				
Website support services	258	540	180	720
Information Technology	1,346	2,096	(380)	1,716
Fiscal Agent, audit and third-party payroll and Human Resource services	508	559	(20)	539
Other Consulting	149	106	294	400
Information security	-	-	35	35
Internal Audit support services	11	50	-	50
Marketing	183	280	-	280
Communication and consumer support services	97	150	5	155
Total Professional Services	<u>2,552</u>	<u>3,781</u>	114	<u>3,895</u>
Temporary Staffing, Outside Technical Reviewer	3,608	4,030	102	4,132
Rent, Maintenance & Repairs, Utilities, Insurance	3,113	3,698	58	3,756
Travel and Outreach Costs	55	236	21	257
Office Supplies, Equipment Rental, and Other	130	229	(43)	186
Total General & Administrative Expense	<u><u>11,464</u></u>	<u><u>16,615</u></u>	663	<u><u>17,278</u></u>

NYSERDA FY 2022-23 Budget
 Detail schedule: Capital Budget
 (Amounts in thousands)

	Actual	Original	Revised		Budget
	<u>FY 2020-21</u>	<u>FY 2021-22</u>	<u>FY 2021-22</u>	<u>Change</u>	<u>FY 2022-23</u>
Building improvements	-	961	40	633	673
Information technology upgrades	432	795	1,035	(470)	565
Furniture, fixtures and equipment	340	7	44	(13)	31
Vehicles	-	-	-	43	43
Leasehold improvements	100	-	130	(130)	-
STEP infrastructure	25	-	-	-	-
Total Capital Asset Additions	898	1,763	1,249	63	1,312

* Reflects a revised projection of capital investments to be made during FY 2021-22. Due to timing of certain projects, some planned capital investments in FY 2021-22 are anticipated to be made during FY 2022-23.

NYSERDA FY 2022-23 Budget
 Detail schedule: Debt Schedule
 (Amounts in thousands)

Purpose: Refinancing of loans issued through the Green Jobs-Green New York financing program

	<u>Principal Issued</u>	<u>Anticipated Total Debt Service</u>	<u>Pledged Revenues</u>	<u>Debt service % of Pledged Revenues</u>	<u>FY 2022-23 Debt Service</u>	<u>FY 2022-23 Outstanding Principal</u>	<u>FY 2023-24 Debt Service</u>	<u>FY 2023-24 Outstanding Principal</u>	<u>FY 2024-25 Debt Service</u>	<u>FY 2024-25 Outstanding Principal</u>	<u>FY 2025-26 Debt Service</u>	<u>FY 2025-26 Outstanding Principal</u>
Residential Energy Efficiency Financing Revenue Bonds												
Series 2013A (NYS EFC Guarantee)	24,300	29,651	37,436	79.2%	1,892	7,290	1,697	5,845	1,582	4,460	1,492	3,110
Series 2015A	46,358	53,824	67,991	79.2%	3,660	24,210	3,657	21,050	3,630	17,850	3,560	14,650
Series 2016A	23,180	27,539	34,473	79.9%	1,859	14,190	1,785	12,730	1,784	11,240	1,780	9,720
Residential Solar Loan Revenue Bonds, Series 2015A	48,536	75,406	86,927	86.7%	2,576	12,540	2,575	10,525	2,574	8,410	2,571	6,194
Residential Solar Loan Revenue Bonds, Series 2018A	18,500	21,908	30,732	71.3%	1,915	9,600	1,668	8,300	1,427	7,200	1,385	6,100
Residential Solar and Energy Efficiency Financing Green Revenue Bonds, Series 2019A	15,510	18,339	21,257	86.3%	1,670	8,930	1,563	7,675	1,453	6,490	1,323	5,395
Residential Solar and Energy Efficiency Financing Green Revenue Bonds, Series 2020A	<u>16,690</u>	<u>19,859</u>	<u>22,611</u>	87.8%	<u>2,412</u>	<u>12,630</u>	<u>2,134</u>	<u>10,810</u>	<u>1,917</u>	<u>9,175</u>	<u>1,753</u>	<u>7,670</u>
Total	193,074	246,526	301,427	81.8%	15,984	89,390	15,079	76,935	14,367	64,825	13,864	52,839

* No new debt issues are included in the Budget and Financial Plan as additional debt issues will require approval by the NYSERDA Board and the Public Authorities Control Board.

NYSERDA
 Budget FY 2022-23
 Financial Plan
 (Amounts in thousands)

	FY 2022-23 Budget	FY 2023-24 Projection	FY 2024-25 Projection	FY 2025-26 Projection
REVENUES:				
State appropriations	\$ 24,988	27,056	26,130	23,750
Third party reimbursement	58,356	31,228	34,516	34,516
Utility surcharge assessments	775,675	933,022	820,648	523,001
Renewable energy credit proceeds	30,262	71,652	121,513	288,682
Zero emission credit payments	590,473	186,650	186,650	65,411
Clean energy standard backstop charge	21,375	7,125	-	-
Allowance auction proceeds	167,394	160,350	153,306	153,306
Federal grants	9,416	10,826	7,860	7,461
Other income	47,736	52,230	65,405	79,529
TOTAL REVENUES	1,725,675	1,480,139	1,416,028	1,175,656
EXPENSES:				
Salaries and benefits	67,342	70,878	73,004	75,195
Program expenditures	1,602,621	1,336,945	1,258,840	1,070,717
Investment related expenses	32	32	32	32
Program operating costs	4,773	4,845	4,921	4,998
General & administrative expenses	17,278	18,271	18,821	19,384
Depreciation	2,246	1,775	1,425	1,105
NYS assessments	13,594	13,594	13,594	13,594
Bond interest and fees	2,982	2,625	2,256	1,877
TOTAL EXPENSES	1,710,868	1,448,965	1,372,894	1,186,902
Net (expense) revenue and change in net position	14,807	31,175	43,133	(11,245)
Net position beginning of year	1,489,281	1,504,088	1,535,263	1,578,396
Total net position end of year	\$ 1,504,088	1,535,263	1,578,396	1,567,151

NYSERDA
FY 2022-23 Cash-Based Budget
(Amounts in thousands)

	Functions/Programs								FY 2022-23 Cash Budget Total Total
	Market Development / Innovation & Research	NY Green Bank	NY-Sun	Clean Energy Standard	RGGI	Energy & Environmental Analysis	West Valley	Other	
RECEIPTS:									
State appropriations	\$ -	-	-	-	860	150	23,600	378	24,988
Third party reimbursement	30,884	-	-	-	-	-	2,516	24,956	58,356
Utility surcharge assessments	312,730	-	293,066	-	-	13,799	-	146,195	765,790
Renewable energy credit proceeds	-	-	-	30,262	-	-	-	-	30,262
Zero emission credit payments	-	-	-	590,473	-	-	-	-	590,473
Clean energy standard backstop charge	-	-	-	21,375	-	-	-	-	21,375
Allowance auction proceeds	-	-	-	-	167,394	-	-	-	167,394
Project repayments	-	-	-	-	-	-	-	215	215
Federal grants	-	-	-	-	-	2,853	-	6,563	9,416
Rentals from leases	-	-	-	-	-	-	-	1,005	1,005
Interest income	38	200	16	42	237	-	-	78	611
Loan interest	-	26,010	-	-	-	-	-	8,629	34,639
Loan principal repayments	-	52,800	-	-	-	-	-	20,510	73,310
QECB interest subsidy	-	-	-	-	-	-	-	258	258
Fees and other income	-	4,662	-	6,150	-	-	-	196	11,008
TOTAL REVENUES	343,652	83,672	293,082	648,302	168,491	16,802	26,116	208,983	1,789,100
DISBURSEMENTS:									
Salaries and benefits	22,354	10,484	2,457	7,811	9,115	6,006	2,343	6,772	67,342
Program expenditures	363,013	535	275,206	636,121	116,477	7,950	22,754	180,565	1,602,621
Investment related expenses	-	32	-	-	-	-	-	-	32
Other Operating costs	478	2,341	56	192	3	1,064	147	492	4,773
General & administrative expenses	5,729	2,681	624	2,012	2,352	1,531	612	1,737	17,278
Capital asset additions	445	209	49	156	182	120	47	134	1,342
Deployed Capital	-	208,900	-	-	-	-	-	-	208,900
Bond interest and fees	-	-	-	-	-	-	-	2,982	2,982
Principal bond payment	-	-	-	-	-	-	-	14,256	14,256
Loan purchases	-	-	-	-	-	-	-	36,478	36,478
NYS Assessments	3,168	132	2,248	5,217	1,035	134	209	1,451	13,594
TOTAL EXPENSES	395,187	225,314	280,640	651,509	129,164	16,805	26,112	244,866	1,969,596
Net (expense) revenue and change in cash position	(51,535)	(141,642)	12,442	(3,207)	39,327	(3)	4	(35,883)	(180,497)
Cash and investments, beginning of year	82,224	354,074	46,744	76,895	125,724	2,901	-	117,866	806,429
Inter-program transfers	22,000	-	-	-	(51,937)	-	-	29,937	-
Cash and investments, end of year	\$ 52,689	212,432	59,186	73,689	113,115	2,898	4	111,920	625,932

Resolution No. _____

RESOLVED, that the proposed fiscal year 2022-23 Budget and Financial Plan submitted to the Members for consideration at this meeting, with such non-material, editorial changes and supplementary schedules as the President and Chief Executive Officer, in their discretion, may deem necessary or appropriate, be and it hereby is approved by the Board for submission to the persons designated in Sections 1867(4) and 2801 of the Public Authorities Law.

Resolution No. ____

RESOLVED, that pursuant to Section 105 of the Public Officers Law, the Members of the New York State Energy Research and Development Authority shall convene in executive session on January 25, 2022 for the purpose of discussing the employment history of a particular person.

Resolution No.

RESOLVED, that pursuant to Section 2 of Article III of the By-laws of the Authority, the Authority hereby appoints Charles Bell as Vice Chair to serve at the pleasure of the Authority and perform the duties of the Vice Chair as set forth in Section 2 of Article IV of the By-laws and such other duties as may be assigned by the Authority or the Chair.

**WASTE AND FACILITIES
MANAGEMENT COMMITTEE
(ORAL REPORT)**

**AUDIT AND FINANCE
COMMITTEE
(ORAL REPORT)**

**NY GREEN BANK
(ORAL REPORT)**

**CLIMATE ASSESSMENT
(ORAL REPORT)**

Periodic Contracts Approvals

Contracts executed or modified during the period - 8/16/2021 to 12/15/2021

	Count of Contracts	Committed this Period
Procurement Contracts > 1year	95	\$41.5M
Competitive Program Contracts > \$3M	14	\$123.2M
Grand Total	109	\$164.7M

Contracts anticipated to be executed or modified during the period - 8/16/2021 to 12/15/2021

	Count of Contracts	Anticipated Amount
Procurement Contracts > 1year	24	\$12.4M
Competitive Program Contracts > \$3M	10	\$31.9M
Non-competitive Program Contracts > \$1M	0	\$0.0M
Grand Total	34	\$44.3M

NYSERDA PERIODIC CONTRACTS APPROVAL REPORT: Section 1
Summary - 8/16/2021 to 12/15/2021

Category	Report Type	Type	Count of Contracts	Committed this period
PCMT	Procurement	Competitive	71	\$38,997,676
		Discretionary	16	\$1,369,289
		Non-Competitive	8	\$1,168,182
	Total		95	\$41,535,147
PGRM	Procurement	Competitive	14	\$123,176,565
		Total	14	\$123,176,565
Grand Total			109	\$164,711,712

NYSERDA PERIODIC CONTRACTS APPROVAL REPORT - 8/16/2021 to 12/15/2021

Category	Initiative	Type	Term > 1 Year	Contract ID	Contractor	Contract Description	Date	Committed this period	Committed to Date	Amt Paid this Period	Amt Paid to Date
PCMT		Competitive	Y	168221	Kelliher Samets Volk	KSV TWO 42 IPNA Bridge Loan	05/11/2021	\$149,760	\$158,685	\$3,060	\$3,060
		Competitive	Y	168222	Kelliher Samets Volk	KSV TWO 41 Loan Loss Reserve	05/11/2021	\$149,890	\$158,305	\$10,923	\$14,323
		Competitive	Y	171201	MDRC	Pay for Success CE Training	07/12/2021	\$1,060,680	\$1,060,680	\$148,567	\$148,567
		Competitive	Y	175528	Employee Leasing of Greater NY	TS.023 - SQA_Coordinator	10/14/2021	\$139,388	\$139,388	\$5,560	\$5,560
		Discretionary	Y	174100	Alliant Insurance Services, Inc.	Moore McNeil - Level Solar	09/15/2021	\$50,000	\$50,000	\$17,500	\$17,500
		Non-Competiti..	Y	177243	General Electric International Inc	GE MAPS Software 2021-2024	11/18/2021	\$436,500	\$436,500		
BR: Program Implementation		Competitive	Y	172487	Kelliher Samets Volk	TWO 43 Build Ready Marketing	08/09/2021	\$200,000	\$200,000	\$8,330	\$8,330
Carbontech Development		Competitive	Y	174627	Activate Global, Inc	Carbontech Fellowship Program	09/27/2021	\$9,146,000	\$9,146,000	\$50,000	\$50,000
Cleantech Ignition		Competitive	Y	151220	Mintz, Levin, Cohn, Ferris, Glosky and	RFP 12 - NYGB Legal Services	02/11/2020	\$54,139	\$54,139	\$42,977	\$42,977
Cleantech Incubator		Competitive	Y	110474	Long Island High Technology Incubator	PON3413 Clean Energy Incubator	02/17/2017	\$380,000	\$380,000	\$252,362	\$252,362
Code to Zero		Competitive	Y	104542	The Cadmus Group, LLC	RFQ3183 Umbrella Agreement	10/05/2016	\$200,612	\$2,356,744	\$461,846	\$1,842,312
		Competitive	Y	172316	Battelle Memorial Institute	TWO #2 NYStretch Comm Modeling	08/04/2021	\$195,935	\$195,935	\$45,000	\$45,000
		Competitive	Y	172317	Battelle Memorial Institute	TWO #3 NYStretch Res Modeling	08/04/2021	\$123,883	\$123,883	\$30,000	\$30,000
Consumer Ed and Market Support		Competitive	Y	175999	Kelliher Samets Volk	TWO#45 SFR	10/22/2021	\$1,220,000	\$1,220,000		
		Discretionary	Y	170025	BPCA NYS Inc.	Business Development Support	06/22/2021	\$300,000	\$300,000	\$50,000	\$50,000
EDI Vendor		Non-Competiti..	Y	150484	EC Infosystems, Inc.	EC Infosys - EDI Processing	01/22/2020	\$69,000	\$296,300	\$46,000	\$252,125
ENERGY ANALYSIS		Competitive	Y	101128	ICF Resources, LLC	Tech Assist, REV Pool	07/15/2016	\$85,000	\$986,977	\$81,753	\$954,025
		Competitive	Y	147152	TRC Energy Services	SA.053a_TWO #20 - EEA	11/05/2019	\$166,000	\$495,556	\$55,880	\$308,473
		Discretionary	Y	150710	ICE Data, LP	ENERGY ANALYSIS	01/29/2020	\$21,680	\$42,380		\$20,280
Environmental Research		Competitive	Y	100417	Research Foundation of SUNY	IDEA-NYS air quality forecast	06/29/2016	\$129,174	\$537,316	\$3,902	\$408,142
		Competitive	Y	103851	SUNY - ESF	Biofiltration drainage media	09/20/2016	\$49,986	\$342,897		\$230,736
		Competitive	Y	156226	University of Rochester	Changes in PM Composition	07/27/2020	\$133,370	\$681,523	\$83,857	\$83,857
		Competitive	Y	156228	The Research Foundation for the State	Low-Cost AQ Sensors	07/27/2020	\$58,583	\$603,152	\$63,490	\$73,008
		Competitive	Y	165245	ICF Resources, LLC	TWO#9 NYS Elect System Model	03/05/2021	\$60,000	\$140,000	\$60,728	\$60,728
		Competitive	Y	175460	WSP USA Corp.	Suppt Svcs for Solar Dev & Ag	10/13/2021	\$274,295	\$274,295		
		Competitive	Y	175937	Abt Associates Inc.	TWO #3 Pathways Health Phase 2	10/22/2021	\$350,000	\$350,000		
		Competitive	Y	177013	Protek Information Technology Services	NYSERDA/DEC AQ Monitoring	11/12/2021	\$7,949,375	\$7,949,375		
Eval MCDC:Climate Act Benefits		Competitive	Y	177874	Illume Advising LLC	TWO #2 - DAC Benefits	12/02/2021	\$452,350	\$452,350		
Eval MCDC:I&R Product Dev.Stud		Competitive	Y	175678	DNV Energy Insights USA Inc.	TWO#2 I&R Product Dev 2016-20	10/18/2021	\$650,857	\$650,857		

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PCMT	High Performing Grid	Competitive	Y	172056	Alliance for Sustainable Energy, LLC	TWO #8 NREL TWO for Resilience	07/29/2021	\$380,215	\$380,215		
	Home Energy Ratings	Competitive	Y	172914	ADM Associates, Inc.,	TWO # 1	08/18/2021	\$915,184	\$915,184		
	Home Perf w Energy Star	Competitive	Y	127558	Honeywell International Inc.	3695 TWO Umbrella Agreement	06/04/2018	\$1,150,000	\$3,841,400	\$422,696	\$2,929,523
	IEDR: Program Manager	Competitive	Y	172192	Deloitte Consulting LLP	IEDR Program Manager RFP CM	08/02/2021	\$4,970,902	\$4,970,902	\$157,723	\$157,723
				172771	Pecan Street Inc.	IEDR Utility Data Advisor	08/16/2021	\$400,000	\$400,000	\$14,713	\$14,713
	New Construction-Commercial	Non-Competiti..	Y	152645	New Buildings Institute, Inc.	CNB Roadmap Writing	03/17/2020	\$225,000	\$584,058	\$48,813	\$331,525
	NEW YORK GREEN BANK	Competitive	Y	98838	DealCloud Inc.	DealCloud Licensing	05/24/2016	\$11,385	\$486,850	\$116,980	\$486,850
				149695	Holland & Knight LLP	RFP 12 - NYGB Legal Services	12/31/2019	\$197,512	\$419,555	\$21,526	\$243,570
				149696	Nixon Peabody LLP	RFP 12 - NYGB Legal Services	12/31/2019	\$73,278	\$185,842	\$73,278	\$185,842
				150712	Windels Marx Lane & Mittendorf, LLP	RFP 12 - NYGB Legal Services	01/29/2020	\$10,000	\$10,000	\$10,000	\$10,000
				174684	Pivotal 180, LLC	NYGB 2021 New Hire Course	09/28/2021	\$30,000	\$30,000	\$14,250	\$14,250
	NYCH: Critical Tools	Competitive	Y	173830	TRC Energy Services	CHC Data Analysis TWO - TRC	09/09/2021	\$49,500	\$49,500		
				174180	New York Geothermal Energy Organization	Geothermal Performance Analsi	09/17/2021	\$45,000	\$45,000		
	NYCH: Supply Chain	Competitive	Y	143834	Allegis Group Holdings Inc	SA.054_TWO #9 - SFR PM	08/16/2019	\$399,829	\$632,463	\$39,150	\$244,572
	NYCH: Talent PpIn:CE and OJT	Competitive	Y	161831	BW Research Partnership	TWO# 2 JTWG Jobs Study	12/10/2020	\$55,664	\$355,664	\$157,179	\$324,877
	NYSERDA ADMINISTRATION	Competitive	Y	109917	BDO USA LLP	Background Investigation Servi	02/07/2017	\$65,620	\$165,470	\$65,620	\$165,470
				140703	Randstad North America, Inc.	Payroll Services_Web Ops	05/24/2019	\$63,375	\$165,563	\$20,248	\$121,176
				140704	Randstad North America, Inc.	Payroll Services	05/24/2019	\$57,038	\$161,345	\$16,906	\$115,303
				172508	Tech Valley Talent, LLC	TWO #10 Server Ops – Ross	08/13/2021	\$185,250	\$185,250	\$29,352	\$29,352
				173006	Tech Valley Talent, LLC	TWO #12 Project Mgr GIS, Brad	08/20/2021	\$181,350	\$181,350	\$28,456	\$28,456
173007				Tech Valley Talent, LLC	TWO #11 Info Security Services	08/20/2021	\$191,100	\$191,100	\$30,521	\$30,521	
173009				Unique Comp Inc.	TWO #4 Salesforce PM - Nichols	08/20/2021	\$224,250	\$224,250	\$28,003	\$28,003	
173418				Unique Comp Inc.	TWO #5 Tableau Dev. Sudhanshu	08/31/2021	\$204,360	\$204,360			
173773				Unique Comp Inc.	TWO #6 Sr. Software Dev. Ralph	09/08/2021	\$189,150	\$189,150			
173882				Zones LLC	SMARTnet - Maintenance 21-22	09/10/2021	\$22,731	\$22,731	\$22,731	\$22,731	
174853				Tech Valley Talent, LLC	TWO #14 Salesforce BA - Robles	09/30/2021	\$218,400	\$218,400	\$11,702	\$11,702	
174982				Zones LLC	Cisco Webex renewal 10.1.21	10/04/2021	\$48,380	\$48,380	\$48,380	\$48,380	
175184				Tech Valley Talent, LLC	TWO #15 Tableau Dev. M Adeyemo	10/08/2021	\$208,650	\$208,650	\$799	\$799	
175461	Verizon Wireless	Verizon Wireless Cellular Serv	10/14/2021	\$73,239	\$73,239						

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PCMT	NYSERDA ADMINISTRATION	Competitive	Y	176209	Technology Professionals Group Inc.	TWO #1 Salesforce PM Kerollos	10/27/2021	\$224,250	\$224,250		
		Competitive	Y	176490	Carahsoft Technology Corporation	Salesforce Licensing 2022	11/03/2021	\$1,578,266	\$1,578,266	\$1,578,266	\$1,578,266
		Competitive	Y	177157	Randstad North America, Inc.	Payroll Services	11/17/2021	\$205,234	\$205,234		
		Competitive	Y	177349	Gartner Inc.	Gartner 2022 Renewal	11/23/2021	\$40,143	\$40,143		
		Competitive	Y	177516	Direct Packet Inc.	Video Hardware Renewal – Cisco	11/24/2021	\$11,881	\$11,881		
		Competitive	Y	177731	Info-Tech Research Group Inc.	Info-Tech Research Group.1yr.	11/30/2021	\$37,400	\$37,400		
		Competitive	Y	178085	Oracle America, Inc.	Oracle Peoplesoft Enterprise	12/08/2021	\$54,308	\$54,308		
		Competitive	Y	178422	Tech Valley Talent, LLC	TWO #16 Technical BA – Garrett	12/13/2021	\$194,025	\$194,025		
		Discretionary	Y	68677	Commercial Investigations LLC	Background Checks	07/09/2015	\$10,000	\$50,000	\$4,960	\$43,293
		Discretionary	Y	141800	Employee Leasing of Greater NY	TS016_Marketing	06/25/2019	\$66,000	\$231,000	\$15,053	\$136,774
		Discretionary	Y	168423	ThunderCat Technology LLC	Pyramid Consulting	05/14/2021	\$159,000	\$159,000		
		Discretionary	Y	173114	New York State Forum for IRM	NYS Forum Membership 21 – 22	08/25/2021	\$5,500	\$5,500	\$5,500	\$5,500
		Discretionary	Y	173625	ThunderCat Technology LLC	Telerik Tools. Thundercat	09/03/2021	\$5,666	\$5,666	\$5,666	\$5,666
		Discretionary	Y	174523	ThunderCat Technology LLC	Checkmarx licensing & support	09/23/2021	\$63,076	\$63,076	\$63,076	\$63,076
		Discretionary	Y	174625	OwnBackup Inc.	Own backupSalesforce.KeyMgt.	09/27/2021	\$36,077	\$36,077	\$36,077	\$36,077
		Discretionary	Y	174856	Troy Web Consulting, LLC	Troy Web Hosting - Cloud 1yr	09/30/2021	\$7,620	\$7,620		
		Discretionary	Y	175520	ThunderCat Technology LLC	Atlassian Licenses – Jira	10/14/2021	\$71,296	\$71,296	\$71,296	\$71,296
		Discretionary	Y	177735	CDATA SOFTWARE, INC.	DBAmp Pro. Edition Unlimited	12/01/2021	\$8,990	\$8,990		
		Non-Competiti..	Y	157686	inMotion, Inc.	inMotion Subscription	09/02/2020	\$3,663	\$88,511	\$30,111	\$58,394
		Non-Competiti..	Y	177287	NortonLifeLock Inc	Identity Theft Protection	11/19/2021	\$15,390	\$15,390		
NYSERDA Fixed Asset	Competitive	Y	173593	Carnegie Fabrics LLC	Soundproofing for NYGB	09/02/2021	\$19,385	\$19,385	\$19,385	\$19,385	
OREC: Technical Support	Competitive	Y	175173	Worley Group, Inc.	Determination Study Buy Americ	10/07/2021	\$181,400	\$181,400			
	Discretionary	Y	175728	Karp Strategies, LLC	Secondment for OSW Stakeholder	10/20/2021	\$489,384	\$489,384	\$33,568	\$33,568	
Real Time Enrgy Management	Competitive	Y	143835	EME Consulting Engineering Group, LLC	SA.056_TWO #10 - RTEM MF	08/16/2019	\$181,350	\$516,480	\$40,011	\$345,450	
	Competitive	Y	144828	DNV Energy Insights USA Inc.	TWO 8 CEF Comm Impact_DNV	09/12/2019	\$602,481	\$1,198,755	\$147,047	\$330,465	
	Competitive	Y	ADH0014641	TRC Energy Services	SA.028_TWO #10_AES_PM	02/25/2021	\$215,000	\$215,000	\$30,836	\$30,836	
Retrofit NY	Competitive	Y	144670	EME Consulting Engineering Group, LLC	SA.057_TWO #11 - Multifamily	09/10/2019	\$200,000	\$497,788	\$46,060	\$288,069	
SARATOGA TECHNOLOGY & ENER..	Competitive	Y	104265	Harris Beach PLLC	RFP 3300 Outside Counsel Servi	09/27/2016	\$2,126	\$156,731	\$2,053	\$138,801	
Statewide EE&BE PotentialStudy	Competitive	Y	174807	The Cadmus Group, LLC	TWO 12 StWide Potential Study	09/29/2021	\$889,862	\$889,862	\$19,183	\$19,183	

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PCMT	Talent Pipeline:CE and OJT	Competitive	Y	154034	BW Research Partnership	TWO# 1 CE Industry Report	05/06/2020	\$6,000	\$365,205	\$182,056	\$339,961
		Non-Competiti..	Y	171605	American Society of Heating,Refrigeratin	Com Heat Pump Webinar Series	07/20/2021	\$291,023	\$291,023		
	Technical Services	Competitive	Y	156483	Noresco LLC	IAQ - Tech Review - NORESOCO	07/31/2020	\$33,600	\$105,000	\$32,359	\$103,759
		Competitive	Y	171669	EME Consulting Engineering Group, LLC	EPE Team Analysis - EME TWO	07/23/2021	\$50,000	\$50,000	\$4,804	\$4,804
		Competitive	Y	174804	EME Consulting Engineering Group, LLC	SA.084_TWO# 15_MF PM-1	09/29/2021	\$312,630	\$312,630		
		Non-Competiti..	Y	155980	Ensavo, Inc.	CEA Db&Benchmark Tool Creation	07/20/2020	\$29,388	\$79,344	\$21,077	\$59,631
	WEST VALLEY DEVELOPMENT PROGR..	Non-Competiti..	Y	153048	McMahon and Mann Consulting Engineers	TWO #6 Engineering Services	03/31/2020	\$98,218	\$348,218	\$99,048	\$343,090
	Workforce Industry Partnership	Competitive	Y	164974A	DNV Energy Insights USA Inc.	TWO 1 - WFD BLDG/Talent	07/13/2021	\$32,700	\$1,134,321	\$183,220	\$262,020
PGRM	Carbontech Development	Competitive	Y	172247	The Trustees of Columbia University	The Carbon Foundry	08/04/2021	\$10,000,000	\$10,000,000	\$250,000	\$250,000
	CLEANER GREENER COMMUNITIES	Competitive	Y	171925	CEC Stuyvesant Cove, Inc.	RFP4641 CECC Downstate	07/28/2021	\$3,700,001	\$3,700,001	\$88,982	\$88,982
	Cleantech Incubator	Competitive	Y	110469	New York University	PON3413 Clean Energy Incubator	02/17/2017	\$380,000	\$4,380,000	\$497,500	\$2,912,250
	Cleantech POCC	Competitive	Y	141799	New Energy Nexus New York LLC	Cleantech Accelerator	06/25/2019	\$375,000	\$6,375,000	\$820,675	\$3,909,275
	ESTOR:Retail Storage Incentive	Competitive	Y	144819A	CEP NY Borrower 1 LLC	NY-Sun C&I	08/23/2021	\$4,799,256	\$4,799,256		
	New Construction Housing	Competitive	Y	177056	Housing Trust Fund Corporation	HCR 2021	11/15/2021	\$7,500,000	\$7,500,000		
	NY-SUN	Competitive	Y	166478	Long Island Power Authority	MOU - 3 year term	04/01/2021	\$20,000,000	\$20,000,000	\$15,000,000	\$15,000,000
	Pay for Performance	Competitive	Y	129293	Consolidated Edison Company	P4P Con Ed MOU and NDA	07/26/2018	\$8,106,666	\$8,106,666		
		Competitive	Y	138141	National Grid	National Grid P4P MOU	03/19/2019	\$7,068,534	\$7,068,534		
	REC:CES REC Contracts	Competitive	Y	162128	Somers Solar, LLC	RESRFP20-1	12/16/2020	\$11,922,311	\$11,922,311		
		Competitive	Y	162129	Hawthorn Solar, LLC	RESRFP20-1	12/16/2020	\$11,769,381	\$11,769,381		
		Competitive	Y	162130	Dolan Solar, LLC	RESRFP20-1	12/16/2020	\$11,925,158	\$11,925,158		
		Competitive	Y	162134	Borrego Solar Systems, Inc.	RESRFP20-1	12/16/2020	\$24,050,258	\$24,050,258		
	Workforce Industry Partnership	Competitive	Y	37382	TRC Energy Services	Technical Review and Program S	11/15/2013	\$1,580,000	\$5,681,294	\$525,072	\$3,872,996
	Grand Total								\$164,711,712	\$192,545,124	\$22,753,693

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Contractor	SupplierAddress	SupplierCity	SupplierState	SupplierZipCode	Business Type	WBE	MBE	SDVOB	SBE
Abt Associates Inc.	6130 Executive Boulevard	Rockville	MD	20852	FSBE				
Activate Global, Inc	2150 Shattuck Ave	Berkeley	CA	94704	FSBE				
ADM Associates, Inc.,	3239 Ramos Circle	Sacramento	CA	95827	FSBE				
Allegis Group Holdings Inc	7301 Parkway Drive	Hanover	MD	21076	FSBE				
Alliance for Sustainable Energy, LLC	15013 Denver West Parkway	Golden	CO	80401	FSBE				
Alliant Insurance Services, Inc.	2002 Richard Jones Road	Nashville	TN	37215	FSBE				
American Society of Heating,Refrigeratin	1791 Tullie Circle, N.E.	Atlanta	GA	30329-2305	FSBE				
Battelle Memorial Institute	902 Battelle Blvd	Richland	WA	99352	FSBE				
BDO USA LLP	PO Box 642743	Pittsburgh	PA	15264-2743	FSBE				
Borrego Solar Systems, Inc.	30 Century Hill Drive	Latham	NY	12110	NYSBE				
BPCA NYS Inc.	15516 99th St	Howard Beach	NY	11414	NYSBE				
BW Research Partnership	6120 Paseo Del Norte, Suite D2	Carlsbad	CA	92011	FSBE				
Carahsoft Technology Corporation	11493 Sunset Hills Road	Reston	VA	20190	FSBE				
Carnegie Fabrics LLC	110 North Centre Avenue	Rockville Centre	NY	11570	NYSBE				
CDATA SOFTWARE, INC.	101 Europa Dr. Suite 110	Chapel Hill	NC	27517	FSBE				
CEC Stuyvesant Cove, Inc.	PO Box 1247	NEW YORK	NY	10113	NYSBE				
CEP NY Borrower 1 LLC	7 Times Square, Suite 3504	New York	NY	10036	NYSBE				
Commercial Investigations LLC	622 Loudon Rd., Ste 201	Latham	NY	12110	NYSBE	X			
Consolidated Edison Company	Of New York, Inc.	New York	NY	10003	NYSBE				
DealCloud Inc.	300 S. Tryon St., Suite 1200	Charlotte	NC	28202	FSBE				
Deloitte Consulting LLP	1919 N. Lynn Street	Arlington	VA	22209	FSBE				
Direct Packet Inc.	909 Lake Carolyn Parkway, Suite 1800	Irving	TX	75039	FSBE				
DNV Energy Insights USA Inc.	1400 Ravello Drive	Katy	TX	77449	FSBE				
Dolan Solar, LLC	2045 Lincoln Highway	Edison	NJ	08817	FSBE				
EC Infosystems, Inc.	333 Earle Ovington Boulevard	Uniondale	NY	11553	NYSBE				
EME Consulting Engineering Group, LLC	550 Seventh Avenue 10th Floor	New York	NY	10018	NYSBE				
Employee Leasing of Greater NY	2137 Router 35 Suite 160	Holmdel	NJ	07733	FSBE		X	X	
Ensave, Inc.	65 Millett Street, Suite #105	Richmond	VT	05477	FSBE				
Gartner Inc.	56 Top Gallant Rd	Stamford	CT	06902	FSBE				
General Electric International Inc	1 River Rd Bldg 2	Schenectady	NY	12345-6000	NYSBE				

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Contractor	SupplierAddress	SupplierCity	SupplierState	SupplierZipCode	Business Type	WBE	MBE	SDVOB	SBE
Harris Beach PLLC	99 Garmsey Road	Pittsford	NY	14534	NYSBE				
Hawthorn Solar, LLC	2045 Lincoln Highway	Edison	NJ	08817	FSBE				
Holland & Knight LLP	PO Box 864084	Orlando	FL	32886	FSBE				
Honeywell International Inc.	700 Airways Park Drive	East Syracuse	NY	13057	NYSBE				
Housing Trust Fund Corporation	38-40-State Street	Albany	NY	12207	NYSBE				
ICE Data, LP	5660 New Northside Dr.	Atlanta	GA	30328	FSBE				
ICF Resources, LLC	9300 Lee Highway	Fairfax	VA	22031	FSBE				
Illume Advising LLC	440 Science Dr., Suite 202	Madison	WI	53711	FSBE	X			
Info-Tech Research Group Inc.	3960 Howard Hughes Parkway, Suite 500	Las Vegas	NV	89169	FSBE				
inMotion, Inc.	PO Box 744276	Atlanta	GA	30384-4276	FSBE				
Karp Strategies, LLC	833 President Street	Brooklyn	NY	11215	NYSBE	X			
Kelliher Samets Volk	212 Battery Street	Burlington	VT	05401	FSBE	X			
Long Island High Technology Incubator	25 Health Sciences Drive	Stony Brook	NY	11790	NYSBE				
Long Island Power Authority	Attn: Frederick S. Peritore	Hicksville	NY	11801	NYSBE				
McMahon and Mann Consulting Engineers	2495 Main St, Ste 432	Buffalo	NY	14214-2103	NYSBE				
MDRC	200 Vesey Street, 23rd Floor	New York	NY	10281	NYSBE				
Mintz, Levin, Cohn, Ferris, Glovsky and	One Financial Center	Boston	MA	02111	FSBE				
National Grid	300 Erie Boulevard West	Syracuse	NY	13202	NYSBE				
New Buildings Institute, Inc.	623 SW Oak Street	Portland	OR	97205	FSBE				
New Energy Nexus New York LLC	298 Garfield Place #3	Brooklyn	NY	11215	NYSBE				
New York Geothermal Energy Organization	7523 County House Road	Auburn	NY	13021	NYSBE				
New York State Forum for IRM	24 Aviation Rd., Suite 206	Albany	NY	12205	NYSBE				
New York University	10 Astor Place	New York	NY	10003	NYSBE				
Nixon Peabody LLP	1300 Clinton Square	Rochester	NY	14604	NYSBE				
Noresco LLC	510 Thornall St., Ste 170	Edison	NJ	08837	FSBE				
NortonLifeLock Inc	60 E. Rio Salado Pkwy	Tempe	AZ	85281	FSBE				
Oracle America, Inc.	PO Box 203448	Dallas	TX	75320-3448	FSBE				
OwnBackup Inc.	940 Sylvan Ave FL 1	Englewood Cliffs	NJ	07632	FSBE				
Pecan Street Inc.	3924 Berkman Dr.	Austin	TX	78723	FSBE				
Pivotal 180, LLC	405 Lexington Avenue	New York	NY	10174	NYSBE				

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Protek Information Technology Services	492 Mitchell Drive	Valley Cottage	NY	10989	NYSBE				
Randstad North America, Inc.	PO Box 2084	Carol Stream	IL	60132-2084	FSBE	X			
Research Foundation of SUNY	P.O. Box 9	Albany	NY	12201	NYSBE				
Somers Solar, LLC	2045 Lincoln Highway	Edison	NJ	08817	FSBE				
SUNY - ESF	The Research Foundation - SUNY	Albany	NY	12201-0009	NYSBE				
Tech Valley Talent, LLC	20 Prospect St. Suite 200, Building 1	Ballston Spa	NY	12020	NYSBE	X			
Technology Professionals Group Inc.	D/B/A Cloud and Things	Loudonville	NY	12211	NYSBE	X	X		
The Cadmus Group, LLC	100 5th Ave., Ste 100	Waltham	MA	02451	FSBE				
The Research Foundation for the State	SUNY-ESF, ESF Open Academy	Syracuse	NY	13210	NYSBE				
The Trustees of Columbia University	1210 Amsterdam Ave	New York	NY	10027-7003	NYSBE				
ThunderCat Technology LLC	1925 Isaac Newton Square	Reston	VA	20190	FSBE			X	
TRC Energy Services	21 Griffin Rd North	Windsor	CT	06095	FSBE				
Troy Web Consulting, LLC	21 Westover Rd.	Troy	NY	12180	NYSBE				
Unique Comp Inc.	2708 42nd Road	Long Island City	NY	11101	NYSBE	X	X		
University of Rochester	515 Hylan Building	Rochester	NY	14627	NYSBE				
Verizon Wireless	PO Box 408	Newark	NJ	07101-0489	FSBE				
Windels Marx Lane & Mittendorf, LLP	156 West 56th Street, 22nd Floor	New York	NY	10019	NYSBE				
Worley Group, Inc.	181 West Huntington Dr	Monrovia	CA	91016	FSBE				
WSP USA Corp.	One Penn Plaza	New York	NY	10119	NYSBE				
Zones LLC	1102 15th St. SW. STE 102	Auburn	WA	98001	FSBE				

NYSERDA PERIODIC CONTRACTS APPROVAL REPORT: Section 1
Summary - 8/16/2021 to 12/15/2021

Category	Report Type	Type	Count of Contracts	Committed this period
PCMT	Procurement	Competitive	71	\$38,997,676
		Discretionary	16	\$1,369,289
		Non-Competitive	8	\$1,168,182
	Total		95	\$41,535,147
PGRM	Procurement	Competitive	14	\$123,176,565
		Total	14	\$123,176,565
Grand Total			109	\$164,711,712

NYSERDA PERIODIC CONTRACTS APPROVAL REPORT: Section 1
Summary - 8/16/2021 to 12/15/2021

Category	Report Type	Type	Count of Contracts	Committed this period
PGRM	Program	Competitive	1,185	\$269,914,144
		Discretionary	4	\$200,000
		Non-Competitive	5	\$1,033,400
Total			1,194	\$271,147,544
Grand Total			1,194	\$271,147,544

Section 1 Summary - Percentages

% Contract Counts Competitively

% of \$Committed this period Competitively

99.58%	99.62%
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NYSERDA PERIODIC CONTRACTS APPROVAL REPORT: Anticipated Contracts - 8/16/2021 to 12/15/2021

Category	Type	Term > 1 Year	Contract ID	Contractor	Contract Description	Reason	Date	Anticipated Amount	Total Contract Amount	
PCMT	Competitive	Y	30191	Abt Associates Inc.	Flex Energy Tech Analysis 2	Added New Tasks	11/09/2012	\$100,000	\$970,943	
	Competitive	Y	85025	Tech Valley Talent, LLC	RFP3143 Umbrella Agreement	Added New Tasks	12/18/2015	\$81,938	\$8,011,520	
	Competitive	Y	98839A	Advent Software Luxembourg S A R L	Fund Administration/Loan Inves	Added New Tasks	04/08/2020	\$5,000	\$1,723,254	
	Competitive	Y	98840	KPMG LLP	Audit Services	Added New Tasks	05/24/2016	\$35,200	\$583,160	
	Competitive	Y	107771	CLEAResult Consulting, Inc.	Centralized Services & Support	Added New Tasks	12/08/2016	\$3,625,266	\$15,400,989	
	Competitive	Y	118163	D.L. English Consulting, Inc.	Indian Point Consultant	Added New Tasks	09/13/2017	\$50,000	\$406,475	
	Competitive	Y	121104	CHA Consulting Inc.	Outreach Support	Added New Tasks	11/29/2017	\$225,000	\$1,760,060	
	Competitive	Y	143617	Kelliher Samets Volk	TWO 28 Carbon Neutral Bldgs	Added New Tasks	08/12/2019	\$465,200	\$1,065,200	
	Competitive	Y	148087	Kelliher Samets Volk	KSV TWO 32 LMI Website Hub	New Agreement	11/25/2019	\$540,950	\$1,291,850	
	Competitive	Y	152608	Marshall & Sterling, Inc.	RFP 4301 Insurance	Added New Tasks	03/16/2020	\$20,000	\$546,580	
	Competitive	Y	153100	Knoll, Inc.	Furniture for Green Bank Offi	Added New Tasks	04/02/2020	\$1,780	\$187,328	
	Competitive	Y	155547	Green Light New York, Inc.	Energy Efficiency Training TWO	Added New Tasks	07/08/2020	\$150,000	\$579,822	
	Competitive	Y	159691	CVENT, Inc.	Event Management/Virtual Event	Added New Tasks	10/19/2020	\$2,834	\$189,314	
	Competitive	Y	168546	DNV Energy Insights USA Inc.	Statewide Industrial Facility	New Agreement	05/18/2021	\$2,588,537	\$2,588,537	
	Competitive	Y	176757	DNV Energy Insights USA Inc.	GLW Tech and Economic Review	New Agreement	11/08/2021	\$40,000	\$40,000	
	Competitive	Y	177993	DNV Energy Insights USA Inc.	TWO 3 - Solar PV/Energy Stor	New Agreement	12/06/2021	\$2,767,190	\$2,767,190	
	Competitive	Y	178068	Delta Dental of New York	Delta Dental Prem. 2022-23	New Agreement	12/07/2021	\$650,000	\$650,000	
	Competitive	Y	ADH0014924	TRC Energy Services	SA.041_TWO#14 - NCP PM	New Agreement	11/30/2020	\$300,000	\$719,522	
	Competitive	Y	ADH0014941	TRC Energy Services	SA.042_TWO#17 - NCP NYC PM	New Agreement	12/03/2020	\$300,000	\$577,547	
	Discretionary	Discretionary	Y	129937	TRC Energy Services	Program Tool Services for MPP	Added New Tasks	08/10/2018	\$50,000	\$100,000
Discretionary		Y	153829	Owahgena Consulting, Inc.	Heat Pump Technical Assistance	New Agreement	04/30/2020	\$243,587	\$500,000	
Discretionary		Y	176754	American Council for an Energy Efficient	ACEEE 2022 Sponsored Research	New Agreement	11/08/2021	\$40,000	\$40,000	
Non-Competitive		Y	159686	Vermont Energy Investment Corporation	TWO #1 LMI Electrification	Added New Tasks	10/16/2020	\$45,000	\$144,860	
Non-Competitive		Y	178067	New York State Builders Association	Single Family New Construction	New Agreement	12/07/2021	\$50,000	\$50,000	
PGRM		Competitive	Y	67783	APX Inc.	NYGATS	Added New Tasks	06/24/2015	\$300,000	\$4,613,730
		Competitive	Y	95764	Normandeau Associates, Inc.	Digital Aerial Baseline Survey	New Agreement	04/12/2016	\$124,255	\$3,785,052
		Competitive	Y	122524	SecondMuse LLC	MCorps Pilot in NYC	New Agreement	01/11/2018	\$1,106,957	\$5,806,957
	Competitive	Y	135614	L&S Energy Services, Inc.	L&S GJGNY Energy Audits	Added New Tasks	12/28/2018	\$947,921	\$3,603,031	
	Competitive	Y	146648	SUNY Binghamton	Net Zero Economic Development	New Agreement	10/25/2019	\$5,000,000	\$5,000,000	
	Competitive	Y	160205	Metro IAF	IMS Metro IAF TWO - Anchor Ins	New Agreement	10/30/2020	\$500,000	\$4,500,000	
	Competitive	Y	167521	Alliance for Sustainable Energy, LLC	TWO #7 T&D Tool Dev Co-Optimiz	New Agreement	04/26/2021	\$2,395,176	\$3,580,000	
	Competitive	Y	168772	ChargePoint, Inc.	DCFC - VW Settlement	Change in Contact Terms	05/24/2021	\$5,519,294	\$5,519,294	

NYSDERDA PERIODIC CONTRACTS APPROVAL REPORT: Anticipated Contracts - 8/16/2021 to 12/15/2021

Category	Type	Term > 1 Year	Contract ID	Contractor	Contract Description	Reason	Date	Anticipated Amount	Total Contract Amount
PGRM	Competitive	Y	174472	Opinion Dynamics Corporation	MEL Contractor for Prizes	New Agreement	09/22/2021	\$3,979,622	\$3,979,622
	Competitive	Y	CNED-2021	PON 3694: Co-op Incentive Funding	Net Zero Energy for Eco Dev	New Agreement	12/03/2021	\$12,010,497	\$12,010,497
Grand Total								\$44,261,203	\$93,292,334

NYSERDA PERIODIC PROGRAM REPORT

8/16/2021 to 12/15/2021

Table: All Market Focus Committed this Period

MarketFocus	Count of Contracts	Committed this period
Agriculture	3	\$15,497
Anaerobic Digesters	1	\$375,415
Building Innovation	4	\$1,006,152
Clean Heating and Cooling	35	\$7,262,030
Clean Trans (Innov & Research)	19	\$14,051,549
Codes	23	\$1,288,289
Commercial	144	\$19,368,182
Communities and Local Governme	10	\$4,783,576
Energy & EnvironmentalAnalysis	1	\$495,195
Energy Storage	87	\$39,844,906
Financing Solutions	1	\$30,023
Grid Modernization	2	\$3,716,778
Industrial	18	\$1,554,541
Innovation	2	\$243,000
Large Scale Renewables	13	\$61,515,682
LMI	154	\$27,053,985
Mkt Char & Design (Mkt Dev)	1	\$1,500,001
Multifamily (Mkt Rate Only)	162	\$3,351,212
Negative Emissions Technology	1	\$5,000,000
New Construction	26	\$2,570,330

NYSERDA PERIODIC PROGRAM REPORT

8/16/2021 to 12/15/2021

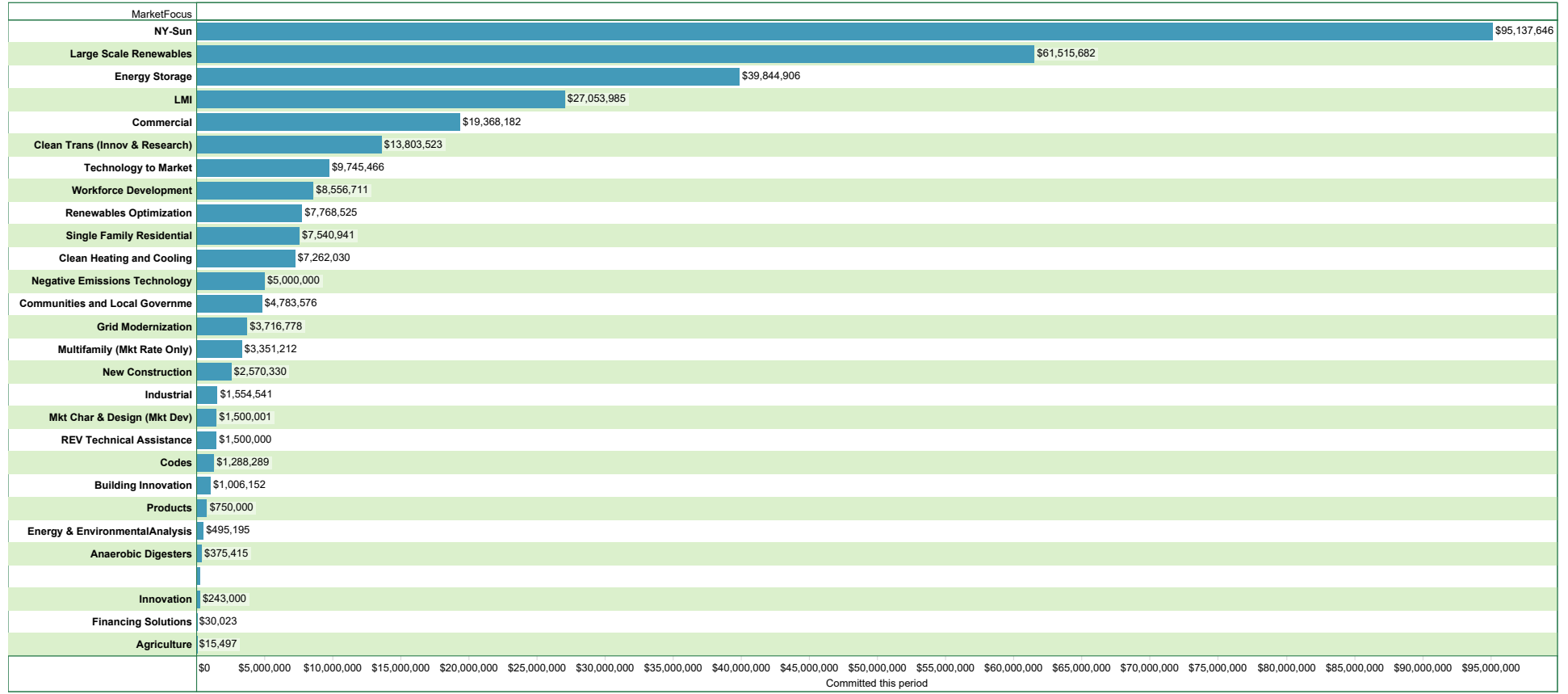
Table: All Market Focus Committed this Period

MarketFocus	Count of Contracts	Committed this period
NY-Sun	541	\$95,137,646
Products	1	\$750,000
Renewables Optimization	14	\$7,768,525
REV Technical Assistance	1	\$1,500,000
Single Family Residential	3	\$7,540,941
Technology to Market	10	\$9,745,466
Workforce Development	174	\$8,556,711
Grand Total	1,451	\$325,777,605

NYSDERDA PERIODIC PROGRAM REPORT

8/16/2021 to 12/15/2021

Graph: All Market Focus Committed this Period



NYSERDA PERIODIC PROGRAM REPORT
8/16/2021 to 12/15/2021
Table: By REDC Region and County

REDC Region	County	Count of Contracts	Committed this period
Capital Region	Albany	27	\$22,619,938
	Columbia	7	\$666,662
	Greene	5	\$1,974,401
	Rensselaer	12	\$3,043,603
	Saratoga	19	\$514,843
	Schenectady	8	\$112,873
	Warren	4	\$649,932
	Washington	8	\$23,900,986
	Total	90	\$53,483,239
Central New York	Cayuga	6	\$1,700,501
	Cortland	2	\$14,063
	Madison	5	\$45,207
	Onondaga	35	\$3,867,977
	Oswego	6	\$436,170
	Total	54	\$6,063,918
Finger Lakes	Genesee	5	\$1,071,527
	Livingston	7	\$1,208,169
	Monroe	54	\$11,976,595
	Ontario	35	\$2,138,130
	Orleans	4	\$65,266
	Seneca	1	\$228,800

NYSERDA PERIODIC PROGRAM REPORT
8/16/2021 to 12/15/2021
Table: By REDC Region and County

REDC Region	County	Count of Contracts	Committed this period
Finger Lakes	Wayne	10	\$136,859
	Wyoming	2	\$125,339
	Yates	3	\$30,015
	Total	121	\$16,980,700
Long Island	Nassau	45	\$389,304
	Suffolk	35	\$7,177,462
	Total	80	\$7,566,766
Mid-Hudson	Dutchess	33	\$2,535,192
	Orange	69	\$7,166,059
	Putnam	4	\$63,997
	Rockland	28	\$695,060
	Sullivan	8	\$55,513
	Ulster	35	\$2,118,471
	Westchester	40	\$11,635,951
	Total	217	\$24,270,243
Mohawk Valley	Fulton	5	\$3,507,073
	Herkimer	10	\$229,667
	Montgomery	4	\$1,131,234
	Oneida	26	\$3,090,973
	Otsego	2	\$35,374
	Schoharie	3	\$19,215

NYSERDA PERIODIC PROGRAM REPORT
8/16/2021 to 12/15/2021
Table: By REDC Region and County

REDC Region	County	Count of Contracts	Committed this period
Mohawk Valley	Total	50	\$8,013,535
New York City	Bronx	67	\$4,644,639
	Brooklyn	1	\$18,001
	Kings	113	\$11,082,142
	New York	259	\$24,018,452
	Queens	70	\$7,405,260
	Richmond	21	\$18,354,832
	Total	531	\$65,523,326
North Country	Essex	5	\$175,172
	Franklin	2	\$21,820
	Jefferson	10	\$29,280,924
	Lewis	3	\$1,171,417
	St. Lawrence	4	\$64,934
	Total	24	\$30,714,267
Southern Tier	Broome	13	\$240,280
	Chemung	4	\$851,697
	Delaware	2	\$1,699,754
	Schuyler	2	\$1,285,920
	Steuben	9	\$3,606,388
	Tioga	7	\$1,998,588
	Tompkins	24	\$1,085,426

NYSERDA PERIODIC PROGRAM REPORT
8/16/2021 to 12/15/2021
Table: By REDC Region and County

REDC Region	County	Count of Contracts	Committed this period
Southern Tier	Total	61	\$10,768,053
	STATEWIDE	118	\$82,317,531
Statewide	Total	118	\$82,317,531
	Allegany	4	\$511,711
Western New York	Cattaraugus	10	\$7,931,243
	Chautauqua	11	\$2,261,399
	Erie	47	\$9,123,194
	Niagara	11	\$248,478
	Total	83	\$20,076,025
	Grand Total		1,429

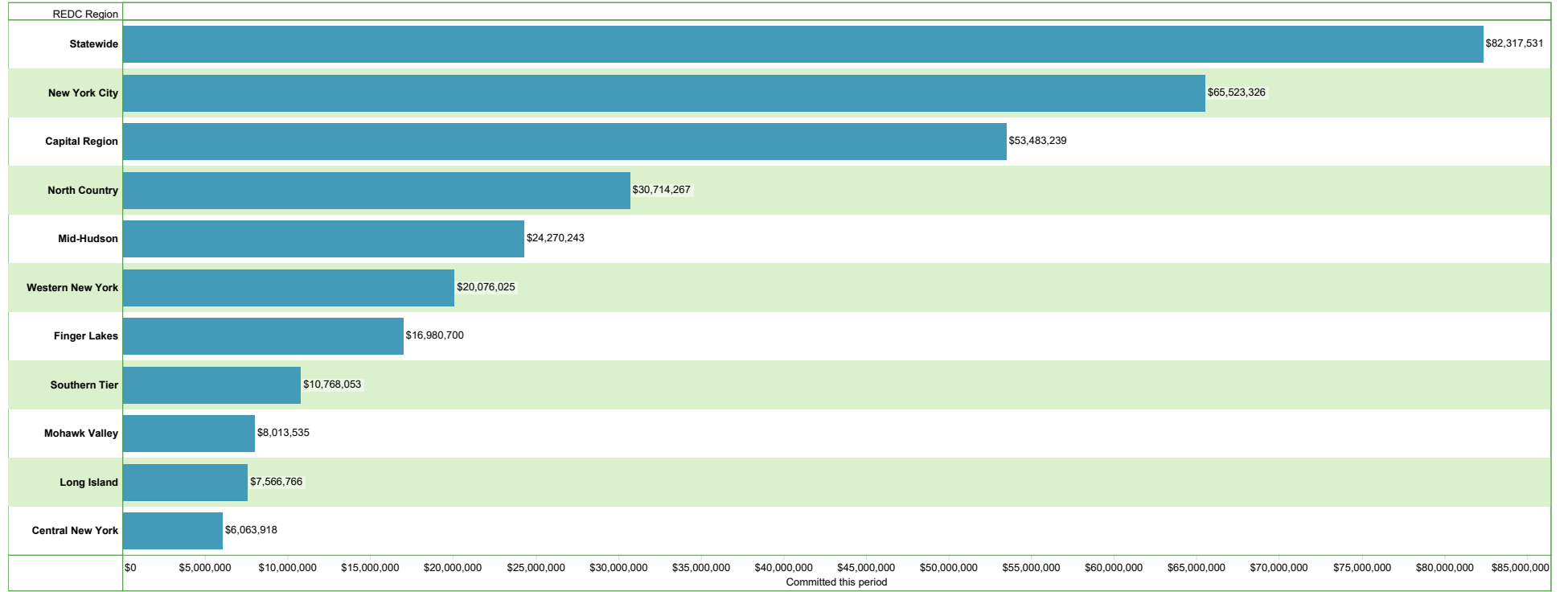
NYSDERDA PERIODIC PROGRAM REPORT
8/16/2021 to 12/15/2021
Table: By Electric Utility

Electric Utility	Count of Contracts	Committed this period
Central Hudson Gas and Electric	92	\$9,124,206
Consolidated Edison	565	\$77,165,200
Long Island Power Authority	83	\$7,594,958
Municipal Utilities	11	\$5,044,347
National Grid	273	\$115,071,034
NYS Electric and Gas	140	\$16,051,893
Orange and Rockland Utilities	78	\$5,400,939
Rochester Gas and Electric	68	\$8,054,018
Statewide	118	\$82,317,531
Grand Total	1,427	\$325,777,605

NYSDERDA PERIODIC PROGRAM REPORT

8/16/2021 to 12/15/2021

Graph: By REDC Region



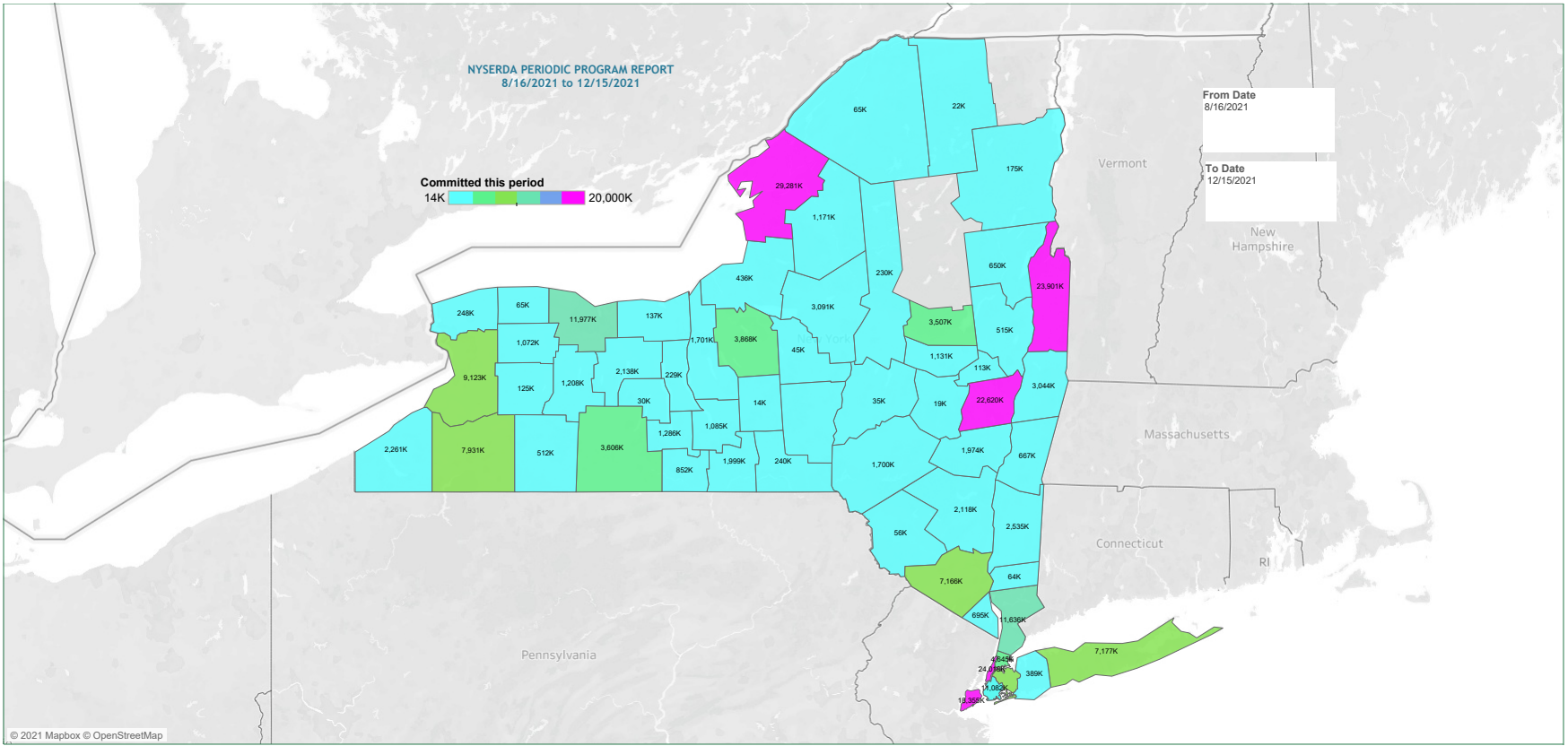
NYSDA PERIODIC PROGRAM REPORT
8/16/2021 to 12/15/2021

Committed this period
14K ■ ■ ■ 20,000K

From Date
8/16/2021

To Date
12/15/2021

Report Type
○ Procurement
● Program



Resolution No. ____

RESOLVED, that the Periodic Contracts Report, covering the period August 16, 2021 through December 15, 2021, as presented at this meeting, including but not limited to the contracts identified therein which have been, or are expected to be, executed and which do have, or are expected to have, a period of performance in excess of one year, is hereby approved in accordance with Public Authorities Law Section 2879.