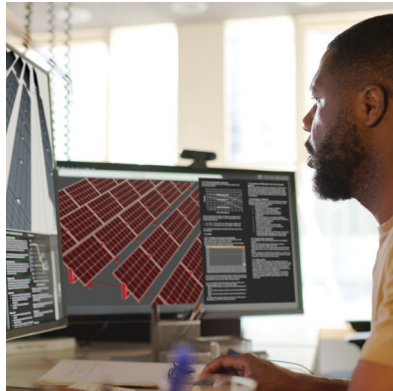


GREEN ECONOMY



ACTION PLAN

Executive Summary



NYC / EDC



Mayor's Office of
Talent and Workforce
Development

Executive Summary

In 2023's *PlaNYC: Getting Sustainability Done*, the City committed to creating a “comprehensive green economy industry action plan” that defines the green economy and lays out NYC’s path to seizing the opportunity it presents. This *Green Economy Action Plan*, jointly developed by the New York City Economic Development Corporation (NYCEDC) and the Mayor’s Office of Talent and Workforce Development (NYC Talent), delivers on that commitment. It is informed by engagement with more than 100 stakeholders and partners from all parts of the green economy—including businesses, unions, workforce organizations, advocates, New Yorkers already working in the green economy, and government agencies—and original analysis.

The *Green Economy Action Plan* is a crucial step for New York City to become a global green economy leader.

The *Green Economy Action Plan* sets forth the first ever universal understanding of the green economy in New York City and establishes a baseline to understand its growth over time. The green economy promises to grow rapidly and become a core part of the City’s overall economy in the coming decades, but it will take a continued and concerted public-private effort to achieve this in a way that serves and uplifts all New Yorkers. This Action Plan details 63 City commitments to catalyze businesses, nonprofits, and everyday New Yorkers to collectively build a sustainable, equitable green economy ecosystem in New York City.

This report provides the City’s first-ever definition of the green economy.

Globally, there is no consistent definition of the “green economy,” making it difficult to understand how our progress or current state measures against other global leaders and what growth would mean. This report defines the green economy in New York City as the set

of activities that directly and intentionally contribute to achieving our climate goals, specifically those that have gained traction since the turn of the century. These activities span eight sectors and 21 sub-sectors, some that are directly decarbonizing our city, including energy, buildings, and transportation, and some that are supporting these industries, such as finance, and policy and advocacy. Creating the City’s first-ever definition will help ensure we can track our progress against our goals and adjust interventions over time to reach the economic potential laid out in this report.

New York City’s green economy can become one of the largest industry and workforce ecosystems over the next decade.

The green economy encompassed ~3 percent of New York City’s jobs in 2021 (about the size of the real estate sector today) and has outpaced the growth of the broader New York City economy over the last several years. It is projected to continue growing rapidly: by 2040, the City’s green economy is projected to employ nearly 400,000 people—7 percent of all jobs in New York City—and contribute \$89 billion to the City’s GDP. This would be roughly a tripling in size over the next two decades and would make total employment in the green economy about the size of tech sector employment today. Approximately 70 percent of this growth is projected to come from the transition of existing occupations like construction managers, financial consultants, and fashion designers into the green economy by incorporating sustainable practices into their everyday work, while 30 percent would be entirely new jobs that do not exist today.

Realizing this opportunity requires investment, innovation, and intentional support of diverse businesses and robust career pathways.

New York City is well positioned to become a global leader in the green economy: it is already a global center for economic activity and talent, with leading

NEW YORK CITY'S GREEN ECONOMY

8

SECTORS

21

SUBSECTORS

POTENTIAL FOR

3X

GROWTH OVER NEXT TWO DECADES, FROM

133,000

JOBS IN 2021
TO NEARLY

400,000

IN 2040

21

FOCUS OCCUPATIONS CRITICAL TO
SUSTAINABLE GROWTH

climate legislation and regulations including the landmark Climate Mobilization Act of 2019, which set forth one of the most aggressive approaches to building decarbonization in the world. In addition, New York is an emerging hub for climate innovation: as of 2022, the NYC metropolitan area is the third largest climate tech ecosystem in the world after the Bay Area and London, with venture capital investments reaching almost \$4 billion in 2021. However, this growth will not happen on its own; and it is also not guaranteed to be equitably distributed. New York City will take action to mobilize, accelerate, and channel private sector action, attracting and incubating a critical mass of

companies in the green economy; helping de-risk new technologies and solutions unleashed by the private sector; and developing robust, diverse talent pipelines. The private and nonprofit sectors must invest, innovate, and evolve to realize the potential of the green economy.

We will need a skilled and diverse workforce to power this growth.

This report identifies 21 “focus occupations” critical to the sustainable growth of the green economy. They include many different kinds of skilled labor up and down the value chain. The 21 focus occupations cover both those that typically don’t require a college degree such as electricians, plumbers, or HVAC mechanics and installers, and those that do require a college degree such as civil or electrical engineers. These occupations provide family-sustaining wages or lead to them, providing pathways to stable and well-paying careers for all New Yorkers. In addition, there are occupations in basic or applied sciences that require advanced science, technology, engineering, and mathematics (STEM) degrees, which are important drivers of the city’s climate innovation ecosystem. The strength of our green economy will rely on robust, diverse talent pipelines for all these occupations.

OUR VISION

New York City has always been a leader in sustainability. We are by far the most densely populated major city in the US with the largest mass transit system in the country. Bolstered by ambitious climate policies, the average New York City household emits one-third less carbon than the typical US household. But in 2023, demonstrating climate leadership cannot just be about our own carbon footprint. New York City is an economic powerhouse that is positioned to have an impact on a global scale. To remain at the vanguard of sustainability and innovation, we must

support a broader green transformation, while ensuring that this massive economic opportunity benefits all New Yorkers—especially communities and neighborhoods that have suffered from historic disparities and environmental injustice.

NEW YORK CITY'S GREEN ECONOMY
WILL HOST NEARLY

400,000 JOBS BY 2040

BECOMING THE ANCHOR OF A PROSPEROUS,
EQUITABLE, AND JUST FUTURE FOR NEW YORKERS.

With unprecedented amounts of public funding available for green initiatives, there is a historic opportunity for the City, nonprofit sector, and private industry to benefit.

New York City commits to 63 actions through 2030 to support the equitable growth of the green economy.

These actions will advance five key goals: Decarbonize buildings and construction; Develop a renewable energy system; Enable low-carbon alternatives in the transportation sector; Catalyze innovation in climate technologies; and Build an equitable green economy ecosystem.

Talent development strategies benefiting New Yorkers and employers from all parts of the city are deeply integrated in our goals and actions. The City will deploy five key tools toward connecting New Yorkers to the 21 focus occupations critical to the success of NYC's green economy: training facilities, networks to promote community hiring, youth pathways to the green economy, skills-based training and apprenticeships, and industry partnerships.

This work builds on new policies, such as the City's Community Hiring legislation, and leverages existing programs, such as our Workforce1 systems, to match New Yorkers with pathways to green economy jobs. Through these efforts, the City will deliver 12,000 green economy apprenticeships, ensure our education systems train young people in the skills that are needed, and support the private sector in the transition to green activities.

Seven marquee City commitments across these strategies—new initiatives that we expect to be key market movers—are highlighted below.

Goal 1: Decarbonize buildings & construction.

The buildings sector makes up almost 50 percent of New York City's green economy today. In addition to various initiatives to support the implementation of Local Law 97ⁱ, the City is committed to using its own capital projects to demonstrate and set new standards for decarbonization technologies in construction.

**MARQUEE INITIATIVE:
Circular Construction Guidelines**

NYCEDC will launch and apply the newly developed Circular Construction Guidelines to all capital projects, starting with SPARC Kips Bay—a nearly 2-million-square-foot, \$1 billion+ first-of-its-kind innovation, jobs, and education center in one of the nation's premier life sciences clusters. By using innovative circular construction methods at public sites within the campus, SPARC Kips Bay will reduce 26,400 tons of carbon emissions—equivalent to emissions from 5,800 cars. This project will act as an important demonstration of and standard for new ways of construction in New York City.

**MARQUEE INITIATIVE:
Community Hiring and Place-Based
Workforce Strategies**

NYC Talent will work with City agencies and private partners to launch Community Hiring and Place-Based Workforce Strategies to ensure that the growth in NYC's green economy translates to good jobs for New Yorkers, particularly low-income New Yorkers.

Goal 2: Develop a renewable energy system.

New York City will support the creation of approximately 16,000 net new jobs in the renewable energy sector through both direct investments and enabling of private investments in clean energy infrastructure and workforce.

**MARQUEE INITIATIVE:
Tax incentives for battery storage**

NYCEDC will utilize NYC Industrial Development Agency (IDA) tax incentives to activate 500 Megawatts (MW) of battery storage capacity and support other green economy uses. To date, the IDA has induced 200MW of storage capacity that is

ⁱ Local Law 97 is the centerpiece of New York City's Climate Mobilization Act of 2019 and requires about 50,000 large buildings to cut emissions by 40 percent by 2030 and 100 percent by 2050.

expected to come online in the coming years and generated nearly \$500 million of private sector investment. Unlocking additional storage capacity will ultimately underpin a stronger and more efficient renewable energy sector.

Goal 3: Enable low-carbon alternatives in the transportation sector.

The transportation sector contributes about a quarter of New York City's greenhouse gas (GHG) emissionsⁱⁱ today. Transitioning these activities into the green economy, and growing new green subsectors, will make transportation the third-largest green economy sector by 2040.

MARQUEE INITIATIVE: Public sites for EV charging

NYCEDC is availing two acres of land near JFK airport to create the largest EV charging facility in the city, with 65 public EV chargers, including 12 rapid ones. The facility is currently estimated to charge 1,000 vehicles per year, with potential for growth depending on market demand. The EV chargers are expected to serve all types of vehicles, with a focus on the electric truck market as it matures, and help avoid nearly 78,000 metric tons of carbon dioxide emissions by 2040. The City is committed to continuing to build critical infrastructure to facilitate the adoption of new solutions in the green economy.

Goal 4: Catalyze innovation in climate technologies.

New York City is a burgeoning hub for climate innovation, a critical component in addressing the impacts of climate change and for the continued growth of the green economy. The City is making significant investments to help businesses develop, test, pilot, and scale innovations and to further grow and attract the next generation of climate companies and investors in NYC.

MARQUEE INITIATIVE: Harbor Climate Collaborative

Brooklyn Navy Yard Development Corporation (BNYDC), NYCEDC, and the Trust for Governors Island (TGI) are collectively investing \$725 million across the new Harbor Climate Collaborative, a joint effort to build a climate innovation ecosystem in the New York Harbor connected by NYC Ferry. By unlocking six million square feet of space for climate

research, innovation, and training, the Harbor Climate Collaborative will support the creation of 5,000 permanent jobs, educate and train 2,100 students, and generate \$55 billion of economic impact.

MARQUEE INITIATIVE: Climate Innovation Hub

As part of the Collaborative, NYCEDC will invest up to \$100 million to develop a world-class Climate Innovation Hub at the Brooklyn Army Terminal. This new space will accelerate commercialization pathways for climate tech startups and incumbent businesses. It will serve 150 startups over 10 years, creating \$2.6 billion of economic impact and 600 jobs, and provide workforce training, especially for the local Sunset Park community.

Goal 5: Build an equitable green economy ecosystem.

NYC Talent, in partnership with NYCEDC and other City entities, will work closely to develop and expand various partnerships across and within industries, as well as with education and workforce training providers to ensure New York City's supply chain and talent grow in tandem, supporting the growth of and benefiting from the economic opportunities created by the green economy. The City will continue its support of small, medium, and M/W/DBE businesses and develop a diverse and skilled workforce.

MARQUEE INITIATIVE: Green training facilities in every borough

NYC Talent will partner with City agencies and private partners to develop a workforce training facility in every borough. The first pilot site will be a Green Building and Construction Workforce pilot program at Governors Island to train 100+ people/year for the first two years.

Achieving our vision will take intentional action from all parts of our economy. This report highlights the ways in which the City will encourage and accelerate growth of the green economy and lower the barrier of entry for entrepreneurs, businesses, and everyday New Yorkers.

We invite all New Yorkers and organizations to join us in building a globally-leading, inclusive green economy in New York City.

ⁱⁱ Global warming gases in Earth's atmosphere of which the most prevalent is carbon dioxide (CO₂)

TABLE 1: GREEN ECONOMY ACTION PLAN COMMITMENTS

Goal 1. Decarbonize Buildings and Construction	
PROMOTE WIDESPREAD USE OF LOW-EMBODIED CARBON BUILDING MATERIALS	1. Launch and apply NYCEDC's Circular Construction Guidelines
	2. Advance the Mass Timber Studio with selected design teams
BOLSTER ENERGY EFFICIENCY INITIATIVES	3. Implement Getting LL97 Done
	4. Develop Strategic Energy Master Plan for NYCEDC
	5. Procure innovative technologies for building retrofits
	6. Facilitate green commercial retrofits through M-CORE
	7. Decarbonize NYCHA buildings through Clean Heat for All Challenge
	8. Implement Leading the Charge Initiative to electrify schools
BUILD CONNECTIONS BETWEEN INDUSTRY AND TALENT IN CONSTRUCTION	9. Launch and expand green building apprenticeship programs
	10. Establish community hiring and place-based workforce connection strategies
PIONEER INDUSTRIAL SUSTAINABILITY AT KEY MANUFACTURING AND FREIGHT HUBS	11. Redevelop wholesale produce market into efficient, modern facility
	12. Pilot industrial building decarbonization technology at Brooklyn Navy Yard
DEMONSTRATE BEST PRACTICES IN SUSTAINABLE CONSTRUCTION AND DEVELOPMENT	13. Demonstrate a Net Zero Campus on Governors Island
	14. Build a first-of-its-kind electric stadium at Willets Point
	15. Mandate cutting-edge certifications
Goal 2. Develop a Renewable Energy System	
BUILD AND FACILITATE INVESTMENTS IN CLEAN ENERGY	16. Position industrial sites for clean energy infrastructure
	17. Set nation-leading targets for offshore wind
	18. Make capital investments in the growth of offshore wind
EXPAND INSTALLATION OF SOLAR INFRASTRUCTURE	19. Broaden solar on NYCEDC sites
	20. Expand 5,000 LMI households to install solar
MAKE NYC AN INDUSTRY HUB FOR CLEAN ENERGY SECTORS	21. Launch and expand energy supply chain apprenticeships
	22. Bolster CUNY students entering offshore wind and other green industries
SUPPORT TAX INCENTIVES FOR BATTERY STORAGE AND OTHER GREEN OUTCOMES	23. Mobilize IDA for the advancement of the green economy
Goal 3. Enable Low-Carbon Alternatives in the Transportation Sector	
EXPAND EV CHARGING INFRASTRUCTURE	24. Activate public sites for EV charging
	25. Create hubs for infrastructure and innovation at Brooklyn Navy Yard
	26. Launch EV operation and technician apprenticeships
	27. Electrify all City school buses and stand up maintenance training programs
DECARBONIZE MARITIME AND AIR TRAFFIC	28. Install and mandate use of shore power at all cruise terminals
	29. Electrify the Governors Island ferry
	30. Spearhead the adoption of electric aircraft at NYC heliports

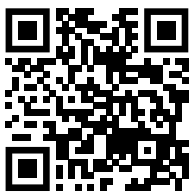
ENABLE AND RETAIN SUSTAINABLE FREIGHT JOBS AND SERVICES	31. Implement a marine highway for freight transport
	32. Support maritime logistics businesses
	33. Accelerate adoption of cargo bikes
	34. Bolster New York City’s Clean Trucks Program (NYCCTP)
FACILITATE DEMAND FOR PASSENGER MICROMOBILITY	35. Advance SAFEMicromobility for public housing
INDUSTRY EXPOSURE TO SUPPORT WORKFORCE PIPELINES	36. Develop the Building Pathways MTA Electrical Pre-Apprenticeship program

Goal 4. Catalyze Innovation in Climate Technologies

DEVELOP NYC’S HARBOR CLIMATE COLLABORATIVE	37. Activate the Harbor Climate Collaborative
	38. Develop a world-class Climate Innovation Hub at Brooklyn Army Terminal
	39. Complete the 400k SF New York Climate Exchange on Governors Island
ENCOURAGE COMMERCIALIZATION OF GREEN TECHNOLOGY	40. Catalyze sustainability-focused biotechnology and materials innovation
	41. Develop an effective regulatory process to promote climate innovation
	42. Launch Greenlight Innovation Fund
	43. Update outdated land use rules with City of Yes for carbon neutrality

Goal 5. Ensure an Equitable Green Economy Ecosystem

INVEST IN GREEN TALENT	44. Connect young New Yorkers with practical learning and training opportunities in the green economy
	45. Ensure 5-10% of Talent Investment Fund supports green economy workforce development
	46. Enhance Workforce1 Career Centers for the green economy
	47. Provide grants to small businesses for green workforce training
	48. Build Solar One Environmental Education Center
CULTIVATE A LOCAL OFFSHORE WIND SUPPLY CHAIN	49. Provide technical assistance to manufacturers to build a local offshore wind supply chain
	50. Turn West Shore of Staten Island into a hub for clean energy-related jobs
BUILD CONNECTIONS BETWEEN INDUSTRY AND TALENT	51. Establish green training facilities in all five boroughs
	52. Expand and connect industry partnerships to inform green workforce priorities
ADVANCE CRITICAL COASTAL RESILIENCE PROJECTS	53. Advance Lower Manhattan Coastal Resilience Project
	54. Advance the Raise Shorelines Initiative at Travis Avenue and Old Howard Beach
	55. Expand Saw Mill Creek Pilot Wetland Mitigation Bank
	56. Develop Brooklyn Bridge Montgomery Coastal Resilience
	57. Invest in Cloudburst Resiliency Projects
SUPPORT NEW AND TRANSITIONING BUSINESSES ACROSS ALL GREEN ECONOMY SECTORS	58. Invest \$40M to seed the NYC Catalyst Fund
	59. Build capacity and prioritize diverse businesses for City construction
	60. Leverage Waterfront Pathways Program to expand access to green economy opportunities
	61. Establish green loans through the Emerging Developer Loan Fund (EDLF)
	62. Implement the Plant-Powered Carbon Challenge
	63. Establish M/WBE Procurement Opportunities



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