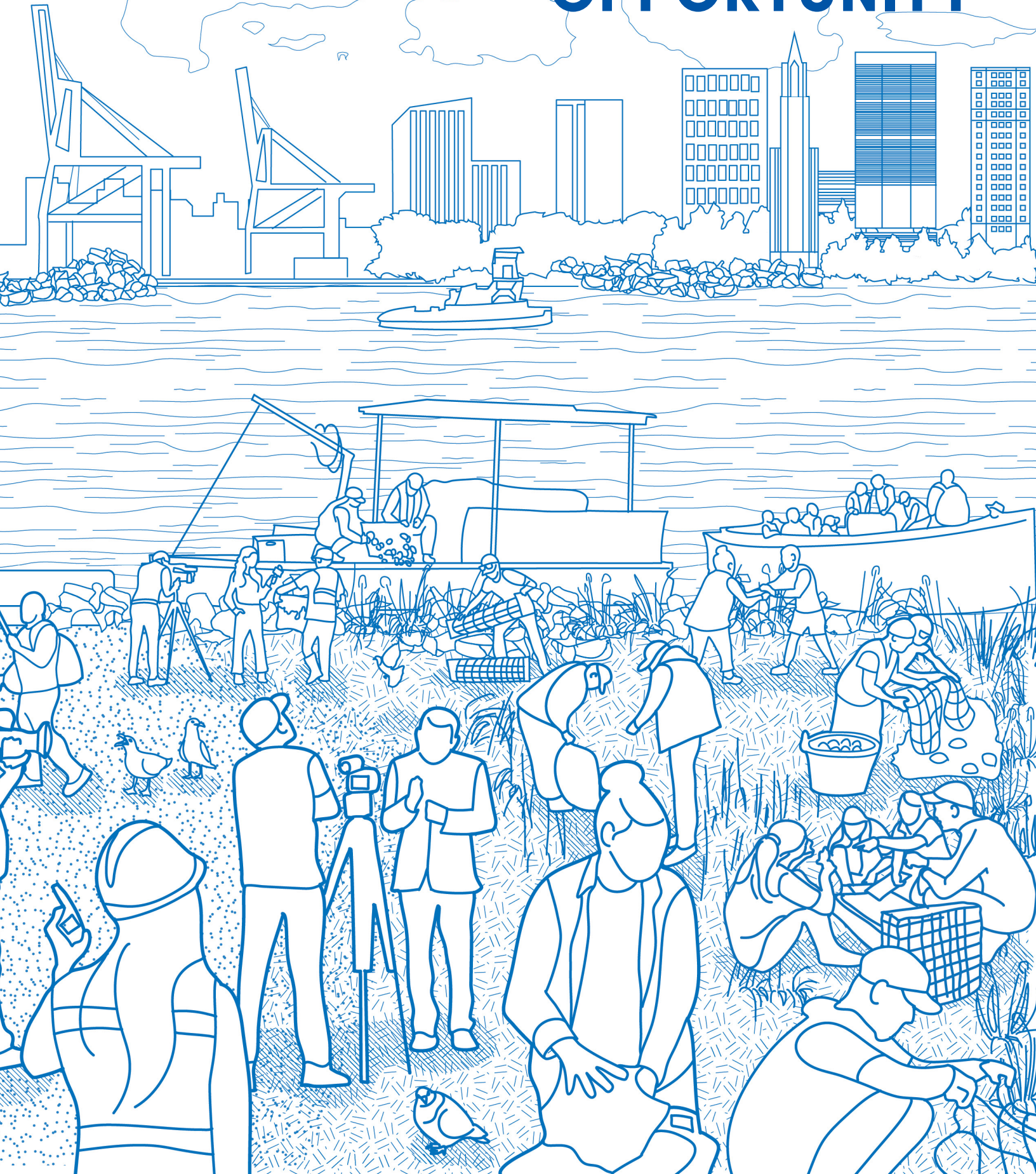




# ECONOMIC OPPORTUNITY





**NYC's waterfront and waterways present exciting opportunities to build a green economy, sustain and create a diverse mix of jobs for New Yorkers, improve key infrastructure and support tourism in the next 10 years and beyond.**

**The City can help generate economic opportunity for New Yorkers by expanding access to well-paying jobs as part of its climate mitigation strategies. These strategies include transforming how energy is produced and distributed in NYC, retrofitting buildings to be more efficient, and promoting greener forms of production and distribution. In addition, the City can help equip New Yorkers with the skills they need to find jobs in established and emerging industries that provide the potential for careers. These efforts, combined with enhancements to infrastructure and cleaning up contaminated sites, help drive economic growth and upward mobility in economically disadvantaged communities and improve their quality of life.**

**Goal 1: Advocate for a 21st century working waterfront by pivoting to green technology and environmentally sustainable practices.**

**Goal 2: Harness NYC's waterfront setting to help diversify the economy and drive equitable economic recovery.**

**Goal 3: Connect investments on the waterfront to employment and career advancement opportunities for New Yorkers.**

**Goal 4: Advance categories of investments in waterfront areas that broadly support economic activity locally and throughout the region.**

**Goal 5: Promote the use of our waterways for entertainment, hospitality, and education to provide jobs and drive tourism, including ecotourism.**



## Overview

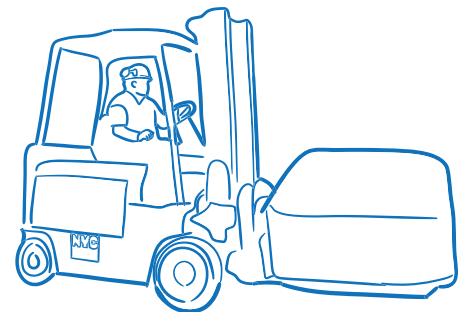
Throughout its history, the New York Harbor has played a vital role in creating economic opportunity for New Yorkers. NYC grew into a domestic and international center of trade and commerce partly due to the presence of its deep harbor and connection to the Erie Canal.

Although NYC's waterfront and waterways have transformed through the evolution or departure of various maritime industries, they remain a critical component of the economic engine for NYC and the region. They connect NYC to domestic and international supply chains, support industries that provide well-paying jobs to New Yorkers and attract international visitors to NYC for entertainment and recreation.

Going into 2020, NYC employment was at an all-time high. However, while economic gains during this period accrued to a wide portion of the population, significant inequity remained, and was exacerbated by the COVID-19 pandemic. Although economic activity associated with NYC's waterfront and waterways represent only a portion of NYC's economic challenges and opportunities, they will play an important role in regaining and sustaining NYC's pre-COVI-19 prosperity and building a more inclusive economy.

Looking forward, the City can continue to advance projects and policies that sustain and create jobs, particularly in parts of the economy that are either growing or support well-paying jobs that do not necessarily require high educational attainment. To increase economic opportunity, it is important to foster an environment in which small businesses can succeed and ensure that critical infrastructure investments create job opportunities for New Yorkers, especially those that have historically experienced high rates of unemployment and disinvestment. Achieving this type of broad-based economic recovery requires overcoming the pandemic, securing meaningful federal stimulus, and focusing resources to promote and support economic opportunities for all New Yorkers.

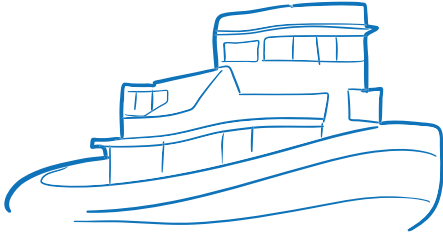
*“New York Harbor is central to American supply chains, but this relationship is totally walled-off to the average New Yorker. If people better understood the central role the harbor plays, I believe it could be a source of civic pride and a great way to promote engagement with the waterfront.”*



Opposite:  
Container ship at Red Hook  
Terminal, Brooklyn.

Credit: Courtesy of The Port  
Authority of New York and  
New Jersey

## A 10-Year Vision



*“New York has been a seaport for its entire history. The working waterfront needs to be preserved and expanded, but in such a way that does not result in pollution or late-night noise nuisances. Development of new affordable housing in working-waterfront neighborhoods would help revive the city’s labor tradition and its intrinsic relationship with the rest of the world.”*

Since the last Comprehensive Waterfront Plan was released in 2011, public and private investment in the waterfront has spurred job growth at all income levels. As NYC emerges from the COVID-19 pandemic and seeks to reattain and exceed previous employment levels in an evolving environment, opportunities exist to build on these investments to support NYC’s economic recovery and to improve NYC’s affordability and equity. The City can help sustain and strengthen the economy by activating waterfront sites under its control to provide jobs in a range of sectors and skill levels and connecting New Yorkers to training and job opportunities. The City can also advocate for and advance its own crucial infrastructure investments in infrastructure, support the clean up of contaminated sites and promote the waterfront as an attraction drawing tourists to NYC.

Over the next 10 years, NYC’s shoreline will be important to the growth of green power and mobilization of the green economy. In particular, NYC’s waterfront and waterways are poised to play a significant role in offshore wind development and energy storage. Making investments in key sites such as the South Brooklyn Marine Terminal (SBMT) and speeding up deployment of large-scale energy storage will help transition NYC to a clean energy future and create well-paying jobs. By continuing to work with the State, offshore wind developers and power utilities, the City can ensure that residents of waterfront communities — especially those living near site that will host this emerging industry — are aware of and positioned for jobs that will be generated by it.

As part of the award by the New York State Energy Research and Development Authority (NYSERDA), the companies will partner with the State and City to transform the SBMT in Sunset Park into an assembly, operations and maintenance site for wind turbines. Creation of large-scale offshore wind industrial facilities will position NYC to emerge as an offshore wind industry hub. The Arthur Kill Terminal in Staten Island is also well-positioned as a site to support developing the offshore wind industry. In 2021, the New York State Empire State Development applied for financial support from the United States Department of Transportation’s Port Infrastructure Development Grant Program to develop the Arthur Kill Terminal (AKT) in Staten Island as an offshore wind terminal.

In addition to being a place where people live and work, NYC's waterfront also features infrastructure of local, regional and global significance. NYC sits at the center of an interconnected regional ecosystem that relies upon a dynamic exchange of workers, goods, and shared infrastructure, much of which is located at or near the waterfront. Upgrading this infrastructure will help improve the reliability and resiliency of our transportation network, link millions of people to jobs, and support NYC's long-term economic health. The City can leverage these investments to create employment and career opportunities for New Yorkers through targeted training programs and direct these opportunities toward communities that historically have experienced high rates of unemployment.

The following section outlines goals and strategies for the City to realize the waterfront's potential for increasing economic opportunity for all New Yorkers over the next 10 years.



SAL Trina offloading subsea equipment at Polarbase, Hammerfest 4. May 2020.

Credit: Øyvind Gravås and Even Kleppa - Copyright - Equinor - Johan Castberg



# Goals and Strategies

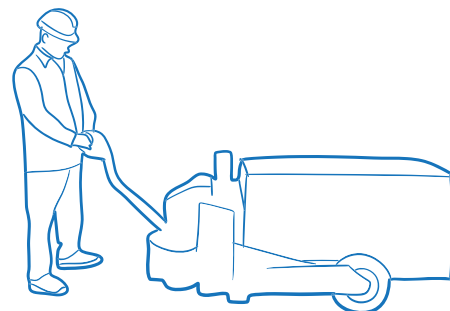
## Goal 1: Advocate for a 21st century working waterfront by pivoting to green technology and environmentally sustainable practices

NYC currently generates most of its electricity by burning fossil fuels. NYC relies on 24 in-city power plants — many of which are located on the waterfront — that run on fuel oil or natural gas and generate about a quarter of NYC’s total greenhouse gas emissions. Most of these plants were built decades ago. In addition to releasing greenhouse gas emissions that contribute to climate change, these plants release air pollutants that cause air quality and health issues for NYC communities. The City is committed to transforming NYC’s fossil fuel-dependent electricity grid into one powered 100% by clean electricity resources by 2040.

To achieve this goal, the City will maximize renewables in NYC increase transmission from clean energy resources outside NYC, pursue energy efficient and sustainable energy solutions on City-owned property and actively participate in New York State and federal climate initiatives.

In 2019, the State passed the Climate Leadership and Community Protection Act to position New York at the forefront of ambitious and equitable transition to green energy. This effort intends to develop 9,000 megawatts of offshore wind energy by 2035 — enough renewable energy to power six million homes. In June 2021, the U.S. Department of the Interior’s Bureau of Ocean Energy Management (BOEM) announced that it created a Wind Energy Area in the New York Bight off New York’s coast, a new priority that will greatly expand opportunities for wind energy development. Besides reducing NYC’s reliance on fossil fuel-burning plants, offshore wind and other climate actions are expected to create thousands of well-paying jobs in trades such as manufacturing, construction, installation and maintenance.

Another way the City aims to reduce greenhouse gas emissions is by promoting use of reduced-emission and emission-free vehicles. Trucks can have a significant effect on communities and the environment. Fine particulate matter can cause or exacerbate health issues and degrade environmental conditions. Although continued federal leadership is vital to control vehicle emissions, the City can continue to take steps within its authority to reduce the effects of truck



*“A healthy waterfront is a working waterfront—that supports the movement of goods with clean freight and industry—and one that sets back urban development with continuous, connected open space for recreation and a diversity of habitats.”*

Opposite:  
Port NYC South Brooklyn Marine Terminal (SBMT).

Credit: Sustainable South Brooklyn Marine Terminal

emissions on air quality. NYCDOT's Clean Trucks Program, which began in Hunts Point and has since expanded across the city, promotes sustainable transportation and a cleaner environment in Industrial Business Zones (IBZs) by offering incentives to trucks owners. These incentives support the purchase of advanced transportation technologies and alternative fuels trucks, as well as exhaust retrofit technologies. To date, the program has successfully replaced, retrofitted or removed 600 heavy-polluting diesel trucks, with the goal of improving air quality in the South Bronx.

NYC DOT Clean Truck Program.



**Strategy 1.1**

Position NYC to become a regional hub for the manufacturing, assembly, installation, and operation of offshore wind components by upgrading key waterfront facilities.

**Strategy 1.2**

Study the potential for renewable energy generation and storage on Rikers Island.

**Strategy 1.3**

Streamline permitting processes to unlock the safe and rapid deployment of battery energy storage.

**Strategy 1.4**

Continue to work with energy stakeholders to reduce reliance on old, inefficient fossil fuel-based generators located along the waterfront.

**Strategy 1.5**

Pursue energy efficiency and sustainable energy solutions on City-owned waterfront property including school sites, housing campuses and wastewater treatment facilities.

**Strategy 1.6**

Increase the availability of shore power whereby cruise ships can plug into the local electricity grid and turn off auxiliary engines while at dock to reduce or eliminate on-site emissions.

**Strategy 1.7**

Support the research and implementation of alternative fuels and other clean technology in the maritime industry to reduce carbon and particulate emissions from vessels.

**Strategy 1.8**

Promote low- and zero-emission vehicles that provide last-mile delivery to businesses and consumers.

**Strategy 1.9**

Leverage the City's procurement power to drive increased safety, efficiency and sustainability in freight.

**Strategy 1.10**

Improve the efficiency and sustainability of air travel by expanding capacity at airports and working with airlines and other stakeholders to reduce noise and greenhouse gas emissions.

Next Page:  
Block Island Wind Farm.  
Credit: Chris Bentley



# Offshore Wind

Under the Climate Leadership and Community Protection Act, the State aims to reach 70% renewable energy by 2030 and reduce greenhouse gas emissions by 85% by 2050 on the path towards carbon neutrality. The legislation also requires 35% of green energy funds to be invested in low-income communities.

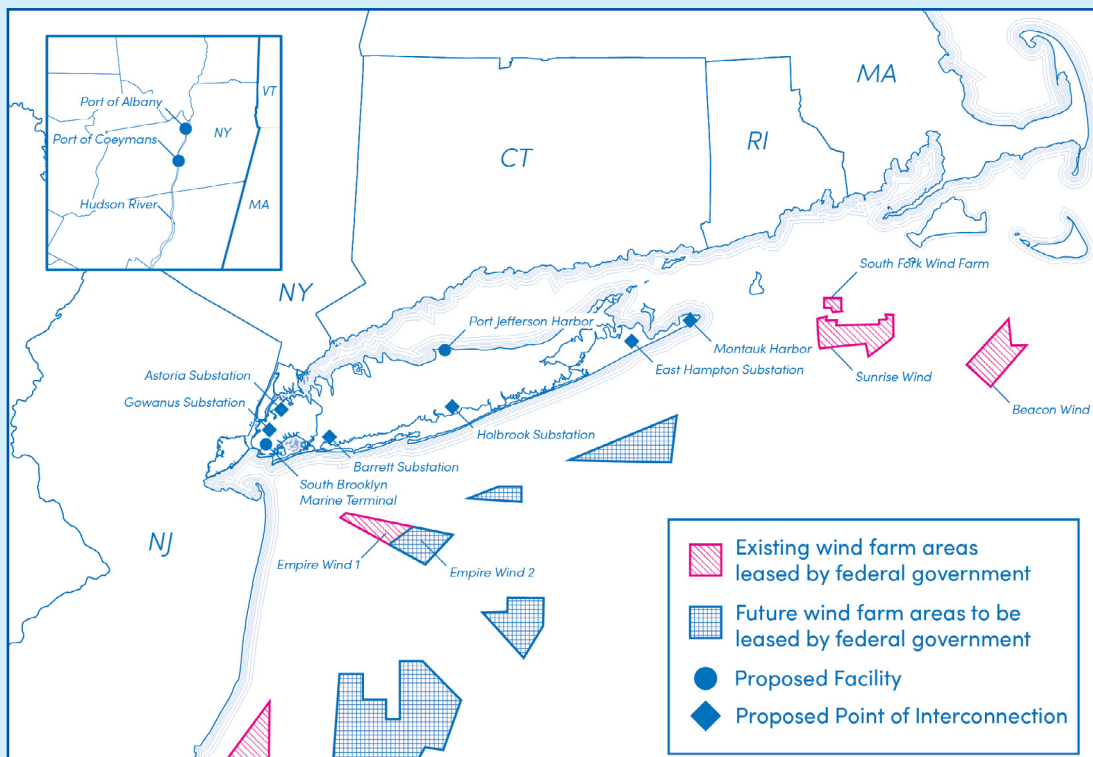
In early 2021, the energy company Equinor was selected to provide the State with offshore wind power in one of the largest renewable energy procurements in the U.S. to date. Under the award, Equinor and partner BP will provide generation capacity of 1,260 megawatts (MW) of renewable offshore wind power from the Empire Wind 2 offshore wind farm and another 1,230 MW of power from the Beacon Wind 1 farm. This generation capacity is in addition to an existing commitment to provide New York with 816 MW of renewable power from Empire Wind 1 — for a total of 3.3 gigawatts (GW) of power to the State. The Empire Wind 1 project is planned to provide electricity directly to NYC.

Through the [Offshore Wind NYC](#) plan, the City began laying the groundwork to support

offshore wind projects in three core areas: sites and infrastructure, business and workforce, and research and innovation. Continuing these efforts will create opportunities to develop the best-in-class infrastructure to support the construction and operation of offshore wind farms.

The plan also commits the City to developing public-private partnerships with communities to create well-paying, green jobs in disadvantaged neighborhoods historically affected by climate injustice. To deliver on this goal, the City will focus on targeted investments to develop workforce trainings and support businesses that seek to create a diverse talent pool in offshore wind. The plan further aims to support MWBEs and other local companies in accessing over \$70 billion in economic opportunity expected to be created by the offshore wind industry.

Lastly, the plan outlines how the City will work to promote research and innovation in offshore wind so new technologies and approaches are created in NYC. The City will work with the offshore wind industry and partners to launch an accelerator that will allow New York-based startups to build out the next generation of offshore wind technologies to support worldwide growth and advancement in the field.





## Goal 2: Harness NYC's waterfront setting to help diversify the economy and drive equitable economic recovery

NYC's economy benefits from increased activity in the sectors in which it is a global leader (such as finance, insurance and business services) and also from the diversity of its economy. A diverse economy is a more competitive and inclusive economy. The creative and cultural sectors make key contributions to the city's tourism industry and broader economy and increase its vitality as a place to live. As with many other sectors, this sector's growth is increasingly significant outside the Manhattan core. It can be seen along the waterfront — primarily in Brooklyn — where the City has reactivated legacy industrial sites that provide substantial space for the needs of the 21st century economy.

Although the number of production-oriented positions has declined over the last several decades because of automation, off-shoring and competing uses for land, industrial jobs remain crucial to a 21st century economy. Industrial and manufacturing jobs provide good wages and offer the potential for career growth, especially for New Yorkers without college degrees. Many of NYC's industrial businesses are connected to fashion, television and theater. Others are leaders in technology and product development.

The film and television production sectors are some of the fastest growing, higher-wage industries in NYC, leaving many firms struggling to find new space for production. Garment manufacturing has faced decades of global economic pressures that have led companies to take production overseas; yet this sector still comprises 30% of NYC's manufacturing jobs. This production activity in NYC continues to drive demand for commercial spaces in all these industries.

The City activates City-owned sites to meet the needs of industries requiring space to operate and grow. The waterfront is one of the few places in the City's dense urban environment where large, flexible sites can meet a wide range of business needs. The City's ongoing work to revitalize City-owned sites at or near the waterfront for suitable uses, and the economic results, are highlighted below in project callouts. The City's other tools used to sustain and create a diverse mix of well-paying jobs include financing, tax incentives and land use regulations. The City offers several financing tools through the NYC Industrial Development Agency (IDA) to support business growth, relocation and expansion. Land use regulations, such as zoning, set limits on the

Opposite:  
Processing oysters at SUNY  
Maritime.

Credit: Billion Oyster Project

permitted use of land and density of development in locations across the city. The City can unlock space for jobs and help businesses adapt to evolving economic conditions by providing capacity for commercial growth in appropriate areas and by ensuring that regulations are flexible enough to meet a range of workspace needs.

Increasing economic opportunity within NYC also involves addressing the specific needs of small businesses and minority and women-owned business enterprises (M/WBEs). For small businesses, the City continues to advance policy and procedural changes that save businesses money. To increase participation in the economy from underrepresented groups and companies, the City has certified a record number of M/WBEs and awarded them more than \$10 billion in contracts since 2015.

**M/WBEs have been awarded more than \$10 billion in contracts since 2015.**



Manhattan Cruise Terminal inspection.

Credite: COWI

**Strategy 2.1**

**Activate and modernize publicly controlled waterfront sites with business activity that grows and diversifies the city's economy, including industrial, tech, creative, and cultural uses.**

Continue investing in the reactivation of the Brooklyn Army Terminal to attract both large and small manufacturers that offer well-paying jobs.

Continue to modernize the Hunts Point Food Distribution Center by enhancing resiliency measures, promoting more variety in freight transportation and implementing workforce development strategies.

Support the creation of a creative campus at Bush Terminal to encourage the continued growth of the fashion and film industries by offering affordable industrial space for garment manufacturing, film and media production, and related services.

Position Governors Island to become a center for climate solutions and a lively, year-round destination with academic, commercial, non-profit and cultural uses that support expanded public access.

Grow the Brooklyn Navy Yard as a major employment center by implementing a campus-wide plan.

**Strategy 2.2**

**Help businesses acquire property, construct and renovate facilities, and invest in equipment.**

Utilize the IDA's benefits to grow companies that create well-paying jobs for New Yorkers.

Provide seed funding, business management education and branding assistance to support business development.

Advocate to fund programs such as Business PREP, to support resiliency planning by small businesses to prepare business interruptions and other negative effects from climate change.



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**Strategy 2.3**

**Address the need for additional workspace for a wide variety of activities, flexibility to accommodate evolving business needs, as well as the building, site, and logistical needs of waterfront commercial and industrial uses.**

Identify opportunities to implement new zoning tools (such as those proposed by NYCDCP for the Gowanus Neighborhood Plan) to allow more space for a wider and more flexible variety of business activities in industrial and commercial waterfront areas.

Continue to support opportunities for mixed-use growth in waterfront communities, including transit-accessible clusters of office and other workspaces.

Support the availability of space and real estate stability that industrial businesses require for their operation by discouraging residential rezonings in IBZs.

**Strategy 2.4**

**Help small businesses and M/W/DBEs sustain and expand their businesses.**

Work with partners in government, business, and the nonprofit sector to provide financial resources and expertise to small businesses to help them reopen and recover from the COVID-19 pandemic.

Provide free legal services through the Commercial Lease Assistance Program to help businesses with lease-related issues.

Continue to address barriers that make it difficult for M/W/DBEs to win contracts on public projects.

Identify and work with an operator to establish a program to assist M/W/DBEs with opportunities in waterfront construction, including offshore wind infrastructure development.

# Activating City-Owned Sites for Economic Development

As waterfront neighborhoods grow and evolve, opportunities are being pursued to activate City-owned waterfront land to promote the growth and diversity of the city's economy by creating industrial space, community facilities and parks. The City can work with private and nonprofit developers to activate these sites or choose to develop the sites itself and find tenants.

## Brooklyn Army Terminal

In 2018, the City completed its \$115 million redevelopment of the Brooklyn Army Terminal in Sunset Park. The redevelopment has attracted small businesses to lease space and is expected to result in 1,000 well-paying jobs. Of the well-paying jobs created to date at this location, 45% have gone to workers with less than a college degree. The Brooklyn Army Terminal supports workforce development through its onsite Workforce1 Industrial and Transportation Career Center, which connects local workers to on-campus job opportunities. In addition, the City facilitates the Brooklyn Army Terminal's use for training and education opportunities (such as programs operated by the Fashion Institute of Technology) to equip local residents and employees with modern skills.

## Brooklyn Navy Yard

Development at the Brooklyn Navy Yard has generated economic opportunities for industrial and creative businesses and employees. Building 77, which opened in late 2017, is home to a variety of companies ranging from food manufacturing to 3D printing. Building 77 has created 900 well-paying jobs to date and is projected to create 2,250 well-paying jobs overall. The expansion of Steiner Studios' soundstages at the Brooklyn Navy Yard has also had a positive effect on economic opportunity there. The expansion has created 690 well-paying jobs to date and is projected to generate 925 well-paying jobs overall.

More than 50% of the well-paying jobs created at Building 77 and 21% of jobs at Steiner Studios have gone to workers with qualifications below the college degree level. In addition, 44% of jobs at

Building 77 and 41% of the jobs at Steiner Studio are filled by women. Brooklyn Navy Yard also is home to the Albert C. Wiltshire Employment Center, which helps tenants fill existing positions and develop a talent pipeline. From 2018 to 2019, the center made 459 job placements. Of these placements, more than 85% were at Brooklyn Navy Yard businesses, and 34% percent were filled by NYCHA residents.

## Made in New York Campus at Bush Terminal

The City's \$136 million investment to create a center for fashion, film and television in Sunset Park's Bush Terminal is scheduled to open in 2022. Renovations are expected to create a 200,000-square-foot garment manufacturing hub, upgrade industrial space in a 160,000-square-foot building, and improve the overall site plan. The City's investment also includes construction of a 100,000 square foot of state-of-the-art film and television production facility and a pedestrian-friendly streetscape to improve visitor access to Bush Terminal Piers Park. Once complete, the Made in NY Campus will bring together creative manufacturing uses and affordable industrial facilities for garment manufacturing, film and media production, and related services and industries. The City anticipates 1,500 new jobs will be generated at the Bush Terminal Campus.

## South Brooklyn Marine Terminal

The City's \$115 million investment in the 2018 reactivation of SBMT as a major shipping hub is expected to create more than 250 jobs in the near term, with potential for significant growth due to the terminal's development to host operations for offshore wind staging, assembly and maintenance.



Brooklyn Navy Yard.



South Brooklyn Marine Terminal.  
Credit: Sustainable South Brooklyn  
Marine Terminal



### **Goal 3. Connect investments on the waterfront to employment and career advancement opportunities for New Yorkers**

In 2019, more than 2 million New Yorkers lacked the basic education and skills to access jobs paying middle-class wages because they had neither a high school diploma nor a high school equivalency. The unemployment rate was higher for people of color — twice as high for Black New Yorkers than White New Yorkers. This crisis of housing affordability put tremendous strain on New Yorkers who were struggling even prior to the COVID-19 pandemic.

To address this inequity and help workers secure well-paying jobs in the 21st century economy, the City started in 2014 to shift its workforce system toward Career Pathways and Industry Partnership initiatives. Career Pathways targets specific economic sectors (such as manufacturing and construction) for workforce training because they offer significant potential for careers and worker benefits. Partnerships convene public and private stakeholders to develop training programs that match industry needs. The New York City Department of Education (NYCDOE) and the City University of New York (CUNY) then adjust curricula and policies to improve workforce outcomes for students. Taken together, these approaches increase economic opportunity by matching job seekers to the right workforce training to obtain in-demand jobs.

Opposite:  
“Hudson River Snapshot Day”  
event.

Credit: NYC DEP

### Strategy 3.1

#### Help job seekers and incumbent workers develop high-demand skills in existing and emerging industries on the waterfront, as outlined in New York Works.

Use Workforce1 Career Centers at the Brooklyn Navy Yard, the Brooklyn Army Terminal and other business zone clusters to help New Yorkers access industrial jobs.

Work with CUNY colleges, industry stakeholders and unions to prepare students and faculty for in-demand jobs, including those in industries along the waterfront such as offshore wind.

Provide NYC residents aged 21 and over that have not obtained a high school diploma with technical, trade, construction, or entrepreneurial skills to pursue meaningful employment or post-secondary education through career and technical education (CTE) courses.

Continue to develop connections between CTE schools and the maritime industry through internships, apprenticeships and maritime career awareness opportunities.

Develop curriculum in CTE programs and universities, including CUNY, that provide students with the ability to graduate into careers or continue to higher education in maritime commerce, supply chain management, operations research and other related fields.

Train young adults aged 18 to 24 who reside in NYCHA buildings in environmental stewardship, building green infrastructure, urban farming, and resident education through the AmeriCorps Green City Force program.

Train and pay workers to clean and green NYC's parks, playgrounds, and other facilities while also providing skills training and career coaching to find permanent work through NYC Parks' Parks Opportunity Program (POP).

Push for State legislation to drive economic recovery in economically disadvantaged communities by requiring contractors and businesses working with the City to hire low-income New Yorkers.



Expand access to construction and building service jobs by prioritizing low-income New Yorkers and NYCHA residents for such positions.

Through the Department of Youth and Community Development, promote internships and job shadow initiatives with public agencies and private companies to introduce NYC public school students to waterfront careers, including offshore wind.

Below:  
Maritime and Freight Career Awareness Fair 2018, Brooklyn.

Next Page:  
Wallabout Nursery monitoring.

Credit: Billion Oyster Project





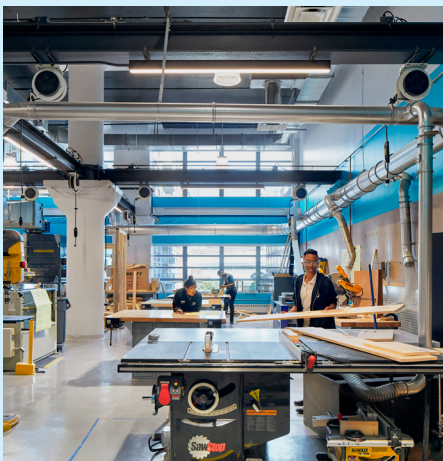
# Positioning the Next Generation for Career and Technical Education on the Waterfront

Partnerships between public and private stakeholders have spurred the creation of the next generation of CTE programs. These programs provide students with the skills and experience they need to obtain jobs that will be in demand in the 21st century economy.



## New York Harbor School

The Harbor School, which has been operating on Governors Island since 2010 is a NYC public school with approximately 430 students enrolled. All Harbor School students participate in traditional State Regents-based academic courses and one of six CTE programs of study. CTE programs include aquaculture, marine policy and advocacy, marine systems technology, marine biology research, ocean engineering, vessel operation and professional diving. In addition to achieving industry certification, students have access to paid internships, service-learning opportunities, professional visits, conference presentations and work-site tours.



## Brooklyn STEAM Center

The Brooklyn STEAM Center, which opened in 2019 at the Brooklyn Navy Yard has a maximum enrollment of 300 students. It brings high school juniors and seniors from local public high schools who are interested in pursuing careers in construction technology, design and engineering, film and media, computer science and information technology, and culinary arts and hospitality management. Students spend half the day taking required academic classes at traditional high schools and the other half at the Center, an industrial campus comprised of tenants that specialize in these industries. The program helps students develop skills and uses tours and internships to form relationships with potential future employers based at the Navy Yard.



## State University of New York Maritime College

SUNY Maritime College educates students to become leaders in the global marine transportation industry, the business of shipping, engineering, energy, facilities management, finance, the armed forces and public service. Each academic program at SUNY Maritime College emphasizes hands-on experiences that expands classroom learning. Every student has the ability to complete credit-bearing professional internships or earn a U.S. Coast Guard license to start or advance their careers.

Credits:

Top: Maritime and Freight Career Awareness Fair 2018, Brooklyn.  
Middle: Brooklyn STEAM Center.  
Bottom: SUNY Maritime College.



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## Goal 4: Advance categories of investments in waterfront areas that broadly support economic activity locally and throughout the region

Although NYC is a 21st century global city, it relies upon aging infrastructure and suffers from capacity constraints. Many of the infrastructure connections to people, neighborhoods and businesses occur at or near the waterfront. NYC's public infrastructure must be maintained in a state of good repair with timely fortification and upgrades. NYC's transit system, for example, requires infrastructure improvements to increase its resiliency to climate change and expand access to neighborhoods that are underserved by mass transit. Investing directly in transit systems — including a citywide ferry system — and coordinating with regional entities helps to restore NYC's competitiveness and growth. Since infrastructure is expensive, the City needs to work with State, regional and federal partners to leverage resources and resolve inefficiencies in the design and construction necessary to achieve the 21st century infrastructure that NYC needs.

The work of the Port is a good example of a connection between infrastructure investment and the economy. As of 2017, the Port provided the region with an estimated 229,000 jobs and over \$64.8 billion in annual income. The Port's economic impact is tied to steady overall growth in cargo volume, which is expected to continue. Drivers of this growth are attributed to changes in the freight industry, including the rapid expansion of e-commerce and the demand for a new generation of larger container ships. To keep pace, the Port Authority of New York and New Jersey (PANYNJ) and the USACE made substantial investments, including raising the Bayonne Bridge and dredging navigation channels to accommodate the increasingly large ships used to move global goods. This increased navigational clearance helps the Port remain among the nation's leading maritime gateways, supporting more than 28 million consumers in the region. Based upon container moves and cargo volume, the Port is the busiest on the East Coast and the second busiest in the United States.

In addition to making key infrastructure investments, NYC's existing stock of land must be used as effectively as possible to meet the growing demand for space. Brownfield cleanup has the potential to simultaneously address a full range of environmental, social and economic problems. Brownfields often contain a wide range of pollutants that are a legacy of past industrial practices that predate

Opposite:  
CMA CGM Marco Polo passing  
under the raised Bayonne Bridge.

Credit: Courtesy of The Port  
Authority of New York and New  
Jersey.

**Since 2010, the City has overseen the remediation of more than 700 properties, resulting in 400 acres becoming available for development.**

modern environmental protection standards. These properties remain vacant or underutilized because potential developers fear the risks of environmental liability, and the construction delays and cost overruns caused by land pollution. Brownfields result in lost opportunities to create small businesses, new jobs, affordable housing and open space in areas where opportunities are needed most. The City aims to clean up contaminated land to eliminate environmental toxin exposure and alleviate social inequality caused by disproportionately high occurrences of brownfields in low-income neighborhoods.

NYC runs the largest municipal land cleanup program in the nation. In most cases, states oversee the contaminated land clean up, but the City finds it advantageous to operate a local cleanup program alongside the New York State Brownfield Cleanup Program. The Mayor's Office of Environmental Remediation (OER) manages the New York City Voluntary Cleanup Program and the E-designation Program for rezoned lots. Both programs protect public health and streamlined the process of converting underused, neglected and contaminated land into safe places ready for new construction.

Since 2010, the City has overseen remediation of more than 700 properties — resulting in 400 acres becoming available for development across the five boroughs. Buildings constructed on these remediated sites bring new jobs, affordable and market rate housing, community facilities, retail stores and open space.

OER also oversees the NYC Clean Soil Bank. Clean soil recovered through the program is reused at other construction sites and in resiliency projects, wetland restoration projects and other open space waterfront projects.

In addition to city cleanup programs, the NYS DEC also operates a state Brownfield Cleanup Program, which offers significant tax credits to developers that remediate brownfields.

**Strategy 4.1**

**Continue to implement *Food Forward NYC*, *Freight NYC*, and *Delivering New York: A Smart Truck Management Plan*, which include infrastructure and operational strategies to ensure that NYC's supply chains are modern, efficient, and resilient.**

Support regional and local projects that advance the U.S. Department of Transportation's Marine Highway Program initiatives to enable NYC to shift to a hub-and-spoke approach with marine highway barging operations.

Continue to leverage federal and State grants to support marine highway services.

Continue investment in critical waterfront food distribution infrastructure, including the Hunts Point Food Distribution Center, to ensure that NYC's food supply chains are modern, efficient and resilient.

Promote waterborne and rail options through investment in new infrastructure near or adjacent to key NYC food markets.

Advocate for deepening primary navigation channels, where appropriate, to advance container, offshore wind, recreation and other marine activities, and deepening secondary channels that provide access to marine terminals and recreational boating marinas.

Support the development of geographically dispersed freight hubs across the city.

Advocate for federal infrastructure funding to improve the ease of loading and unloading goods from water to land and vice versa.

Analyze and support strategies to move more e-commerce freight by water, including encouraging distributors to use waterborne options to reach fulfillment centers located along NYC's waterways.

Support NYCDOT's freight programs for curbside management and off-hour deliveries, particularly when pedestrian volumes are high and curb space is limited.

#### **Strategy 4.2**

**Build and maintain waterfront infrastructure to support day-to-day harbor operations while identifying means to address deferred maintenance.**

Invest in preventative maintenance technology for bulkheads to reduce corrosion and decrease future capital reconstruction needs.

Activate and refurbish more of NYC's existing piers and docks to move goods by water and to create growth opportunities for NYC maritime businesses.

#### **Strategy 4.3**

**Improve capital project delivery to accommodate the current and future needs of waterfront communities, particularly those that have experienced historical disinvestment and face the greatest risks from the effects of climate change.**

Expand use of triple-bottom-line planning among City agencies, with a focus on inter-agency collaboration to maximize the economic, environmental, and social benefits of capital investments.

Promote forward-looking, holistic capital planning, target investment in infrastructure in advance of growth and recognize historical disinvestment trends in certain areas.

Incorporate *Climate Resiliency Design Guidelines* into all capital project design and construction exposed to climate hazards.

#### **Strategy 4.4**

**Upgrade critical regional transportation infrastructure at or near the waterfront to help improve the reliability and resiliency of NYC's transportation network while linking millions of people to well-paying jobs.**

Advocate for federal funding for the Gateway Program, which will provide new tunnels across the Hudson River to increase capacity and redundancy and allow for the proper rehabilitation of the existing 110-year-old tunnels that sustained damaged from Hurricane Sandy and face growing risk from rising sea levels.

Support implementation of near-term and long-term flood mitigation measures introduced by the MTA to address critical climate vulnerabilities.

### **Strategy 4.5**

#### **Promote the clean-up of contaminated sites and waterways.**

Continue use of the Brownfield Incentive Grant Program to support the cleanup and redevelopment of vacant and underutilized property in NYC.

Support the expansion of the Clean Soil Bank to provide low-cost soils for construction of berms and other structures to make the City's waterfront more resilient and sustainable.

Continue use of pre-development grants to support community-based organizations that seek to redevelop vacant or underutilized property in their communities.

Continue use of federal funds to help remediate sites where the City is financing construction of affordable or supportive housing and to help community-based organizations that want to develop new buildings in their communities conduct Phase I and Phase II studies.

Support the extension of the State's voluntary Brownfield Cleanup Program tax credits, which will expire in 2022.



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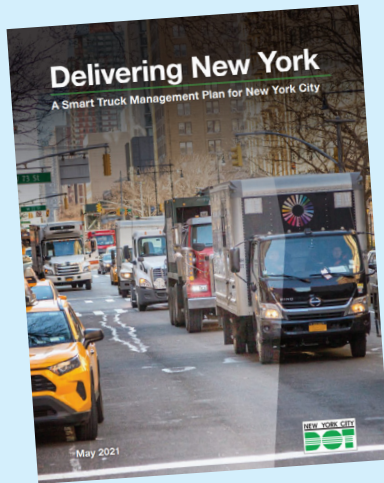
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STORAGE

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# Planning for the Future of NYC's Supply Chain

Within the past four years, the City has released plans to improve the effectiveness and sustainability of NYC's supply chain. Implementation of these plans is underway and transform the way goods move through our city, including via safer and more environmentally-friendly alternatives to moving goods via large trucks.



## **Delivering New York: A Smart Truck Management Plan**

In 2021, NYCDOT released a plan to envision how the City could achieve a safe, sustainable, equitable and efficient last-mile freight delivery system. This plan provides key strategies and actions to enhance management of existing freight operations, truck safety, and compliance programs and policies. Truck movement would be managed to ease congestion and create innovative opportunities for safe deliveries. The plan considered and incorporated City priorities such as bus lanes, cycling infrastructure, pedestrian spaces and curb utilization. The Plan also recognized the need for incentives to support truck safety upgrades with features (such as sideguards) and cleaner technologies to reduce that the effects of major trucking infrastructure on adjacent communities.



## **Food Forward NYC**

Food Forward NYC is the NYC's first 10-year food policy plan, which presents a comprehensive framework to provide a more equitable, sustainable and healthy food system by 2031. By investing in food production and distribution infrastructure, supply chains would modernize disposal would become more sustainable, and more New Yorkers would have greater access to healthy, affordable and culturally appropriate food.



## **Freight NYC**

In 2017, NYCEDC released a plan to modernize NYC's aging freight distribution systems by making strategic investments in maritime and rail assets and by creating new distribution facilities. Among its many strategies, the plan outlined how NYC would benefit from a hub-and-spoke marine highway barging operation. Instead of relying on trucks to move goods from large regional container terminals, shipping containers and palletized cargo would travel by waterway. This approach was expected to reduce the number of trucks on roads and highways and to improve air quality.



## Goal 5: Promote the use of our waterways for entertainment, hospitality, and education to provide jobs and drive tourism, including ecotourism

NYC tourism has long been a driver of economic opportunity, supporting more than 403,000 jobs across the five boroughs and generating almost \$7 billion in State and City taxes, including \$4.9 billion in the City pre-pandemic. In 2019, NYC's travel and tourism industry experienced its 10th consecutive year of growth, welcoming 66.6 million visitors (up 2.4% from 2018). This combined economic activity drives one of the most powerful job-creation engines in NYC's economy.

NYC's waterfront and waterways play an important role in supporting tourism—world-class parks draw both New Yorkers and visitors with views of the water, skyline, bridges and piers; cruise ship terminals host some of the largest passenger ships in the world; and commercial and public marinas provide recreational opportunities.

In 2017, more than 1 million cruise ship passengers traveled through NYC, generating revenues of \$228 million. This figure was up 41% from 2016 and up 82% from 2009. The City responded to this growth by investing millions of dollars to upgrade the NYC cruise ship terminals in Manhattan and Brooklyn to accommodate larger, more modern classes of ships and to ease passenger flow to and from ground transportation.

Although NYC's tourism industry stretches well beyond the waterfront and waterways, the City can harness these resources to attract visitors and to reconnect New Yorkers with the city through neighborhood exploration and staycations.

**Tourism supported more than 403,000 jobs and almost \$7 billion in State and City taxes.**

Opposite:  
Coney Island, Brooklyn.

Credit: Brittany Petronella/  
NYC & Company



**Strategy 5.1**

**Celebrate NYC's waterfront and waterways in marketing initiatives to highlight tourism opportunities throughout the five boroughs.**

**Strategy 5.2**

**Complete planned upgrades of the NYC cruise ship terminals in Manhattan and Brooklyn.**

**Strategy 5.3**

**Ensure that berthing locations can accommodate a wide variety of vessels, including tug and barge operators, excursion operators, and cultural, historic and educational ships.**

**Strategy 5.4**

**Support the network of commercial and non-profit marinas that anchor many of NYC's waterfront communities and provide access to recreational boating services.**

Support historic vessels and non-profit uses of public marinas and docks, where feasible.

Reduce permitting and operational barriers to marina operations, including routine dredging, dock rehabilitation, and bulkhead maintenance.

Ensure that permitting for marina operations supports necessary long-term investments in resiliency and capital and provide opportunity for community input.

Opposite:  
Cruise ships docked at the  
Manhattan Cruise Terminal, Piers  
88 and 90.

Credit: NYCEDC

## **Goal 1: Advocate for a 21st century working waterfront by pivoting to green technology and environmentally sustainable practices**

**Strategy 1.1: Position NYC to become a regional hub for the manufacturing, assembly, installation, and operation of offshore wind components by upgrading key waterfront facilities.**

**Strategy 1.2: Study the potential for renewable energy generation and storage on Rikers Island.**

**Strategy 1.3: Streamline permitting processes to unlock the safe and rapid deployment of battery energy storage.**

**Strategy 1.4: Continue to work with energy stakeholders to reduce reliance on old, inefficient fossil fuel-based generators located along the waterfront.**

**Strategy 1.5: Pursue energy efficiency and sustainable energy solutions on City-owned waterfront property including school sites, housing campuses and wastewater treatment facilities.**

**Strategy 1.6: Increase the availability of shore power whereby cruise ships can plug into the local electricity grid and turn off auxiliary engines while at dock to reduce or eliminate on-site emissions.**

**Strategy 1.7: Support the research and implementation of alternative fuels and other clean technology in the maritime industry to reduce carbon and particulate emissions from vessels.**

**Strategy 1.8: Promote low- and zero-emission vehicles that provide last-mile delivery to businesses and consumers.**

**Strategy 1.9: Leverage the City's procurement power to drive increased safety, efficiency and sustainability in freight.**

**Strategy 1.10: Improve the efficiency and sustainability of air travel by expanding capacity at airports and working with airlines and other stakeholders to reduce noise and greenhouse gas emissions.**

## **Goal 2: Harness NYC's waterfront setting to help diversify the economy and drive equitable economic recovery.**

**Strategy 2.1: Activate and modernize publicly controlled waterfront sites with business activity that grows and diversifies the city's economy, including industrial, tech, creative, and cultural uses.**

**Strategy 2.2: Help businesses acquire property, construct and renovate facilities, and invest in equipment.**

**Strategy 2.3:** Address the need for additional workspace for a wide variety of activities, flexibility to accommodate evolving business needs, as well as the building, site, and logistical needs of waterfront commercial and industrial uses.

**Strategy 2.4:** Help small businesses and M/W/DBEs sustain and expand their businesses.

### **Goal 3: Connect investments on the waterfront to employment and career advancement opportunities for New Yorkers.**

**Strategy 3.1:** Help job seekers and incumbent workers develop high-demand skills in existing and emerging industries on the waterfront, as outlined in *New York Works*.

### **Goal 4: Advance categories of investments in waterfront areas that broadly support economic activity locally and throughout the region.**

**Strategy 4.1:** Continue to implement *Food Forward NYC*, *Freight NYC*, and *Delivering New York: A Smart Truck Management Plan*, which include infrastructure and operational strategies to ensure that NYC's supply chains are modern, efficient, and resilient.

**Strategy 4.2:** Build and maintain waterfront infrastructure to support day-to-day harbor operations while identifying means to address deferred maintenance.

**Strategy 4.4:** Upgrade critical regional transportation infrastructure at or near the waterfront to help improve the reliability and resiliency of NYC's transportation network while linking millions of people to well-paying jobs.

**Strategy 4.5:** Promote the clean-up of contaminated sites and waterways.

### **Goal 5: Promote the use of our waterways for entertainment, hospitality, and education to provide jobs and drive tourism, including ecotourism.**

**Strategy 5.1:** Celebrate NYC's waterfront and waterways in marketing initiatives to highlight tourism opportunities throughout the five boroughs.

**Strategy 5.2:** Complete planned upgrades of the NYC cruise ship terminals in Manhattan and Brooklyn.

**Strategy 5.3:** Ensure that berthing locations can accommodate a wide variety of vessels, including tug and barge operators, excursion operators, and cultural, historic and educational ships.

**Strategy 5.4:** Support the network of commercial and non-profit marinas that anchor many of NYC's waterfront communities and provide access to recreational boating services.