

New York

Summary and Analysis

As a populous state with significant industry and university resources, New York is in a good position to become a leader in green-job creation and clean-tech industrial innovation. The state has relatively large revenue pools from the Regional Greenhouse Gas Initiative and its system benefits charge, and it has fundamental demand-side legislation with clean-energy and green-building goals. The state's research and economic development agency (NYSTAR) has historically focused on other high-tech industries, but it has increasingly shifted toward clean-tech development, often in partnership with NYSERDA. The state has continued to face the challenge of connecting entrepreneurial start-ups and innovation clusters with the state's substantial investments in high-technology research in the high-quality and extensive university system. Among the most innovative aspects of New York State clean-energy industrial development policy are the following:

- The establishment of 501(c)(6) industry organizations, with support from the state government, to bring together research, development, and manufacturing in specific industries (energy-storage and smart-grid technologies).
- A long-term planning process under the 80 percent by 2050 plan.
- A pension-fund set-aside for clean-energy investments.
- Cooperation between the state's energy research and development agency (NYSERDA) and its economic development functions.
- Development of a 2050 climate action plan to establish a framework for long-term transition planning.
- In New York City, easy-to-access information on green jobs training programs and green manufacturers in the city.

Background Policy

Energy Goals. New York has a state energy plan first developed in 2002 and then revised in 2009. The plan develops goals and implementation mechanisms for a ten-year period, and it is supported by the New York Energy Policy Institute, which provides a research resource for energy policy. The state has many initiatives related to energy efficiency and renewable energy that make the state a leader in demand policies. In 2004 the state's Public Service Commission established a renewable portfolio standard of 25 percent of retail electricity consumption by 2013, measured against the baseline of 19.3 percent in 2004 (NYSERDA 2010c). Although the baseline is high due to the hydropower resources in the state, the goal required about 4500 megawatts of new renewable energy capacity. In 2009 the New York State Public Service Commission increased the renewable portfolio standard to 30 percent by 2015. In the same year Governor Patterson developed a new goal of 45 percent of the state's energy from renewable energy and energy efficiency by 2015. He also issued an executive order (No. 24) to reduce greenhouse gas emissions by 80 percent below 1990 levels by 2050 and required the state to

draft a climate action plan. The result has been a long-term planning process with multiple stakeholders and public commentary. The process was not yet complete in 2010, but it promised to become a model for other states.

The state's energy-efficiency goal for electricity is 15 percent reduction with respect to project use by 2015, and the energy-efficiency standard gradually expands to 2 percent per year by of electricity sales by 2015.

Public Benefits Fund and Emissions Credits. New York's system benefits charge provides about half of the funding for the New York State Energy and Development Authority (NYSERDA), with another quarter of the funding coming from the sale of emissions allowances from the Regional Greenhouse Gas Initiative and the Clean Air Interstate Rule. The total revenues for 2009 were \$494 million (NYSERDA 2009d). The organization supports energy efficiency and renewable-energy projects, research and development, education, and low-income energy assistance. The revenue basis for NYSEDA has enabled it to play a significant role in the growth of clean-energy and increasingly in clean-energy business development. The organization also has about \$600 million in net assets.

In 2009 the State of New York passed the "Green Jobs/Green New York" legislation, which earmarked \$112 million in revenue from carbon credits sold via the Regional Greenhouse Gas Initiative and authorized NYSEDA to spend the funds. NYSEDA was charged with establishing a revolving fund of credit to support home energy audits and support energy-efficiency building retrofits of \$13,000 for homes (\$26,000 for businesses). The loan payment in turn is deducted from the energy bill, which is lower than would have been paid due to the retrofit improvements. The program is estimated to fund about 14,000 new jobs in the building retrofit and related industries (New York State Senate 2009).

Green-Buildings Policy. Since 2000 the state has offered a green building tax credit for energy efficiency and other building improvements. In 2001 Governor George Pataki signed Executive Order No. 111, also known as the "'Green and Clean' State Buildings and Vehicles" order (NYSERDA 2004). The guidelines set goals for 2010 as follows: a 35 percent reduction in energy consumption from 1990 in state government buildings; 20 percent renewable energy for electricity consumption for state buildings; and procurement of energy-efficient products. The executive order also encouraged buildings to obtain LEED certification but did not require it.

In 2007 the state government's building authority, the Dormitory Authority, began to require that all new construction and major renovations be registered with LEED with a goal of LEED silver certification. In 2008 new legislation (A10684) authorized NYSEDA to provide grants for green building construction and renovation for residential buildings, and in the same year the State Green Building Construction Act (amended in 2009) required all new state government building construction and major renovations to meet green building standards (US Green Building Council 2010). Additional proposals under consideration in 2010 would close loopholes in the energy building code, such a restriction on the current code that limits its applicability to building improvements on 50 percent or more of the property.

In addition to the large energy-efficiency program for homes and businesses developed under the Green Jobs Green New York legislation, the state government has also authorized

Property Assessed Clean Energy (PACE) bonds. Whereas the Green Jobs Green New York program uses RGGI funds for a revolving loan for on-bill payment, PACE programs (currently stalled at the federal level) use municipal bonds to finance payment via property taxes. Both forms of payment stay with the building when it is sold. The PACE program enabled the state of New York to receive the largest allocation of ARRA funding (\$40 million out of \$252 million) for such programs.

The state has other significant demand-side legislation and administrative reforms, such as recent improvements in net metering rules, appliance standards, and facilitated permitting for energy-storage facilities.

Green Jobs Training. New York has a grant from the U.S. Department of Labor to study and estimate the number of green jobs in the state (Empire State News 2010). That grant will help the state to undergo planning for green jobs training. The state also supports a green jobs information web site (greencareersny.com).

There is a wide range of green jobs training programs. Beginning in 2004 NYSERDA supported training of photovoltaic installers under its Clean Energy Program, which was budgeted at \$1 million per year. The program worked through community colleges and the International Brotherhood of Electrical Workers. In 2009 the programs in clean-tech training were expanded to \$4 million, which was allocated to a network of training centers located in community colleges, four-year colleges, BOCES, and building trades organizations. The scope was also expanded to include training for solar water heating, wind, geothermal, and fuel cells (NYSERDA 2009). Furthermore, NYSERDA will use some of the revenue from carbon trading to provide green jobs training programs for the new jobs described above under the Green Jobs Green New York legislation (New York State Senate 2009). In 2009 Governor Paterson of New York also announced a program for a Green Jobs Corps. Financed by \$5 million from Temporary Assistance for Needy Families and \$2 million from state funds, the program provides competitive grants to local governments for training in green jobs and subsidized employment for “workfare” recipients (New York State Office of Temporary and Disability Assistance 2009). This program is oriented toward low-income individuals who either receive public assistance or have incomes below 200 percent of the poverty line, but the state has also inaugurated green jobs programs that are oriented toward general job training.

New York’s Workforce Development Institute has a staff of thirty people in offices across the state that provide jobs training and gap funding for training programs. The organization receives funding primarily from the state and federal governments, and it partners with organized labor to provide high-quality jobs training programs. Several of the programs and initiatives include green-jobs training. For example, the Green and Sustainability Program works with employees on the ground level to ensure LEED compliance and to train the trainers. The organization is also developing regional Green Learning Centers, in partnership with the plumbers’ and electricians’ unions, to educate people about green jobs, display innovative green products, and provide training.

Clean-Energy Industries

General Background. New York's efforts to develop clean-energy industries come through several of the state government organizations: Empire State Development, which links various economic development organizations; the New York State Foundation for Science, Technology, and Innovation (NYSTAR), supports high-technology economic development in the state through research efforts and its ten regional development centers; and the New York State Energy and Research Development Authority (NYSERDA), which focuses on energy-related issues. Empire State Development has played a central role in the recruitment of some clean-energy companies, such as the recruitment of the silicon producer Global Specialty Metals, which in turn was used to recruit the solar manufacturer SpectraWatt (Paterson 2009). In 2010 Empire State Development also launched the Exelsior Jobs Program, which incentivizes companies to locate in New York and includes clean-energy companies among its targeted industries (Mullin 2010).

With respect to NYSTAR, in 2007-2008 (the last year for which data were publicly available) the foundation invested \$53 million in partnerships between academic research and the private sector (NYSTAR 2008). Among other programs NYSTAR funds fifteen centers for advanced technology that specialize in university-industry collaboration and technology transfer. Some of the centers focus on research directly relevant to clean-energy technology. For example, the Center for Future Energy Systems received \$20 million initially from the state government, and the Syracuse Center of Excellence in Environmental and Quality Systems (2009) has received over \$44 million from the state government since 1998. The organization conducts and coordinates state-level research in several clean-energy areas, including indoor environmental quality, water resources, and renewable energy. NYSTAR also supports five other major research centers in energy and environmental research (New York State Foundation for Science, Technology, and Innovation 2009).

In 2009, one of the NYSTAR centers, the Center for Economic Growth, entered into partnership with NYSERDA and the University at Albany to fund clean energy and environmental technology companies (Graven 2009). NYSERDA also spent about \$14 million per year on the Saratoga Technology + Energy Park, which is located next to a technology campus that houses a new chip manufacturing plant and can house three additional plants (NYSERDA 2009a). The state energy agency also supports both intramural and extramural research, and it has plans to support several Clean Energy Advanced Research Centers and Clean Energy Business Incubators (NYSERDA 2009a). NYSERDA has also supported the Clean Energy Center, which provides assistance to start-up companies in partnership with the Syracuse Technology Garden. In 2009 and 2010, NYSERDA also had a \$6.4 million program to support "Clean Energy Business Growth and Development." The Energize New York initiative, approved in 2010, provides low electricity rates, including for manufacturers, to make the state more attractive to business.

Other sources of financing for clean-energy companies include the state's pension fund and economic development authority. The New York State Common Retirement Fund has invested about \$500 million of the \$155 billion fund in green technology, and a smaller amount (\$40 million) has gone into in clean-tech private equity (DiNapoli 2009).

Despite the many efforts and substantial infrastructure for clean energy in the state, the development of the state's clean-energy industries is uneven. It is strongest in energy storage and buildings technologies, but it is not a national leader in biotechnology associated with biofuels and wind manufacturing, and its solar manufacturing industry is small. The state's rail industry is quite strong in manufacturing, but there is the corresponding research and development side is less well developed than its battery, nanotechnology, and energy storage research.

Biofuels. Governor Pataki's 2001 Executive Order 111 required that the state have a goal of 100 percent alternative-fuel vehicles for the state's light-duty fleet by 2010. The state's biomass and biofuels industry exists but is not well developed in comparison with the industrial clusters in the Midwest and West Coast. The New Hampshire-based company Mascoma has a demonstration plant for cellulosic ethanol that is operated in partnership with three universities, and Genencor is headquartered in Rochester. NYSERDA (2010b) funded a biofuels roadmap that may help the state to catch up with efforts in other states, and NYSERDA also funded the development of E85 ethanol stations. Because there is little evidence for biotechnology-based start-up firms similar to the ones emerging in California, Colorado, and Massachusetts, it is possible that the biofuels industry in New York will remain a production industry. There is considerable potential for a broader biomass industry due to the state's large resource base in the Adirondack Park and broader north country (Washburn 2010).

Smart-Grid and Building Technologies. In 2009 the New York State Smart Grid Consortium was founded to bring together state agencies, utilities, universities, and companies that produce smart-grid technologies. Although the consortium will focus on deployment of smart-grid technologies, its strategic plan also includes a role for supporting the state's technology companies that have entered the smart-grid market (NYS SmartGrid Consortium 2009). IBM, which is headquartered in New York, has entered the smart-grid industry and also forged partnerships with smart-grid start-up companies (Ritch 2009). General Electric's Global Research and Development Center, located near Schenectady, has also conducted research on smart-grid technologies. In 2009 NYSERDA and public and private electricity providers in the state also received \$88 million in funding for smart-grid development (Hull 2008, NYSERDA 2009c).

Although New York has the elements in place to become a significant player in the smart-grid industry, to date the main companies in the field are concentrated in the states of California and Washington. New York's large corporations that have an interest in the industry tend to locate manufacturing globally, and some of the partnerships developed so far, such as those between IBM and smart-grid companies, have been with California-based companies (e.g., Silver Spring, SynapSense, and Trilliant). It is likely that New York will not specialize in meters and software, where the West Coast firms have a lead, and instead will focus on distributed energy storage, where the state has significant advantages, and in the related lighting and building controls industries (Cooke 2009). The state has substantial research strengths in lighting via the research center at Rensselaer Polytechnic Institute as well strong research clusters in materials and engineering in the state's universities. Brookhaven National Laboratory also conducts energy-efficiency research, and several large companies (Philips, Carrier, Lockheed Martin, Pall, Siemens, and GE) have strengths in lighting, building control systems, and heating, ventilating, and air conditioning. Companies include E2TAC, Pall, Cemtrex, and Evident.

The Syracuse Center of Excellence in Environmental and Quality Systems mentioned above also conducts and coordinates research on indoor environmental air quality, and the heating and air conditioning company Carrier is headquartered in the city. Although the central New York region has lost manufacturing jobs in the building controls industry, it has also been the site of new start-up companies in the green-building manufacturing industries (Fitzgerald 2010). The Syracuse Technology Garden, which incubates technology companies, and the state's Clean Energy Center, which supports clean-energy companies, are located in the city.

Solar. New York has strong demand policies, but the manufacturing side of the state's solar industry is not as well developed as in some other states. In 2007 the state and its industry partners produced a solar roadmap, and the system benefit charge has enabled NYSERDA to develop over 800 installations (New Energy New York 2007). The public power agencies, Long Island Power Authority and New York Power Authority, have large solar installation projects underway. In January 2010 Governor David Patterson announced the plan to install 100 megawatts of solar energy in the state (a 500 percent increase) as part of a plan to produce forty-five percent of the state's energy through renewable sources by 2015 (UPI 2010). The proposed New York Solar Jobs and Development Act would charge an average of about 39 cents per month on ratepayer bills to finance solar-energy installations, and it is estimated to produce about 22,000 direct and indirect jobs. The New York Solar Thermal Consortium (n.d.) has also produced a solar thermal roadmap that calls on the state to promote both installation and manufacturing in that industry.

As of 2010, the state had three photovoltaic manufacturing plants and some research in its universities, including the Center for Autonomous Solar Power at Binghamton University and the Center for Advanced Materials Processing at Clarkson University. In addition, the state has a strong nanotechnology research base, and it is possible that advances in the field will make the state a center for the next generation of nanosolar applications. However, the state did not have an innovation cluster in solar energy similar to the one in northwestern Ohio, and it is possible that its solar industry will be mostly in installation and maintenance.

Transportation and Energy Storage. The clean-energy industry where New York has achieved national leadership is fuel cells and energy storage. The state's Public Service Commission granted \$21 million for fuel-cell installations, and NYSERDA has supported growth of the battery and electricity storage cluster by providing research seed funding for the New York Battery and Energy Storage Consortium, a nonprofit organization that began in 2009 (Curtin et al. 2010, New York Battery and Energy Storage Consortium, 2010, NYSERDA 2009a). The primary research and manufacturing cluster for fuel cells is in the Rochester area. Both General Motors and Delphi have fuel-cell divisions in the area, and Congresswoman Slaughter helped to obtain \$10 million in federal funding for research at the two companies and at the Rochester universities (Dube 2009). In addition, Eastman Kodak and Harris RF Communications are working on fuel-cell applications, and both the University of Rochester and Rochester Institute of Technology have significant fuel-cell research strengths. Elsewhere in the state other companies that are involved in products that tie in with fuel cells include Ener-G-Rotors, ENrg, and Raymond. MTI Micro Fuel Cells and Plug Power are located in the Albany area, and the two companies received over \$8 million in ARRA funds (Curtin et al. 2010).

The state also has strengths in the broader industry of energy storage. Although battery manufacturing is not as extensive as in Michigan and the national center is located in Kentucky (enabling an arc through Indiana and Ohio), there were strengths in some areas. The state includes established energy storage companies (such as Ultralife and BAE Systems), start-ups (such as the Paper Battery Company), and testing facilities in the universities and in private-sector companies. In 2010 General Electric announced plans to invest \$100 million in GE Energy Storage Technologies at the GE Energy headquarters in Schenectady for a manufacturing plant that will produce sodium batteries for the companies hybrid-electric locomotives (Allen 2010). New York has the bulk of the rail manufacturing in the U.S., due largely to the infrastructure needs of the rail system that centers on New York City. The companies (Alstrom, Kawasaki, and Bombardier) all have foreign headquarters, and it is likely that design is done in France and Japan. However, the General Electric battery-manufacturing facility may become connected with the state's rail industry and spur connections between the battery and energy storage cluster. The state's capital district is also home to a \$69-million flywheel energy storage facility built by the Massachusetts-based company Beacon Power.

New York has extensive research facilities related to fuel cells and energy storage. In addition to research and testing capabilities at Brookhaven National Laboratory, General Electric's Global Research Center is located outside Schenectady, where there are 1800 researchers. Many of the new projects entail clean-energy research, and between 2005 and 2006 the company invested \$150 million in the "green battery" market. Likewise, General Motors has the Electrochemical Energy research Laboratory (300 employees) outside Rochester, where research on fuel cells and batteries is conducted. The Cornell Fuel Cell Institute (2009) is funded primarily by the Department of Energy, but it also has state government support via NYSTAR that enabled a partnership with the state's other fuel-cell research center, the Center for Advanced Technology for Future Energy Systems at Rensselaer Polytechnic Institute. The College of Nanoscale Science and Engineering at the University of Albany has also entered into clean-energy applications, with fuel-cell research in its Energy and Environmental Technology Applications Center. The state also has five energy research frontier centers, of which three do research related to energy storage, and there are research and testing clusters at various universities.

Given the demand of New York City for urban transportation technology, the state has also been able to nurture bus and train manufacturers. For example, NYSERDA worked with two companies in the state, BAE Systems Controls and Orion Bus Industries, to develop hybrid-electric drive trains for buses (NYSERDA 2009a). The state is also home to several major manufacturers of rail transportation (including Alstom, Bombardier, and Kawasaki), and a report by the Apollo Alliance indicated that the state had the highest number of rail manufacturing companies in the country (Lowe et al. 2010). As a result, New York State is well-positioned to take advantage of high-speed rail initiatives. However, it should be noted that most major rail manufacturers are foreign companies that have manufacturing operations in the U.S., but the higher-end innovation and research functions tend to be located abroad. As a result, the potential for rail manufacturing to become a global export industry may be limited.

Wind. New York also has a geographical advantage with access to both saltwater wind near Long Island and freshwater wind in Lake Ontario, and requests for proposals were

underway for installations in both areas. Although the state has terrestrial wind farms and is pursuing off-shore wind, the state does not have a major initiative to develop wind-turbine manufacturing. There is some research in wind energy at the state's universities, and General Electric has a wind-turbine manufacturing center in Schenectady as well as research at its Global Research and Development facility in nearby Niskayuna. As a result, there is potential in the state for a wind-manufacturing effort that might also be connected with the state's supply-chain manufacturers for the rail and automotive industries.

New York City

Sustainability Plans. New York City's initiatives to create green jobs are part of the broader "PlaNYC" framework, a plan that Mayor Michael Bloomberg launched on Earth Day in 2007. The broad sustainability plan includes goals for housing, open spaces, brownfields, water, air, transportation, and energy. A unique and impressive aspect of the plan is that the city reports annually on progress toward its goals, with a description of actions taken and the status of the progress as complete, redirected, or delayed. People who want to know about the progress on various goals can go to the web site and find updates.

PlaNYC committed the city government to reducing its carbon footprint by 30 percent below 2005 levels by 2030. Although urban sustainability plans often flounder on implementation, the city has made significant progress since the plan was launched, and a progress in report in 2009 indicated that 85 milestones were completed or on time, whereas 42 were delayed or redirected. By 2010 there were some setbacks, and only 51 of 127 milestones had been completed (Einhorn 2010). The plan also suffered some major setbacks, such as a decision in Albany not to allow congestion pricing for entrance into New York City. The plan would have used the funds to support greater public transportation. Instead, the city had not been able to move forward on crucial public transportation goals (Paul 2010). Furthermore, there were some criticisms about the lack of inclusion of grassroots perspectives (Angotti 2010).

In 2009 Mayor Bloomberg announced a development of the PlaNYC that included thirty new initiatives that could create as many as 13,000 new jobs for the city by 2018, many in the sectors of green buildings, distributed renewable energy, and carbon trading (City of New York 2009b). The city's green plan does not emphasize the low-income weatherization jobs to the same degree that is found in other city plans, but the city received \$50 million in ARRA funds for weatherization.

Green-Building Initiatives. New York has had green-building initiatives in place since 1999, when the city's Department of Design and Construction launched its high-performance guidelines (City of New York 2010). A significant reform for the city was Local Law 86, which was passed in 2005 and implemented in 2007. The law requires any buildings constructed by the city or with the use of city funds above a threshold to be certified as green buildings according to LEED standards. As a result, about half of the buildings covered by the law have achieved a 20 percent savings on energy and water as well as LEED silver certification. In addition, the 2007 Executive Order 109 required city agencies to develop and implement energy conservation plans. Those and other reforms were intended to drive a transition to produce green jobs in the

construction sector. In 2009 New York Mayor Bloomberg announced that existing buildings of 50,000 square feet or more would be required to undergo an energy audit and then to pay for many of the designated changes. However, when faced with vehement opposition from building owners, the mayor backed off the plan and said he would only seek mandatory energy audits. The resulting Greener, Greater Buildings Plan, approved in late 2009, requires all commercial buildings over 50,000 square feet to report on energy and water use. Furthermore, the city will reduce carbon dioxide emissions in its buildings by 30 percent by 2017, and by 2009 the city was investing about \$80 million per year into retrofits (City of New York 2009b). The city also launched a public awareness campaign, a solar installation tax abatement program, and solar zones (areas with an accelerated permitting process).

Another innovative program in New York is the “1 Year: 1,000 Green Superintendents” initiative, which was launched by the Service Employees International Union Local 32BJ. It trains superintendents and building managers in a forty-hour course based on standards set by the Building Performance Institute and the Urban Green Council for energy-efficient multifamily building operators.

Green Jobs Training. The city maintains a list of green jobs training programs and opportunities (New York City 2010). The web site enables people to download a list of training programs that provides a description and contact information. It also directly sponsors two green job training programs in addition to the many programs available through local training institutes and higher-education institutions. The Million Trees NYC Training Program offers seven months of training in horticulture, tree pruning, and ecological restoration for young people who are out of school or out of work; the Partnership of Brownfields Practitioners also has a job training program (City of New York 2009). There are also two green-job training programs offered by nonprofit organizations. Sustainable South Bronx was founded by Majora Carter in 2001 to advocate for various brownfields restoration projects in the tradition of urban environmental justice organizations. Subsequently, the organization pioneered one of the country’s first urban green jobs training programs and became involved in a number of local policy issues that include green business development and remediation of environmental damage and exposure. Omar Freilla, who served as the Program Director for Sustainable South Bronx, subsequently founded Green Workers Cooperatives in 2003 to provide an incubator for worker-owned, green businesses in the Bronx such as ReBuilders Source, a reuse store. Another nonprofit organization that provides green jobs training in New York is Solar One (2009), which has focused on programs in high schools and has partnered with various community organizations. In 2009 the organization was planning to offer a full set of five tracks: building performance; photovoltaic installation and advocacy; deconstruction and materials recycling; green entrepreneurship; and horticulture, landscaping, and park maintenance. A perhaps uniquely New York green job training initiative is a program for junior and mid-level employees for work in carbon trading. The city intends to become the world capital of this industry.

Green Business Initiatives. The city’s Green Manufacturing Initiative has supported the development of the industry in the city. Studies published by the Industrial and Technology Assistance Corporation and the New York Industrial Retention Network (2005, 2006) identified over 1,700 manufacturing companies in the city in a building-related industry, but only about 53 returned survey information. The Made in NYC web site (www.madeinnyc.org), which followed

from the Green Manufacturing Initiative, later identified thirty-seven companies that specifically were in the green products sector for construction and furnishings. Sustainable Hudson Valley has also worked with firms north of the city to develop green products for the city's green buildings initiatives.

Civil Society Organizations and Policy

The New York State Apollo Alliance has a ten-point plan for the state and has convened various meetings to support the ongoing development of the state's environmental and economic development policies. For example, in January, 2009, the Apollo Alliance convened a statewide conference with forty representatives from environmental, labor, educational, and religious organizations. Policy goals for the New York State Apollo Alliance include a feed-in tariff, on-bill financing, smart-growth infrastructure, 5000 megawatts of solar energy by 2025, expanded net metering, and brownfield revitalization.

In New York City, the organization Urban Agenda has convened the Apollo Alliance. In 2009 Urban Agenda and the Center for American Progress produced a green jobs roadmap for the city (Cha and Defoe 2009). Among the many recommendations were the following: amend the city's procurement process to allow local sourcing, reduce zoning restrictions and provide tax incentives for green manufacturing, develop large-scale building retrofits and renewable-energy projects, and incorporate jobs standards, local procurement, and local sourcing in PlaNYC.

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