

New York City Responds to Global Warming by Promoting Green Buildings

Christine Fazio and Melinda Poon

The authors describe how New York City is responding to the problem of global warming. After explaining the Leadership in Energy and Environmental Design rating system, the authors discuss New York City's new Local Law 86, the green building initiatives currently underway there, and the city's plan to expand energy efficient upgrades to non-city funded projects.

As the federal government continues to haggle over how to address climate change—from some questioning whether global warming even exists to others debating whether climate change legislation should be in the form of a carbon tax on fuel or a carbon dioxide emissions trading program, cities across the United States have chosen to stop the debate and actually respond to the problem. To date, more than 690 mayors from the 50 states, the District of Columbia and Puerto Rico have signed the U.S. Conference of Mayors' Climate Protection Agreement, an initiative launched in 2005 for cities across the country to advance the goals of the Kyoto Protocol through leadership and action, including promoting sustainable building practices.

The Leadership in Energy and Environmental Design Rating System

Many cities are using the Leadership in Energy and Environmental Design ("LEED") rating system,

Christine Fazio is counsel in the Environmental Practice Group and Melinda Poon is counsel in the Real Estate Department of Carter Ledyard & Milburn LLP. Judith Wallace, an associate in the firm's Environmental Practice Group, assisted in the preparation of this article. The authors can be reached at fazio@clm.com and poon@clm.com, respectively.

developed by the U.S. Green Building Council ("USGBC"), to evaluate the environmental performance of a building and compliance with their green building policies and regulations. Buildings receive LEED certification by the USGBC if their designs score sufficient points in five categories of performance: sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. The number of points the project earns determines the level of LEED certification, with LEED Platinum being the highest level, followed by LEED Gold, LEED Silver and LEED Certified.

Global Warming: Cities Respond

In California, the City of San Jose adopted its initial green building policies in 2001 and in March 2007, adopted an updated Green Building Policy that requires all new municipal buildings over 10,000 square feet to be constructed to achieve LEED Silver level certification at a minimum, with a goal of reaching LEED Gold or LEED Platinum certification. Seattle adopted its Sustainable Building Policy in February 2000 for the purpose of financing, designing, constructing, and maintaining its facilities and buildings to be sustainable and required all new and major remodel facilities and buildings with 5,000 gross square feet of occupied

space to meet a minimum LEED Silver certification. Similarly, San Francisco, under its green building policy, requires all new municipal construction projects and significant renovation projects of 5,000 square feet or more to achieve a minimum LEED Silver certification.

There is good reason why cities should respond to global warming: a significantly large percentage of greenhouse gases that contribute to the warming of the earth's atmosphere are emitted from buildings. The New York City Mayor's Office of Long-Term Planning and Sustainability released an inventory of New York City's greenhouse gas emissions in April 2007. That report found that 79 percent of New York City's total greenhouse gas emissions for the year 2005 were caused by the consumption of energy by buildings in New York City. The national average for 2005 was 34 percent. Transportation sources accounted for the remainder of the New York City greenhouse gas emissions in 2005. The Office of Long-Term Planning and Sustainability also examined greenhouse gas emissions due to city government operations, which represents approximately seven percent of total citywide greenhouse gas emissions. Sixty four percent of the emissions from 2005 were caused by the operation of city buildings. These facts support the need for local laws that encourage green buildings.

New York City's Local Law 86

On September 15, 2005, the New York City Council unanimously approved Local Law 86, which amends the New York City Charter by adding Section 224.1 providing for green building standards. The Mayor signed the bill on October 3, 2005. Local Law 86 took effect on January 1, 2007.

Under Local Law 86, construction and reconstruction projects by the city or non-city owned building projects that are substantially funded by the city must ensure the construction or reconstruction meets the LEED green building guidelines. Specifically, the law applies to (i) capital projects by city agencies involving estimated construction costs of \$2 million or more in new building construction, additions to existing buildings, and substantial reconstruction within existing buildings, including fit-outs of condominium units and leased space; and (ii) building construction or reconstruction projects by non-city agencies with capital funds from New York City valued at either \$10 million or 50 percent of the cost of the building construction or reconstruction. Because the city owns approximately 1,300 buildings and leases over 12.8 million square feet of office space, the New York City Council concluded, when enacting the law, that the use of green building criteria would reduce New York City's electricity consumption, air pollution, and water usage while also improving occupant health and worker productivity and encourage market transformations. The New York City Office of Environ-

mental Coordination ("OEC") adopted regulations entitled Green Buildings Standards, which are promulgated as a new Chapter 10 to Title 43 of the Rules of the City of New York.

The LEED certification standard, energy savings and water usage reductions that must be achieved under Local Law 86 depend on the estimated capital construction costs and the occupied use of the project. For example, construction projects for schools and hospitals with an estimated construction cost of \$2 million or more in city funds must achieve at least a LEED Certified rating whereas construction projects for all other uses costing \$2 million or more in city funds must achieve a LEED Silver or higher certification. In addition, if the estimated construction cost of a project is \$12 million or more, such project must also achieve certain energy cost reductions. For example, a construction project other than a school with estimated construction costs over \$30 million must achieve a LEED Silver certification and reduce energy costs by 25 percent. A storage facility with an estimated construction cost that is between \$2 million and \$12 million must achieve LEED Silver certification while a storage facility with an estimated construction cost over \$12 million but less than \$30 million must achieve a LEED Silver certification and a minimum 20 percent reduction in energy costs. With respect to fit-outs of condominium units and leased space, only space and components under the exclusive control of the unit owner or tenant are subject to the requirements of Local Law 86.

The law and regulations also provide specific requirements for boilers, lighting systems, heating, ventilating and air conditioning ("HVAC") systems and plumbing installations or replacements. For instance, the installation or replacement of a plumbing system that costs \$500,000 must achieve a minimum of a 30 percent reduction in water use; the installation or replacement of boilers that cost \$2 million or more must achieve a minimum 10 percent reduction in energy costs; the installation or replacement of lighting systems costing \$1 million or more must achieve a minimum 10 percent reduction in energy costs; and the installation or replacement of HVAC control systems that costs \$2 million or more must achieve a minimum five percent reduction in energy costs. There are certain exemptions from the requirements of Local Law 86. For example, stand-alone parking garages are not subject to the green building standards because there is no LEED certification available at this time for such structures. Capital projects may also apply for exemptions from one or more green building requirements under OEC's regulations.

There is no one way to achieve LEED standards, and how a building owner should proceed in many ways depends on the locality of the building, the shape and design of the building and the environmental concerns important to the particular locality. Common green measures involve installing highly efficient light-

ing systems, energy efficient heating and cooling systems, and Energy Star rated appliances and office equipment. Other measures involve constructing with lighter colored rooftops and improved landscaping, including planting trees around the premises. Improving indoor air quality can be achieved by purchasing carpeting and other building furniture with less volatile organic compounds. Water reduction can be achieved by installing ultra-low flush toilets and low-flow shower heads.

Why Build Green?

Building green is also a good investment. A 2003 study by the California Sustainable Building Task Force of 33 green buildings showed a ten-fold return on the investment of green building design. The study found that the additional costs to construct a green building were quite low: the LEED Silver buildings averaged a 2.1 percent cost premium, and the LEED Gold buildings averaged a 1.8 percent cost premium. As fuel prices and water prices rise, building owners and tenants that can reduce their electricity and water usage will have lower operating costs, which is why building green is a sensible investment over the long run. There are also the other cost savings that are more difficult to quantify such as improved occupant health and less worker sick days, reduced indoor and outdoor air pollution, and reduced municipal solid waste sent to local and out-of-state landfills (which also is a source of greenhouse gas emissions).

New York City's Green Buildings

One of the first city projects to comply with Local Law 86 was The New York Public Library's Bronx Library Center, which received the LEED Silver certification in January 2007. The Library Center's green features include a high-performance glass curtain wall with insulated frames to lower the building's energy costs, the use of structural steel largely consisting of recycled content, and the use of separately controlled heating and cooling zones, among others.

While Local Law 86 applies to city buildings and buildings that receive substantial city funding, the private sector has also chosen to go green because it makes economic sense. The Queens Botanical Garden's new visitor and administration facility building, which may qualify for the LEED Platinum certification, includes geothermal heating and cooling systems and a greywater system that cleans water from sinks and showers that is then used to flush toilets. The Bank of America Tower at One Bryant Park uses a mixture of 55 percent cement and 45 percent slag for building construction, reducing the carbon dioxide emissions normally associated with cement manufacturing. The Tower will have a 4.6 megawatt cogeneration plant, floor-to-ceiling insulating glass to contain heat and maximize natural light, and a greywater system that

captures rainwater and reuses it. Residential developers are also going green. For instance, the Solaire is a green residential building located in Battery Park City. In addition to benefiting from the operational cost savings, the developers of these and other green buildings have received considerable positive press regarding their green building efforts, thereby making the buildings more distinctive and marketable.

New York City's Green Building Future

On April 22, 2007, Mayor Bloomberg announced his PlaNYC 2030, which expects to expand energy efficient upgrades to non-city funded projects. While the Plan does not mandate any particular measures or means to achieve energy efficiency by the private sector, it provides a goal of providing incentives (and later mandates) to add energy saving measures to existing buildings. Examples provided in the Plan include requiring lighting systems be brought up to energy code for all spaces at the time of renovation or change of tenancy, and energy efficiency upgrades for certain large residential units. Such measures are likely to be implemented via amendments to the City Building Code. The Plan also calls for city agencies to cut energy use by 30 percent over 10 years and requests that the city's leading non-profit and commercial building owners meet the city's commitment.

On October 22, 2007, Mayor Bloomberg issued Executive Order No. 109 that established a steering committee to be charged with developing plans to meet the city's goal of reducing energy use in city buildings by 30 percent over the next ten years. This is one of the 127 initiatives in his PlaNYC 2030. The Executive Order requires that the steering committee issue a short-term action plan by December 1, 2007 for spending the \$80 million budgeted in fiscal year 2008 for energy and greenhouse gas emission reduction purposes. By June 30, 2008, the steering committee must issue a long-term action plan to achieve the full 30 percent reduction by 2017. Mayor Bloomberg also released the first PlaNYC Progress Report, which shows that work has begun on more than 80 percent of the other 126 initiatives addressed in his Plan. Accordingly, New York City is quickly moving forward on its green building and other climate change initiatives.

While building green is expected to result in significant long-term savings, there are programs in New York that can assist financially in such efforts. In particular, the New York State Energy Research and Development Authority ("NYSERDA") provides technical and financial assistance to eligible building owners and leaseholders to improve the energy efficiency of new and substantially renovated buildings. Applications to NYSERDA, as administrator of the New York Energy Smart New Construction Program, are now being accepted through March 31, 2008, on a first-come, first-served basis, for the budgeted \$16 million in financial assistance (NYSERDA began receiv-

ing applications in April 2007). The financial incentives are available to offset a portion of the incremental capital costs to purchase and install energy-efficient equipment that reduce electric energy consumption. NYSERDA provides technical assistance to those wishing to install advanced solar energy and daylighting technologies and can also help building owners and tenants in evaluating other green building and peak-load reductions proposals.

Learning More About Building Green

Information on achieving LEED certification is available on the USGBC website at <http://www.usgbc.org>

under the heading “LEED” or on the website for the New York Chapter of the USGBC at <http://www.usgbcny.org>. Local Law 86 and the regulations promulgated thereunder are available on the OEC website at http://www.nyc.gov/html/oec/html/sustain/green_build.shtml, and further information can also be obtained at the New York City Department of Design and Construction’s website, under the heading “Sustainable Design” at <http://www.ci.nyc.ny.us/html/ddc/html/ddcgreen>. Information regarding financial and technical assistance by NYSERDA is available on the NYSERDA’s website at <http://www.nyserda.org>.