OC 1: ADD ENVIRONMENTAL PROTECTION AS FUNDAMENTAL PRINCIPLE OF THE CONSTRUCTION CODES

Administrative Code of the City of New York
Proposal developed by the Climate Adaptation Committee

Summary

Issue:
Although environmental protection is not expressly recognized as a principle informing the building code, environmental risks are more likely to affect New York City buildings and their residents than many other risks currently addressed in the code.

Recommendation:
Amend the intent section of the building code to include environmental protection as a fundamental principle.

Proposed Legislation, Rule or Study

Amendments to the Administrative Code of the City of New York:

1. Amend Section 28-101.2 as follows:

§28-101.2 Intent. The purpose of this code is to provide reasonable minimum requirements and standards, based upon current scientific and engineering knowledge, experience and techniques, and the utilization of modern machinery, equipment, materials, and forms and methods of construction, for the regulation of building construction in the city of New York in the interest of public safety, health and welfare, including environmental protection, and with due regard for building construction and maintenance costs.

Supporting Information

Issue – Expanded

The codes regulating the construction and maintenance of buildings were developed in response to serious threats to health and safety, and include requirements for structural integrity, fire prevention, emergency egress, and access to light and air. In particular, many provisions of the New York City building code arose in direct response to disasters or epidemics. The 1911 Triangle Shirtwaist Factory fire led to requirements for fire drills and automatic sprinklers, and widespread problems exiting darkened stairways during the 2003 blackouts have brought about enhanced requirements for emergency lighting in those stairways. Similarly, epidemics led to New York’s tenement laws, which require access to light and air. These core functions are enshrined in the pre-amble to the building code, which lays out the intent of the code as the protection “of public safety, health and welfare.”

As new technologies arise and new public hazards are identified, the Construction Codes are regularly updated. For example, the energy crisis of the 1970’s spurred the adoption of energy codes in order to protect against spiraling prices and the threat of shortages. Today, a group of issues, including energy consumption, indoor air quality, and storm water run-off, are commonly seen to impact public safety, health, and welfare at the broadest scale. These concerns, which generally encompass “environmental protection”, are critically impacted by the way buildings are designed and constructed. For example, in New York City buildings are responsible for 75% of carbon emissions, 85% of water use and over 60% of solid waste. In response, environmental issues are rapidly being added to the Construction Codes, but in a piecemeal fashion. The impact of environmental issues -- including the imminent threat of climate change -- on human health, safety, and welfare, combined with the vast impact of buildings on the environment, means that it is time to place these issues on a more solid intellectual footing by adding “environmental protection” as a core principle of the Construction Codes.

Certainly, the risks posed by environmental degradation are as - or more - significant than any other risk the city regulates. For example, in 2008, out of New York City’s more than one million buildings, there were only 26,862 structural fires, yet the Fire Code makes up an entire book of the city’s administrative code. In comparison, every person in the city will likely be exposed to unhealthy levels of volatile organic compounds and suffers if droughts are
exacerbated by wasteful water use. In the medium-term future, New York will be subject to extreme weather events that will stress our infrastructure and affect every building and every resident.\footnote{NEW YORK CITY FIRE DEPARTMENT, FDNY VITAL STATS (2008), \url{http://www.nyc.gov/html/fdny/pdf/vital_stats_2008_final.pdf}.} The New York City Climate Change Adaptation Task Force predicts that in New York in 2050 sea level will rise 7-12 inches, temperatures will be 3-5° F hotter, precipitation will be 10% greater and there will be more extreme weather events.\footnote{NEW YORK CITY PANEL ON CLIMATE CHANGE, CLIMATE RISK INFORMATION (2009), \url{http://www.nyc.gov/html/planyc2030/downloads/pdf/nyc_climate_change_report.pdf}.}

In addition, New York City will be unable to achieve many of the targets set in PlaNYC for sustainable growth through 2030 without systematically addressing the environmental impacts of the building sector. For example, the New York City Climate Protection ACT (Local Law 55 of 2007) requires the city to reduce greenhouse gas emissions by 30% by 2030. This will only be possible through changes to the design, construction and operation of buildings, given the outsized impact of buildings on New York City’s environment.

Finally, New Yorkers' expectations have changed. Increasingly, people are looking to live and work in buildings that are healthy and reflect their values. For this reason, there are new efforts around the country, such as those by the International Code Council and ASHRAE, to incorporate green principles into building codes.

Environmental & Health Benefits
The environmental and health benefits of this proposal are far-reaching since incorporating environmental protection as a principle of the Construction Codes provides the intellectual underpinning for all the recommendations of the NYC Green Codes Task Force.

This proposal was found to have a positive, indirect environmental impact.
This proposal was found to have a positive, indirect health impact.

Cost & Savings
This proposal is for a study which will have no direct impact on construction costs.

Precedents
Environmental codes have a long history in the U.S. in the form of energy codes, which are widespread and widely accepted. California recently adopted the Green Building Standards Code, potentially the first broad-intent code expressly intended to address environmental issues.\footnote{Ibid. at p. 3.} The stated purpose of this code is "to improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices."\footnote{NEW YORK CITY PANEL ON CLIMATE CHANGE, CLIMATE RISK INFORMATION (2009), \url{http://www.nyc.gov/html/planyc2030/downloads/pdf/nyc_climate_change_report.pdf}.}

A few months after California adopted statewide green building standards, San Francisco followed suit with its own green building code.\footnote{NEW YORK CITY PANEL ON CLIMATE CHANGE, CLIMATE RISK INFORMATION (2009), \url{http://www.nyc.gov/html/planyc2030/downloads/pdf/nyc_climate_change_report.pdf}.} The codified intent of the San Francisco code is "to promote the health, safety and welfare of San Francisco residents, workers, and visitors by minimizing the use and waste of energy, water and other resources in the construction and operation of the City . . . ."\footnote{Ibid. at p. 3.}

As mentioned in the Issue-Expanded section, the International Code Council and ASHRAE are in the process of developing green codes.

LEED
There are no LEED credits affiliated with this proposal. However, this amendment corresponds with the intent of LEED.

Implementation & Market Availability
There are no known implementation issues for this proposal.

ENDNOTES:

3 Ibid. at p. 3.

