EF 1:
SIMPLIFY COMMERCIAL ENERGY CODE TO CURRENT ASHRAE 90.1

Energy Conservation Construction Code of New York State, as incorporated in Chapter 13 of the New York City Building Code
Proposal developed by the Energy & Ventilation Committee

Summary

Issue:
The Energy Code provides commercial buildings two major compliance paths with over a dozen sub-paths. This results in an excessively complex code structure, which creates loopholes and makes enforcement difficult.

Recommendation:
To simplify compliance and enforcement, require that all commercial buildings follow ASHRAE 90.1.

Proposed Legislation, Rule or Study

Amendments to the Energy Conservation Construction Code of New York State, as incorporated in Chapter 13 of the New York City Building Code:

1. Delete Chapter 8 and replace with a new Chapter 8 as follows:

CHAPTER 8

BUILDING DESIGN FOR COMMERCIAL BUILDINGS

SECTION 801


801.1 Scope. The requirements contained in this chapter are applicable to commercial buildings, or portions of commercial buildings. Buildings constructed in accordance with this chapter are deemed to comply with this code. These commercial buildings shall meet the requirements of ANSI/ASHRAE/IESNA Standard 90.1 (2007), Energy Standard for Buildings Except for Low-Rise Residential Buildings.

Supporting Information

Issue – Expanded
The Energy Conservation Code of New York State for commercial buildings essentially consists of two separate but comprehensive codes, allowing users to choose their compliance option: ASHRAE Standard 90.1 and Chapter 8 of the International Energy Conservation Code. Anecdotal evidence suggests that the origin of this arrangement was a compromise between two competing Code bodies (ASHRAE and the Uniform Building Code, now the International Code Council); instead of integrating the best aspects of each code, both codes were included as options.

Having two codes in New York State has proven untenable for many reasons. Each code is more than 100 pages long and is intricate and complex; together they provide at least one dozen potential sub-paths. Thus, it is very difficult for a practitioner or code enforcement official to be highly knowledgeable about both codes. This is especially challenging because both the two codes share many similarities in structure and organization, but are very different in detail—thus causing even more confusion when attempting to commit requirements to memory.

In addition, the energy codes in the U.S. are being upgraded on a regular basis and there is no systematic means to maintain uniformity of overall performance requirements between the two codes. Anecdotal evidence suggests that at one time this role was informally played by US Department of Energy staff, but that is not currently the case.

In recent years, ASHRAE Standard 90.1 has emerged as the dominant venue for debating and enacting energy performance policy within the US, both in government and the private sector. ASHRAE 90.1 is the standard referenced consistently within Federal energy legislation, including recent Energy Policy Acts as well as bills now pending in
congress. ASHRAE 90.1 was developed and is maintained through a rigorous national consensus based development and upgrade process. ASHRAE 90.1 is also the primary energy standard utilized in the LEED Rating System by the US Green Building Council. Moreover, ASHRAE 90.1 is most often utilized by the industry in New York City for energy code performance.

For all these reasons, this proposal would simplify the Energy Code to require compliance with ASHRAE 90.1, and no longer include Chapter 8 of the International Code Council as an alternative path.

**Environmental & Health Benefits**
A simplified energy Code structure for commercial buildings will enable greater understanding of the Code requirements by practitioners, greater ability to enforce the requirements of the Code by City officials, and thus greater energy performance of New York City’s commercial buildings.

This proposal was found to have a low, positive environmental impact per building and to impact a small number of buildings. It was thus given an environmental score of 1.

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

**Cost & Savings**
As described in the Executive Summary, Bovis Lend Lease prepared cost estimates for each Task Force proposal in the context of well-defined construction projects in specific buildings. Where possible, members of the Technical Committees prepared savings estimates for some of these projects and buildings. These cost and savings estimates are presented in the February 1st draft version of Appendix A. The innate uncertainty in how construction and operation will vary from one building to another, the complexity of the Task Force proposals, and the wide range of applications in which the proposals may be realized mean these figures are truly estimates.

This proposal is not expected to have any significant impact on capital costs. It was thus categorized as not incurring a capital cost increment. This proposal was also estimated to generate financial savings that will pay for the capital costs in less than three years depending on the building type.

Indirectly, a simplified energy Code structure would result in reduced cost to practitioners to obtain and maintain proficiency with the Code, and reduced cost to New York City government to interpret and enforce the Code.

**Precedents**
There are no known precedents for this proposal.

**LEED**
Current LEED prerequisites for Minimum Energy Performance under the Energy & Atmosphere sections require that the scope of work complies with ANSI/ASHRAE/IESNA standard 90.1-2007, or the local energy code, whichever is more stringent. In New York City, this means that all projects that participate in LEED must comply with ASHRAE 90.1, thus the proposed Code simplification is consistent with LEED.

**Implementation & Market Availability**
There are no significant barriers to implementation of this proposal.

More engineers and architects are familiar with ASHRAE 90.1 than with Chapter 8 of the International Code Council. Some design professionals may require training on ASHRAE 90.1.