

## 14. ENERGY

---

### 14.1. INTRODUCTION

Energy analyses focus on an actions' consumption of energy as well as the relevant effects on energy transmission as a result of an action. All new structures and alteration projects requiring heating and cooling systems are subject to the New York State Energy Conservation Code, reflecting State and City energy policies. According to the *City Environmental Quality Review (CEQR) Technical Manual*, a detailed assessment of energy impacts would be limited to projects that may significantly affect the transmission or generation of energy. Most actions resulting in new construction would not create significant energy impacts, and, as such, do not require a detailed energy assessment.

### 14.2. PRINCIPAL CONCLUSIONS

The Proposed Action would not result in a significant adverse impact on energy systems. In accordance with the CEQR Technical Manual, a screening analysis of the potential for the Proposed Action to affect demand for energy has been provided based on prototypical development sites. The screening analysis concluded that the incremental development that may occur at any one prototypical development would not be significant enough to affect energy systems.

### 14.3. SCREENING ANALYSIS

According to the CEQR Technical Manual, in most cases, a project does not need a detailed energy assessment; however its operational energy consumption should be calculated. The incremental demand caused by most projects results in incremental supply, and consequently, an individual project's energy consumption often would not create a significant impact on energy supply. Consequently, a detailed assessment of energy impacts would be limited to projects that may significantly affect the transmission or generation of energy.

The Proposed Action would create a Special Permit for self-storage facilities in Designated Areas. The Proposed Action is not in-and-of-itself expected to induce development where it would not have occurred absent the Proposed Action. It is anticipated, to change the geographic distribution of self-storage facilities. Specifically, in total, there could be five fewer self-storage facilities overall by 2027, with nine fewer in Designated Areas, and four more in M and C8 districts outside of the Designated Areas.

These changes would not require a detailed energy assessment, and no significant adverse impact to energy supply or services would expected to occur. However, as recommended in the CEQR Technical Manual, the projected amount of energy consumption during long-term operation should be disclosed in the environmental assessment.

Assessment

The Proposed Action is a "generic action" and there are no known potential or projected development

sites. Due to its broad applicability, it is difficult to predict the sites where development would be facilitated. To produce a reasonable analysis of likely effect of the Proposed Action, four representative development prototypes have been identified, as described in Chapter 2, “Analytical Framework.”

<b>Table 1 Average Annual Whole-Building Energy Use in New York City Per CEQR</b>	
<b>Building Type</b>	<b>Source energy (Thousand Btu (MBtu)/sq ft)</b>
Commercial	216.3
Industrial	554.3
Institutional	250.7
Large Residential (>4 family)	126.7
Small Residential (1-4 family)	94
<p>Source energy accounts for energy consumed on site in addition to energy consumed during the generation and transmission of energy supplied to the site. This table was developed by the Mayor’s Office of Long Term Planning and Sustainability and lists New York City-specific energy- and carbon-intensity values for various building types. Building energy intensity (measured by thousand Btu per square foot (MBtu/sq. ft)) is calculated from data compiled for calendar year 2008 for the Inventory of New York City Greenhouse Gas Emissions: September 2009. These values have been normalized for weather using the National Oceanographic and Atmospheric Administration (NOAA) Typical Meteorological Year (TMY) data, which are derived from 1976-2005 historical weather data.</p> <p>Data sources: City of New York, <i>Inventory of New York City Greenhouse Gas Emissions</i> (2009); New York City Department of Finance; U.S. Department of Energy National Renewable Energy Laboratory.</p>	

To calculate the use of energy for each prototype, the projected difference in square feet between the No-Action and With-Action scenario is first determined. The incremental difference is then multiplied by the applicable energy use rate (Table 15-1). For conservative analysis purposes, the energy use rate for Industrial building types (554.3) has been selected. This calculation provides the net energy use rate for each prototype.

<b>Prototype</b>	<b>Increment between No-Action and With-Action (in square feet)</b>	<b>Energy Use (in MBtu)</b>
Prototype 1	27,120	15,032,616
Prototype 2	19,350	10,725,705
Prototype 3	28,800	15,963,840
Prototype 4	0	N/A

Based on the prototypical analysis, the largest incremental increase that may occur amongst the four prototypes is for Prototype 3. The development increment between the No-Action and With-Action scenario for Prototype 3 is 28,800 gsf. Based on the energy consumption rate for the most energy-intensive category (Industrial (554.3)) (Table 15-1), the incremental energy usage for Prototype 3 would be 15,963,840 Btu.

The Proposed Action would generate an incremental increase in energy demand that would be negligible when compared to the overall demand within Consolidated Edison's (Con Edison's) New York City and Westchester County service area. Therefore, the Proposed Action would not result in any significant adverse energy impacts.