

CHAPTER 16: ENERGY

16.1 Overview

The Proposed Action would introduce a substantial amount of new development to the Project Area, which would result in an increase in the existing level of energy consumption. In accordance with the *CEQR Technical Manual*, an assessment of a proposed action's energy consumption is required during the environmental review process. The analysis should focus on the anticipated energy usage level associated with the proposed action and the potential for project-related effects on the transmission of energy. In Staten Island, Con Edison supplies electricity and KeySpan provides natural gas delivery.

As detailed below, energy consumption would increase within the Project Area as a result of the additional residences and businesses that the Proposed Action would introduce. However, the projected differential increase in energy consumption that would result from the Proposed Action does not represent a substantial additional load. Therefore, the Proposed Action is not expected to significantly and adversely affect energy provider services in the Project Area.

16.2 Methodology

To assess the Proposed Action's projected energy consumption, guidelines presented in the *CEQR Technical Manual* have been followed. The unit of analysis for the energy assessment is British Thermal Units (BTUs). One BTU is the quantity of heat required to raise the temperature of one pound of water one Fahrenheit degree.

New structures that require heating and cooling are subject to the New York State Energy Conservation Code, which reflects State and City energy policy. Actions that include new construction or significant building renovation, then, would not create adverse energy impacts and would not warrant a detailed energy analysis. While most actions are not expected to result in significant adverse energy impacts, the *CEQR Technical Manual* recommends that a proposed action's environmental documentation disclose the anticipated energy consumption during long term operations.

The Project Area, as defined in Chapter 1, "Project Description," also serves as the study area for the energy assessment.

16.3 Existing Conditions

The following temporary institutional uses are located on the Homeport Site: New York City Police Department (NYPD) Staten Island Task Force, New York City Fire Department (FDNY) Marine Company No. 9, New York City Department of Transportation (NYCDOT) Marine Repair Unit, and Richmond County State Supreme Civil Court. Project Area parcels situated outside of the Homeport Site, also referred to as Projected Development Sites, contain a mix of commercial and light manufacturing uses. *CEQR Technical Manual* methodology has been utilized to estimate the Project

Area’s existing annual energy consumption level. See Table 16-1 for estimates regarding the Project Area’s existing level of energy consumption.

Table 16-1: Estimated Annual Operational Energy Consumption for Project Area (Existing Conditions)

	Square feet of Development, by Use Type			BTUs (in millions)
	Institutional	Manufacturing ²	Commercial ³	
Homeport Site¹	282,300	--	--	23,685
Projected Development Sites	--	8,628	66,715	4,103
Project Area Total	282,300	8,628	66,715	27,788

Notes:

¹ Existing Homeport Site energy use estimate only includes square footage of active buildings (six out of eight); energy use index rate utilized is the average of the public assembly and public order & safety rates (83,900 BTUs per square foot per year)

² To estimate energy consumption for existing manufacturing uses, the warehouse and storage energy use index rate was utilized.

³ To estimate energy consumption for existing commercial uses, the mercantile and service energy use index rate was utilized.

Source: The Louis Berger Group, Inc.

16.4 No Build Condition

For the purposes of the No Build Condition analysis, it is assumed that existing uses in the Project Area would remain unchanged in 2015, except for the Homeport Site. The four temporary institutional uses currently occupying the Homeport Site would be relocated under the No Build Condition, independent of the Proposed Action. Thus, the Project Area’s level of energy consumption under the No Build Condition would decrease relative to Existing Conditions.

None of the Projected Development Sites within the Project Area, as defined in Chapter 2, “Analytical Framework,” would be developed in the No Build Condition. However, there will be an increase in energy consumption associated with any background growth that may occur within the region, including the ten anticipated development projects identified in Chapter 2. In terms of energy consumption within the Project Area, it is assumed that the properties west of Front Street between Wave and Thompson Streets (also referred to as the Projected Development Sites) would continue to operate similar to Existing Conditions. The Project Area’s estimated energy consumption under the No Build Condition would be approximately 4,103 BTUs per year, or approximately 23,685 BTUs (85 percent) less than the existing level.¹

16.5 Build Condition

Development associated with the Proposed Action would result in an increase in the amount of energy consumed within the Project Area, as exhibited in Table 16-2. The Proposed Action would result in an approximately 371 percent increase (103,122 million BTUs) above the existing level of annual energy consumption. A comparison between the estimated annual energy consumption levels for the No Build and Build Conditions

¹ Energy consumption under the No Build Condition is equal to that of the existing Projected Development Sites, or the total existing level less the Homeport Site’s contribution.

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indicates that the Project Area’s energy consumption would increase by a projected 126,807 million BTUs, or by almost 3,091 percent. The somewhat exaggerated difference between the Build and No Build Conditions, at least relative to the difference between Existing and Build Conditions, reflects the assumption that the Homeport Site would be vacant under the No Build Condition. It also should be noted that while an increase of 3,091 percent seems substantial, the differential increase in BTUs between the No Build and Build Conditions represents approximately 2.1 percent of Staten Island’s (0.10 percent of New York City’s) total annual energy consumption. Furthermore, the Proposed Action’s total estimated annual energy consumption represents approximately 2.2 percent of the annual energy consumption of Staten Island as a whole.²

Table 16-2: Estimated Annual Operational Energy Consumption for Project Area (Build Condition)

	Square Feet of Development, by Use Type				BTUs (in millions)
	Residential ¹	Commercial (Other) ²	Commercial (Retail) ³	Commercial (Office)	
Homeport Site	367,500	145,000	40,000 ⁴	75,000	84,822
Projected Development Sites	300,000	--	43,700	--	46,088
Project Area Total	667,50	145,000	83,700	75,000	130,910

Notes:

¹ Residential use utilized the energy use index rate for lodging, as a household rate is not provided in the *CEQR Technical Manual*.

² “Commercial Other” includes proposed restaurant/banquet hall and accessory use (food service energy use index rate applied), as well as the sports complex use (to be most conservative, a health care energy use index rate was utilized).

³ Commercial retail use utilized the mercantile and service energy use index rate, unless otherwise noted.

⁴ Includes 10,000 square-foot proposed farmer’s market use (food service energy use index rate applied).

Source: The Louis Berger Group, Inc.

16.6 Conclusion

Development under the Proposed Action would comply with the New York State Energy Conservation Construction Code, which sets minimum standards for the design and construction of all new buildings (and substantial renovation of existing buildings). Construction within the Project Area would incorporate all applicable energy conservation measures, including compliance with the Code’s energy efficiency and combined thermal transmittance policies.

The Stapleton section of Staten Island would continue to receive electric and gas services from Con Ed and KeySpan, respectively. Relative to Existing Conditions, the annual operational energy consumption of the Proposed Action is projected to increase by almost 3,091 percent (126,807 million BTUs). As this does not represent a substantial additional load, the Proposed Action is not expected to result in significant adverse impacts to energy provider services in the Project Area.

²Con Edison. *Public Service Commission (PSC) Annual Report* (Report for year ending December 31, 2004, the most recent data available).