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Energy

For CEQR purposes, energy impact analyses focus on a project's energy consumption. This chapter provides an estimate of the additional energy consumption associated with the Proposed Actions.

Introduction

This chapter describes the effects of the Proposed Project on energy consumption. New building and alteration projects are subject to the New York City Energy Conservation Code (NYCECC), which comprises the 2020 Energy Conservation Construction Codes of New York State (ECCCNYS), in addition to a series of local laws. Electricity used in New York City is generated both within and outside the City and is delivered to most New York City users by Con Edison. Projected generation and transmission requirements are forecasted by both the New York State Independent System Operator (NYISO) and Con Edison, ensuring that the City's power supply and transmission systems have the capacity to meet expected future demand. Therefore, according to the *2021 City Environmental Quality Review (CEQR) Technical Manual,* 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. A detailed assessment of energy impacts would be limited to projects that may significantly affect the transmission or generation of energy (such as data centers or web hosting facilities). Most actions resulting in new construction would not create significant energy impacts; as such, they do not require a detailed energy assessment. However, based on proposed development uses and projected consumption rates, a proposed action's operational energy consumption should be estimated.

The Proposed Actions would result in the redevelopment of approximately 78 acres of underutilized, largely asphalt surface parking areas adjacent and accessory to Citi Field with a major mixed-use development. The Proposed Project is anticipated to comprise up to approximately 3.7 million square feet of new construction, with destination entertainment that includes a music hall, hotel, a gaming

facility,[1] convention and meeting space, restaurant and retail space, and office and community facility space. In addition to the commercial development, the Proposed Project would also include public park space—at least 20 acres of the Development Site would be improved with landscaping and other amenities for public recreation. Improved connections to the Mets-Willets Point No. 7 Train NYCT Subway Station, and other public realm improvements are proposed as well as structured parking facilities accommodating up to 13,750 spaces.

As stated in the *CEQR Technical Manual*, a detailed assessment is generally limited to actions that may significantly affect the transmission or generation of energy; a detailed assessment is not warranted for the Proposed Actions. This chapter discloses the amount of energy that would be consumed annually as a result of the day-to-day operations of the buildings and uses resulting from the Proposed Actions.

Principal Conclusions

Although the Proposed Actions would create an increased demand on energy systems, including electricity and gas, the Proposed Actions would not result in a significant adverse impact related to energy systems. Development assumed in the With-Action condition would result in increased demand of approximately 793,815,800 thousand British thermal units (MBtus) of energy per year (according to Table 15-1 in the *CEQR Technical Manual*), compared with the No-Action condition. This increase in annual demand represents less than 0.01 percent of the projected service demand for New York City in the 2030 build year and would not have a significant impact on energy transmission or services. The Proposed Actions would result in a negligible amount of annual energy consumption compared to the amount generated by New York City every year and would not place a significant burden on the Con Edison energy system. In addition, any new development resulting from the Proposed Actions would be required to comply with the NYCECC, which dictates performance standards of heating, ventilation, and air condition systems as well as the exterior building envelope of new buildings. Therefore, no significant adverse energy impacts would result from the Proposed Actions.

Methodology

To assess the Proposed Action's potential impacts on energy, this chapter:

- Presents data on the existing energy distribution system and estimated energy usage for existing conditions;
- Determines future energy demands without and with the Proposed Actions for 2030, using energy consumption rates for typical land uses provided in the *CEQR Technical Manual*. An assessment using energy demand provided by the Applicant (based on the Applicant's experience operating these uses) for the specific uses planned within the Development Site is also provided for informational purposes; and
- Assesses the effects of this incremental energy demand on the local distribution system and regional energy supplies.

[1] The inclusion of a gaming facility is contingent upon receiving a gaming license from the New York State Gaming Commission.

This chapter calculates the annual energy consumption of the Development Site under Existing, No-Action, and With-Action Conditions, and the net change in energy consumption (which represents the Proposed Actions' anticipated energy use). As the calculation of energy demand is a density-based technical analysis, only the anticipated development on the Development Site is evaluated in this assessment.

This chapter uses Table 15-1 in the *CEQR Technical Manual,* which provides the average annual energy consumption rates in New York City for various land uses, to estimate annual energy consumption as a result of the Proposed Actions. As noted above, for informational purposes, the energy demand based on the Applicant's experience operating these uses is also provided. The measure of energy use in this chapter is British thermal units (Btu) per square foot of building floor area per year.[2]

Assessment

Existing Conditions

Energy Providers

Con Edison delivers electricity to all of New York City (except a portion of the Rockaway peninsula in Queens) and almost all of Westchester County. The electrical energy is supplied from a variety of sources that originate both within and outside New York City. These include non-renewable sources, such as oil, natural gas, coal fuel, and uranium; and renewable sources, such as hydroelectricity and, to a much lesser extent, biomass fuels, solar power, and wind power. New York City's electrical demands are met by a combination of sources, including electricity generated within New York City, at locations across the Northeast, and from places as far away as Canada.

In 2022, annual electricity usage in Con Edison's service area[3] totaled approximately 53 billion kilowatt hours (Kwh), or 180.8 trillion Btu. In addition, Con Edison supplied approximately 166.5 trillion Btu of natural gas and approximately 17.4 billion pounds of steam, which is equivalent to approximately 20.8 trillion Btu. Overall, approximately 368.1 trillion Btu of energy were consumed within Con Edison's New York City and Westchester County service area in 2022.[4]

Recent Energy Conservation Directives

In 2018, Local Law 32 was introduced to amend the administrative code of New York City in relation to requiring periodic recommendations on adoption of more stringent energy efficiency requirements for certain buildings. Local Law 32 mandates that the City amend NYCECC to align it with the latest version of the New York Stretch Energy Code developed by the New York State Energy Research and Development Authority (NYSERDA). In 2020, Local Law 48 of 2020 was adopted with the goal to bring the NYCECC up to date with the 2020 Energy Conservation Construction Code of New York State, which is based on the 2018 edition of the International Energy Conservation Code and ASHRAE Standard 90.1- 2016 and also aligns with the NYSERDA NYStretch Energy Code-2020 as

[2] One Btu is the quantity of heat required to raise one pound of water by 1 degree Fahrenheit.

[3] The Con Edison service area includes electricity to all of New York City (except the Rockaway Peninsula in Queens) and most of Westchester County; gas to Manhattan, the Bronx, northern Queens, and most of Westchester; and steam from the Battery to 96th Street, Manhattan.

[4] Source: Con Edison of New York, *Annual Report, 2022:* 3657a8a5-9085-4736-8fa2-cede924093d9 (conedison.com)

required by Local Law 32 of 2018. Local Law 048 of 2020 continues to ensure that the construction of new buildings, additions and alterations will meet the 80 percent greenhouse gas reduction by 2050.

Additionally, Local Law 97, which was passed by the New York City Council in April 2019 as part of the Climate Mobilization Act and New York City's Green New Deal, established a set of measures aimed at reducing carbon emissions from large buildings in New York City. Specifically, Local Law 97 established new energy efficiency and greenhouse gas emissions standards for most buildings over 25,000 square feet.

As discussed in **Chapter 2, Land Use, Zoning, and Public Policy**, OneNYC represents a reworking of the sustainability plan for the city, known as PlaNYC: A Greener, Greater New York. Like PlaNYC, growth, sustainability, and resiliency remain at the core of OneNYC. One of the stated goals of OneNYC is to make New York City one of the most sustainable big cities in the world. The City is working to reduce New York City's energy consumption and its contribution to climate change. One of the most ambitious goals of OneNYC is to reduce greenhouse gas emissions by 80 percent by 2050, which includes requiring substantial shifts in the City's power generation system and reduction of the carbon footprint of buildings.

Existing Demands

The existing energy demand at the Development Site is negligible, as it consists predominantly of surface parking. Energy demand is limited only to the parking flood lights, which only operate at night when the parking is in use.

No-Action Condition

Energy consumption under the No-Action condition would remain negligible, the same as the existing conditions.

With-Action Condition

As detailed in **Chapter 1, Project Description**, the With-Action condition would result in the redevelopment of approximately 78 acres of underutilized, largely asphalt surface parking areas adjacent and accessory to Citi Field with a major mixed-use development. The Proposed Project is anticipated to comprise up to approximately 3.7 million square feet of new construction, with destination entertainment including a music hall, gaming facility, hotel, convention and meeting space, restaurant and retail space, and office and community facility uses. In addition to the commercial development, the Proposed Project would also include at least 20 acres of public park space and other public improvements as well as structured parking facilities to accommodate up to 13,750 spaces.

According to the New York Independent Systems Operator's (NYISO) 2023 Load and Capacity Data report, annual energy requirements for the 2030 build year are forecast to be approximately 157,660 GWh.[5] Of this forecasted annual energy demand, 48,950 GWh (or 168 trillion Btu) is expected to come from Zone J, which includes New York City.

Table 13-1 presents the building types anticipated under the With-Action condition, using the building typologies and energy demand assumptions from Table 15-1 of the *CEQR Technical Manual*

[5] Source: New York ISO, *Load and Capacity Data*, 2023.

as well as their associated annual energy demands. As indicated in **Table 13-1**, it is estimated that energy demand from the Development Site would total 793,815,800 MBtus of energy annually. This represents an increase of less than 0.01 percent of the City's forecasted annual energy requirement of 168 trillion Btu. Therefore, the Proposed Actions are not expected to result in a significant adverse impact on energy systems.

Table 13-1 With-Action Condition: Estimated Annual Consumption (*CEQR Technical Manual Rates*)

		No-Action Condition		With-Action Condition		Increment
Building Type	**Source Energy (MBtu/gsf)[1]**	**Area (gsf)[2]**	**Annual Energy Consumption (MBtu)**	**Area (gsf)[2]**	**Annual Energy Consumption (MBtu)**	**Energy Use (MBtu)**
Commercial	216.3	-	-	3,641,000	787,548,300	787,548,300
Industrial	554.3	-	-	0		-
Institutional[3]	250.7		-	25,000[4]	6,267,500	6,267,500
Total	-	-	-	**3,666,000**	**793,815,800**	**793,815,800**

Notes:
[1] Based on rates provided in the *CEQR Technical Manual*, Table 15-1.
[2] Totals for all Development Sites (see **Chapter 1, Project Description**).
[3] This building type use and energy consumption rate is assumed for community facility.
[4] Community facility space in Area of Development B.f

For informational purposes only, **Table 13-2** presents the Proposed Project's energy demand by development site, building type, and square footage using best available data from the Applicant and the U.S. Energy Information Administration's Commercial Buildings Energy Consumption Survey.[6]

[6] Source: U.S. EIA, *Commercial Buildings Energy Consumption Survey,* 2018.

Table 13-2 With-Action Condition: Estimated Annual Consumption (*Applicant Estimates*)

		No-Action Condition	With-Action Condition		Increment
Development Area	Uses	Annual Energy Consumption (MBtu)	Annual Energy Consumption (Kwh)	Annual Energy Consumption (MBtu)[1]	Energy Use (MBtu)
A	Hotel	-	90,000,000[2]	307,080,000	307,080,000
	Convention/Meeting Space				
	Gaming Facility				
	Music Hall				
	Retail				
	Parking				
	Restaurants				
	Amenities				
B	Restaurants	-	12,858,000[3]	43,871,496	43,871,496
	Parking				
	Retail				
	Community Facility				
	Office				
C	Parking[4]	-	2,000,000[2]	6,824,000	6,824,000
D	Parking[4]	-	1,000,000[2]	3,412,000	3,412,000
				Total Energy Consumption	361,187,496

Notes:
[1] Conversions between Kwh and MBtu were done using the U.S EIA's Energy Conversion Calculators: Energy conversion calculators - U.S. Energy Information Administration (EIA)
[2] Applicant estimate of energy demand based on energy modeling using ASHRAE 90.1-2016 as per 2020 Energy Conservation Construction Code of New York State (2020 ECCNYS), based on the 2018 edition of the International Energy Conservation Code and ASHRAE 90.1-2016, which became effective on May 12, 2020 and previous experience of actual use on similar sites, including the Seminole Hard Rock Hotel & Casino Tampa, Florida and the Seminole Hard Rock Hotel & Casino Hollywood, Florida.
[3] Electricity intensity obtained from the EIA CBECS 2022, Table 14.
[4] Energy use for parking structures limited to lighting and elevators. Since parking structures would not be fully enclosed, lighting is expected to follow a time-of-day schedule. Kwh estimated using maximum lighting code values applied to the square footage.
Kwh = Kilowatt hour

As indicated in **Table 13-2**, it is estimated that energy demand from the Development Site would total 361,187,496 MBtus of energy annually. This represents an increase of less than 0.01 percent of the City's forecasted annual energy requirement of 168 trillion Btu and is approximately 54.5 percent less than the Development Site's total energy demand calculated using rates from Table 15-1 of the *CEQR Technical Manual*.

Any new developments resulting from the Proposed Actions would be required to comply with the NYCECC, which governs performance requirements of heating, ventilation, and air conditioning systems as well as the exterior building envelope of new buildings. In compliance with this code, new development must meet standards for energy conservation, which include requirements relating to energy efficiency and combined thermal transmittance. However, the average annual energy use rate

across existing buildings in New York City in 2009 was used to estimate the annual energy consumption for the Proposed Project, consistent with *CEQR Technical Manual* guidance. Therefore, the annual energy demand was conservatively estimated.

In addition, should the Proposed Project voluntarily utilize higher performance standard designs on the Development Site, such as the addition of green roofs to enhance energy efficiency, the energy load would be less than the amounts shown in **Table 13-1** and **Table 13-2**.

Based on the above information, no significant adverse energy impacts would result from the Proposed Actions.