13 ENERGY

13.1 Introduction

This chapter describes the effects of the Proposed Actions 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. Therefore, according to the 2021 *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. However, a proposed action's operational energy consumption should be estimated.

As described in Chapter 1 of this Environmental Impact Statement (EIS), "Project Description," the Proposed Actions would allow the development of the Proposed Facility – an approximately 3,093,880-gross-square-foot (gsf) facility containing gaming, hotel, event center, and retail uses. Bally's would also construct an approximately 40,160-gsf replacement standalone clubhouse for the Golf Course. Compared to the No-Action Condition, the With-Action Condition would result in an increment of approximately 3,108,775 gross square feet.

As stated in the *CEQR Technical Manual*, the amount of energy that would be consumed annually as a result of the day-to-day operation of the buildings and uses resulting from the Proposed Actions is disclosed in this chapter.

13.2 Principal Conclusions

The Proposed Actions would not result in a significant adverse impact related to energy systems. The Proposed Actions would result in a demand of approximately 677.9 billion British Thermal Units (BTUs) of energy per year annually. This represents an increase of approximately 672.4 billion BTUs over the No-Action Condition. This incremental increase

in annual energy demand would represent approximately 0.19 percent of the City's total annual energy consumption in 2023 within Consolidated Edison's (Con Edison's) service area and 0.40 percent New York City's forecasted future total annual energy demand for the 2030 analysis year. The Proposed Actions would generate an incremental increase in energy demand that would be considered negligible when compared with overall demand within New York City and the City's forecasted annual energy demand in 2030; therefore, the Proposed Actions are not expected to result in a significant adverse impact on energy systems.

Any new development resulting from the Proposed Actions would be required to comply with the NYCECC, which governs performance requirements for heating, ventilation, and air condition systems, as well as the exterior building envelope of new buildings. In compliance with the NYCECC, new development would meet standards for energy conservation, which include requirements related to energy efficiency and combined thermal transmittance. Building materials such as glass and aluminum would be utilized because they are readily available and are considered integral parts of green building design for heating and cooling. With Bally's utilization of state-of-the-art mechanical systems and heat pump technology, and use of energy efficient building materials, the Proposed Facility would likely require less energy than forecasted using the *CEQR Technical Manual* methodology, as discussed below. Therefore, no significant adverse impacts related to energy are expected to occur.

13.3 Methodology

To assess the Proposed Actions' 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 with and without the Proposed Actions for the analysis year of 2030, using energy consumption rates for typical land uses provided in the *CEQR Technical Manual*; and
- Assesses the effects of this incremental energy demand on the local distribution system and the regional energy supplies.

This chapter calculates the annual energy consumption of the Proposed Actions and the net change in energy consumption based on the existing, No-Action, and With-Action conditions. Because the calculation of energy demand is a density-based analysis, only anticipated development of the Proposed Facility and replacement golf clubhouse forms the basis for this assessment of energy demand.

According to the *CEQR Technical Manual*, it is appropriate to estimate a project's energy consumption based on Table 15-1 of the *CEQR Technical Manual*, which provides the average annual energy consumption rates in New York City for various land uses. Therefore, this chapter uses the *CEQR Technical Manual's* Table 15-1 to estimate annual energy consumption as a result of the Proposed Actions. The measure of energy use in this chapter is BTUs per square foot (sf) of building floor area per year.[1] The assumptions utilized in calculating energy consumption for the existing conditions were also applied to the No-Action and With-Action conditions.

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

Impact Criteria

Per the *CEQR Technical Manual*, most projects do not have the potential to warrant a detailed energy assessment. 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. For these types of projects, consideration of clean on-site generation alternatives is recommended.

In lieu of a detailed assessment, the amount of energy that would be consumed annually as a result of the day-to-day operation of the buildings and uses resulting from the Proposed Actions would be disclosed.

13.4 Existing Conditions

Energy Supply and Transmission

Within New York City, electricity is generated and delivered to most users by Con Edison; however, there are several independent power companies. Electrical energy in New York City is drawn from a variety of sources that originate both within and outside the City. These include non-renewable sources (such as oil, natural gas, and coal fuel) and renewable sources (including hydroelectricity and—to a much lesser extent—biomass fuels, solar power, and wind power). Electricity consumed in New York City is generated in various locations, including sites within New York City, locations across the Northeast, and Canada.

Con Edison distributes power throughout New York City and Westchester County, for a total service area of approximately 660 square miles, serving a population of over nine million people. Transmission substations receive electricity from the regional high-voltage transmission system and reduce the voltage to a level that can be delivered to area substations. Area substations further reduce the voltage to a level that can be delivered to the distribution system, or the street "grid." Within the grid, voltage is further reduced for delivery to customers. Each substation serves one or more distinct geographic areas, called networks, which are isolated from the rest of the local distribution system. If service is lost at a specific substation or substations, the network functions to isolate any problems from other parts of the City. Substations are also designed to have sufficient capacity for the network to grow.

Con Edison currently owns 63 area distribution substations and various distribution facilities located throughout New York City and Westchester County. As of 2023, Con Edison's distribution system had a transformer capacity of 32,636 mega volt ampere (MVA), with 37,633 miles of overhead distribution lines and 98,789 miles of underground distribution lines.[2] The underground distribution lines represent the longest underground electric delivery system in the country. In 2023, annual electricity usage in Con Edison's service area totaled approximately 52,256 million kilowatt hours (KWH), or 178.3 trillion BTUs. In addition, Con Edison supplied approximately 158,157 thousand dekatherms (MDt), the equivalent of 158.1 trillion BTUs, of natural gas, and approximately 15,444

[2] Con Edison, *2023 Annual Report*.

million pounds (Mlbs), the equivalent of 18.4 trillion BTUs, of steam in 2023.[3] Overall, approximately 354.8 trillion BTUs of energy was consumed in 2023 within Con Edison's New York City and Westchester County service area. Con Edison is required by the North American Electric Reliability Corporation (NERC), Northeast Power Coordinating Council (NPCC), and New York State Reliability Council (NYSRC) rules to maintain its transmission system to achieve the following: survive the two worst (non-simultaneous) contingencies that will not result in equipment loading exceeding the designated emergency rating of that equipment, will not result in the loss of any customer service, and— following corrective actions—will not result in equipment loading that exceeds the designated normal rating of that equipment.

Recent Energy Conservation Directives

In December 2009, the City Council passed four laws, collectively known as the Greener, Greater Buildings Plan (GGBP), that required energy efficiency upgrades and energy transparency in large existing buildings. The plan requires: 1) large buildings (originally buildings greater than 50,000 square feet [sf]) to annually benchmark their energy consumption (Local Law 84 of 2009); 2) a local energy code to be adopted (Local Law 85 of 2009); 3) an energy audit and retro-commissioning conducted every 10 years (Local Law 87 of 2009); and, 4) lighting upgrades in non-residential spaces to meet code, and provision of sub-meters to large commercial tenants (Local Law 88 of 2009). Three out of the four laws only affect the City's 16,000 largest properties, both public and private, that comprise half of the built area in the City. Though these buildings represent just two percent of the total number of buildings in the City, they are responsible for approximately 45 percent of total energy consumption.

In 2018, Local Law 32 was introduced to amend the administrative code of New York City to require periodic recommendations on adoption of more stringent energy efficiency requirements for certain buildings. Local Law 32 mandates that the City amend the 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 2019, Local Law 97 was adopted with the goal to reduce emissions by 80 percent by 2050. Under Local Law 97, buildings over 25,000 gsf must meet annual whole building carbon intensity limits based on building type. If buildings do not comply, owners would pay a fine.[4] In 2020, Local Law 48 of 2020 was adopted with the goal to bring the NYCECC up to date with the 2020 ECCNYS, which is based on the 2018 edition of the International Energy Conversation Code and the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Standard 90.1-2016, and also aligns with the NYSERDA NYStretch Energy Code 2020 as required by Local Law 32 of 2018. Local Law 48 of 2020 continues to ensure that the construction of new buildings, additions and alterations will meet the 80 percent greenhouse gas reduction goal by 2050. In 2021, the City Council passed Local Law 154, a bill that prohibits the combustion of substances with certain emissions profiles in buildings within the City. Local Law 154 requires that, beginning in 2027 all new buildings approved for construction must be powered only by non-combustion mechanical systems.

[3] Ibid.

[4] In September of 2024 the New York City Department of Buildings issued proposed changes to Local Law 97, including changes to how the City would calculate emissions. These changes would alter the rules of Local Law 97, if approved.

As discussed in Chapter 2 of the EIS, "Land Use, Zoning, and Public Policy," the Proposed Development would support the goals of *OneNYC 2050*. OneNYC is the Mayor's plan to promote growth, sustainability, resiliency, and equity as the City seeks to address the challenges of climate change with a multifaceted approach. To make New York City one of the most sustainable big cities in the world, and as part of *OneNYC 2050's* stated goals, the NYC Department of City Planning (NYCDCP) is working to reduce New York City's energy consumption and its contribution to climate change. One of the most ambitious goals of *OneNYC*2050 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 Demand

The rates provided in Table 15-1 of the *CEQR Technical Manual* were used to estimate the existing annual energy consumption of the existing uses on the Development Site. As presented in Table 13-1, current annual energy use of the existing golf clubhouse is estimated to be approximately 5,465,901 MBTUs (approximately 5.5 billion BTUs) for all heating, cooling, and electric power. This is equivalent to less than 0.002 percent of the total annual energy consumption in 2023 within Con Edison's New York City and Westchester County service area.

Table 13-1: Annual Existing Energy Consumption

Land Use	Floor Area [1]	Average Annual Energy Use Rate (MBTU/sf/year)[1]	Existing Annual Energy Use (MBTU)
Commercial	25,270	216.3	5,465,901

1. Table 15-1 of the 2021 *CEQR Technical Manual*.

13.5 No-Action Condition

In the No-Action Condition, the one-story, 25,270-gsf golf clubhouse, accessory parking lot, a portion of the practice area and other landscaped areas would remain on the Development Site. The current annual energy of the existing uses on the Development Site would continue. No substantial changes to energy uses are anticipated in the No-Action Condition.

According to the New York Independent Systems Operator's (NYISO) 2023 Load and Capacity Data report, annual energy requirements for the 2030 analysis year are estimated at approximately 157,660 gigawatt hours (GWh).[5] Of this forecast annual energy demand, 48,950 GWh (or approximately 167 trillion BTUs) is expected to come from Zone J, which includes New York City. The anticipated 5.5 billion BTUs of annual energy consumption due to existing conditions on the Development Site would therefore represent approximately 0.003 percent of New York City's forecasted future total annual energy demand in 2030.

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

NYCDOT Wetlands Mitigation Project

Independent of the Proposed Actions, the New York City Department of Transportation (NYCDOT) is proposing a wetlands mitigation project to the east of the Whitestone Bridge and to the south of the Development Site. This proposed wetland mitigation project would convert a grassy area to tidal wetlands and would reconfigure the walking paths near the proposed tidal wetlands. This proposed project may be completed as off-site mitigation for NYCDOT's Shore Road Bridge project in Pelham Bay Park, and would be completed after the 2030 analysis year but construction of the proposed tidal wetlands is likely to start before 2030. This project is not anticipated to generate additional energy use.

13.6 With-Action Condition

As indicated in Table 13-2, the estimated energy demand for the Proposed Facility and replacement golf clubhouse would total approximately 677.9 billion BTUs of energy annually. This represents an increase of approximately 672.4 billion BTUs over the No-Action Condition. This incremental increase in annual energy demand would represent approximately 0.19 percent of the City's total annual energy consumption in 2023 within Con Edison's New York City and Westchester County service area and 0.40 percent New York City's forecasted future total annual energy demand for 2030; therefore, the Proposed Actions are not expected to result in a significant adverse impact on energy systems.

Table 13-2: Energy Use No-Action, With-Action, and Increment

	Land Use	Floor Area [1]	Average Annual Energy Use Rate (MBTU/sf/year)[1]	Existing Annual Energy Use (MBTU)
No-Action	Commercial	25,270	216.3	5,465,901
With-Action	Commercial	3,134,040		677,892,852
Increment		**3,108,770**	**-**	**672,426,951**

1. Table 15-1 of the 2021 *CEQR Technical Manual*.

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 the NYCECC, the Proposed Facility and replacement golf clubhouse would meet standards for energy conservation, which include requirements related to energy efficiency and combined thermal transmittance. The Proposed Facility would operate 24 hours per day, 7 days per week, and the annual whole-building energy usage rate is anticipated to be no more than the 216.3 MBTU/sq ft outlined in Table 15-1 of the *CEQR Technical Manual* based on modern building construction standards. The new building design would utilize state-of-the-art mechanical systems and heat pump technology. Based on the conceptual design for the Proposed Facility, it is anticipated that energy usage could be reduced up to 20-30 percent below the projected 677.9 MBTUs. However, as a conservative approach the EIS assumes the Proposed Development would use up to 677.9 MBTUs annually.

The materials used in the Proposed Facility's facade would minimize its energy consumption. Building materials such as glass and aluminum would be utilized as they are considered integral parts of green building design for heating and cooling.[6] Insulated glass

[6] https://skybuildingmaterials.com/how-glass-and-aluminum-can-contribute-to-green-building-practices/

also can reduce energy consumption and associated costs. Aluminum is highly recyclable, and the recycling process is energy efficient. Building materials may be recycled without a loss of quality and reduces the energy required during primary aluminum production. Additionally, aluminum can accommodate insulated glass units, which add to energy efficiency. The resistance to corrosion and natural longevity of aluminum allows for a longer lifespan and require fewer replacements and repairs.[7] This ultimately reduces waste and energy during operation.

With Bally's utilization of state-of-the-art mechanical systems and heat pump technology, and use of energy efficient building materials, there would likely be a reduction in the forecasted energy load as shown in Table 13-2. Based on the above information, no significant adverse energy impacts would result from the Proposed Actions.

[7] https://www.aluminum.org/sites/default/files/2021-10/GreenBuildingGuidelines_AluminumAssociation_2015_0.pdf