

4.0 CUMULATIVE IMPACTS

The section summarizes the potential indirect and cumulative impacts from construction and operation of enXco Solar Project.

Construction of the Carport SGFs would not have significant adverse cumulative impacts. The scale of construction will be limited, with a maximum number of about 175 construction workers for the entire Project distributed across seven sites in four towns of Suffolk County. The construction process, as described in Section 2.2, will require about 10 – 25 craft labor at each Project Site; moreover, the duration of peak work – equipment and workers – will last an estimated 5 to 11 months, of the total construction schedule of 15 months.

Disturbance of the Project Site parking lots and associated areas will be restored to preconstruction conditions. Existing parking operations will continue as they presently do. No parking spaces will be permanently lost. During construction temporary parking spaces will be provided to maintain current parking capacities on-site or at nearby locations. Cumulatively, the amount of ground disturbance at the seven Project Sites will exceed one acre. Therefore, a New York State General Permit (GP) 0-08-001 - for construction stormwater discharge - will be required (each site individually has less than one acre of disturbance).

The bulk of deliveries to the Project Sites, including the preassembled solar modules, will be done in the overnight and off peak traffic hours of the day. The extensive road network, including roadways such as the Long Island Expressway (Interstate 495, Route 454 Veterans Memorial Highway, Sunrise Highway (Route 27), Deer Park Avenue (Route 231), Jericho Turnpike (Route 25), Northern State Parkway, etc., will be used. Therefore, there would be no significant cumulative construction-related traffic impacts.

Given the duration of the construction schedule, the scale and magnitude of the work, the localized nature of the minor construction impacts (e.g., temporary parking, tree removal and replacement), there would be no significant adverse cumulative impacts associated with concurrent construction of the Carport SGFs on the seven Project Sites in Suffolk County.

The presence and operation of the Carport SGFs at the Project Sites represent a new, compatible accessory land use to the existing sites - the County/government uses (Sites S-1, S-2, S-3, and S-7) and the LIRR commuter railroad uses (S-4, S-5, and S-6). Providing partial cover from inclement weather and sun, the carports will provide long-term benefits to parking lot users.

From a land use perspective, the Carport SGFs would affect the consideration of constructing new facilities on the Project Sites; this would likely be more applicable to the County/government sites (Sites S-1, S-2, S-3, and S-7), than to the LIRR commuter sites. Suffolk County would need to take into consideration the physical presence and extent of the carports on each site with respect to future development needs in their planning processes for the provision of adequate County facilities and services to the community in the future.

The physical presence of the Carport SGFs would alter the visual landscape at each Project Site over the long term. In the near term, the carports would be seen as new features in the local and site landscapes; however, over time, it is expected that the carports would be visually integrated by site users and passersby. It is likely that similar solar PV projects, as carports or on rooftops or as ground mounts, become much more evident in the landscape, their presence would also become more commonplace and part of the visual fabric.

Over the life span of the Project, freshwater would be used for the cleaning of the solar PV panels, estimated to be a maximum of twice annually. Annually, the use was estimated to be in the range of 147,500 (14.75 MW) to 170,000 gallons (17.00 MW), assuming a twice annual cleaning (it is expected that only one cleaning per year may be needed frequently). The water used, not a significant volume in terms of use or availability, would not be available for other uses.

The cumulative energy and air quality benefits of the enXco Solar Project have been previously noted in this EA, with the capacity to provide energy to an estimated 1,850 homes and to reduce CO₂ emissions by about 14,300 tons annually, NO_x by 29 tons, and SO₂ by 35 tons. The Project can also be considered equivalent to removing approximately 2,447 cars from Long Island roads. Naturally, the cumulative impacts - such as over the 20-year PPA time frame - would be even greater. Accordingly, the operation of the seven SGF Sites would not result in any cumulative environmental impacts.

When considered cumulatively with potential impacts from the other solar projects that LIPA selected in response to the Solar Photovoltaic RFP, the enXco Solar Project would not result in any significant adverse environmental impacts. In addition to this Project, LIPA is also reviewing the Long Island Solar Farm Project proposed for construction by BP Solar on federal property within the Brookhaven National Laboratory property. Alternatively, it is possible that LIPA could move forward on reviewing a rooftop proposal and an array proposal on two or three landfill sites. No cumulative adverse impacts are anticipated from these possible solar projects proposed by the other private developers, which are entirely independent of this Proposed Action, because of the geographic separation of the sites, the independent utility of each site, and the localized extent of any impacts due to construction and operation of each project. Moreover, the air pollution emissions avoided by generating electricity with solar PV rather than fossil fuels would have an incremental positive cumulative impact on regional air quality.

5.0 ALTERNATIVES

5.1 No Action Alternative

Under the No Action Alternative, the seven County-owned sites would be expected to remain in their current condition, operating as parking lots for the four governmental sites (S-1, S-2, S-3, and S-7) and the three LIRR train stations (Sites S-4, S-5, S-6). While the proposed action does not change the existing use at any of the seven sites (as all seven sites would remain parking lots), the no action alternative would not provide the added benefits of the proposed action, including providing clean renewable energy to LIPA's customers.

The No Action Alternative would involve no construction at the parking lot sites, including no construction of electric distribution lines to connect to the LIPA grid. Accordingly, there would be no construction impacts or other impacts, such as changes to the visual landscape, under this alternative. However, as discussed in Section 3.0, the Proposed Action also does not result in significant adverse impacts in any of these impact areas.

The No Action Alternative does not achieve LIPA's objectives of diversifying Long Island' energy resources with renewable resources or foster economic development in the green sector as described in Section 1.0. Moreover, the advantages of providing partial shading and rain protection to persons parking their cars under the newly constructed carports at the Suffolk County-owned sites would also not be realized under the No Action Alternative. Because the No Action Alternative does not achieve the overall environmental and economic benefits of the Proposed Action, it is not the preferred course of action.

5.2 Other Alternatives

enXco also explored the development of solar PVs on existing commercial rooftops. However, building larger SGFs at the County-owned parking lot sites was determined to be more cost-effective; it also avoids issues regarding the feasibility of installing the solar PV arrays with respect to roofing structural stability and logistics with respect to existing mechanical equipment. The environmental impacts of a rooftop project would be similar to those addressed in Section 3.0 in that there would be very localized and minimal visual changes, some tree cutting to avoid shading, and minor construction impacts. These impacts would be even less intrusive for a rooftop proposal since the construction of ground-mounted carports would not be required. However, to achieve the 14.75 to 17 MW of power, construction at more sites would be necessary under the rooftop development alternative.

While the construction of solar PVs on rooftops is not expected to result in significant adverse impacts to the environment, as presented in Section 3.0, construction of solar PVs on newly constructed carports also does not result in significant environmental impacts. Accordingly, the preferred action is to proceed with constructing solar PVs at seven County-owned parking lot sites, the enXco Solar Project.

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