

ENVIRONMENTAL ASSESSMENT

enXco Eastern Long Island Solar Project

State Environmental Quality Review Act

Prepared For:



enXco
700 La Terraza Boulevard, Suite 200
Escondido, CA 92025

Submitted To:



333 Earl Ovington Boulevard Suite 403
Uniondale, NY 11553

Prepared By:



1200 Wall Street West, 2nd Floor
Lyndhurst, NJ 07071

December 2009

EXECUTIVE SUMMARY

Introduction

The Long Island Power Authority (LIPA) proposes to enter into a power purchase agreement (PPA) with enXco, an affiliate of EDF Energies Nouvelle (formerly SIIF Energies), a leader in renewable energy, to purchase up to 17.00 megawatts (MW) Alternating Current (AC) of solar energy from solar photovoltaic (PV) facilities to be constructed on public properties in Suffolk County, Long Island. The solar facilities will be interconnected to LIPA's electric distribution grid and the energy produced by enXco will be purchased by LIPA. The solar PV systems will be installed on newly built carports within existing parking lots of the County-owned properties. The Project is known as the enXco Eastern Long Island Solar Project (enXco Solar Project or ESP).

The enXco Solar Project is consistent with and integral to LIPA's *2004-2013 Energy Plan* and the *2009-2018 Electric Resource Plan*. Moreover, the Project is consistent with New York State Governor Paterson's "45 x 15" program that establishes a goal for the State to meet 45 percent of its electricity needs through improved energy efficiency and renewable sources by the year 2015.

The public will benefit from the production of electrical energy without the use of fossil fuels and the emitting of air pollutants. The Project will also foster economic development within LIPA's service territory. By making a significant and long-term investment in solar PV systems and purchasing the power generated to help achieve a market transformation, LIPA will assist in reducing the per unit cost of developing these systems in the future.

The Project is subject to the State Environmental Quality Review Act (SEQRA) (and its implementing regulations [6 NYCRR Part 617]), which ensures that State and municipal agencies examine and disclose the potential environmental impacts of an action prior to making a decision. As LIPA proposes to enter into a 20-year PPA with enXco and the solar PV facilities would be sited in its service territory, LIPA assumed the SEQRA Lead Agency role for the Project. On May 15, 2009 (and supplemented on December 1, 2009), LIPA issued its SEQRA coordinated review notification to all known potential involved agencies and interested parties, requested, and then assumed, Lead Agency status for purposes of SEQRA review.

Project Description

Design and Operation

The ESP will consist of sets of solar generating facilities ("SGFs" or "installations"), essentially solar panels in arrays on mounting systems, installed as part of the carports that will be assembled and constructed in the existing parking lots of the Project Sites. Up to seven (7) Project SGFs will be constructed on seven sites located in Suffolk County (Figure ES-1). All of the Project SGFs will be installed and operating within approximately 15 months following receipt of all approvals and permits, but no later than February 1, 2012; however, the bulk of the

work will be completed by the spring of 2011. Although the seven SGF sites can together produce up to 17.00 MW AC of solar energy, construction at one or more sites may not be necessary to achieve the Project goal for 14.75 MW AC of solar energy.

Four of the Project Sites are the locations of Suffolk County government offices, facilities and services:

- Site S-1: Riverhead County Center Complex (Town of Southampton);
- Site S-2: H. Lee Dennison Complex (Town of Islip);
- Site S-3: Cohalan Court Complex (Town of Islip); and
- Site S-7: North County Complex (Town of Smithtown).

Three of the sites are commuter parking lots of Long Island Railroad Stations:

- Site S-4: Brentwood LIRR Station (Town of Islip);
- Site S-5: Ronkonkoma LIRR Station (Town of Islip); and
- Site S-6: Deer Park LIRR Station (Town of Islip).

The Carport SGF installations will be similar to carports seen at shopping malls, apartment buildings, and other locations with semi-covered parking. The solar modules, acting as part of the carport roofing system, will be mounted on lightweight mounting structures set at tilt angles and proper azimuths to receive solar energy. Figure ES-2 is a photosimulation of a typical carport structure on a Project Site parking lot.

Carports, including panels and mounting systems, will have a maximum height of 16.5 feet. This will allow clearance for most vehicles, including light duty trucks and campers. The carport support columns of galvanized steel will be set on new reinforced concrete footings. The carports will be designed to avoid any loss of permanent parking spaces in the site parking lots.

Each Project SGF will be directly interconnected to and provide energy into LIPA's local electric distribution grid, which will be via either underground or overhead electrical service. Each SGF interconnection will require on-site direct current (DC) to AC inverters. A fiber optic cable or telephone connection to each site will also be required for monitoring of the SGF operation.

Installation of the carport solar arrays will require replacement of some of the existing lighting poles, where necessary, to eliminate shadows that could cause losses to solar PV generation. Where new lighting systems are installed, they will be suspended from the carport structures.

All of the SGF installations installed will use 'crystalline' silicon-based PV modules that provide higher energy output (watts per square foot of solar PV module installed) than comparable 'amorphous' or 'thin film' technologies. Since SGF efficiency and performance is dependent upon solar PV panel cleanliness and functioning, routine inspections will be made to determine the need for panel cleaning and/or repair.

There will be one or two permanent jobs associated with the operations of the Project.

Construction

The Project's 15-month construction schedule will commence immediately following LIPA's SEQRA and PPA actions, and all other necessary approvals. Preconstruction field activities could begin at each SGF Site as early as April 2010. The bulk of the work will be completed by the spring of 2011, but could continue up through February 1, 2012.

Preconstruction off-site work, in local Long Island warehouses, will consist of the fabrication of the carport superstructure and assembly of the strings of solar arrays. One or two warehouses will be leased, and about 12 to 20 workers will be employed there. Once completed, the string assemblies will be loaded onto a flatbed truck and delivered to the Project Site, scheduled for just-in-time delivery and use. Most deliveries to the sites will be in the overnight or off-peak traffic hours.

Once all preconstruction activities have been completed, site preparation and construction activities could commence upon approval of the PPA, which is anticipated by April 2010 (or sooner). The initial on-site work that will be done will include: surveying/mark outs; notifications of construction startup; and, the set up of temporary parking at Sites S-1, S-5 and S-6. Subsequent steps in the construction process will involve:

- Erection of temporary fencing;
- Clearing and grubbing of trees within and around the parking lots, which will be replaced on a 1:1 basis;
- Disconnection and removal of designated light poles and installation of temporary lighting;
- Carport concrete foundations and buried cable excavations, installation and backfilling;
- Installations of preassembled carports, and DC/AC inverter installations; and
- DC electrical interconnections to inverters.

On average, there will be about 10 to 25 workers per day as carports installation proceeds across each SGF site. Work could be conducted at all seven sites concurrently, with an estimated total of 70 – 175 construction workers.

Simultaneous with the carport installations at each site, LIPA will install the SGF AC interconnections to its local overhead or buried electric distribution system. Upon the completion of each SGF installation (including interconnection, startup, testing and commercial operation), the site will be restored, including parking and lay down areas, plantings and replacement trees, demobilizing, and leaving the site.

Required Agency Actions, Permits and Approvals

In addition to the approval of a Power Purchase Agreement by LIPA's Board of Trustees, the ESP requires the following agency approvals.

Site S-1: Riverhead County Center Complex is located within the river area of the Peconic River and Little River, which are both designated as 'recreational' rivers (in this site vicinity) under the Environmental Conservation Law (ECL), Article 15 Title 27, 6NYCRR Part 666 – Wild, Scenic and Recreational Rivers (WSRR) System. Therefore, this Project Site will be subject to the land use and development provisions of WSRR, and will require a permit from the New York State Department of Environmental Conservation (NYSDEC). This site is located in the Compatible Growth Area of the Long Island Pine Barrens.

A freshwater wetlands permit may be required at Site S-2: H. Lee Dennison Complex. Portions of the electrical interconnections required will be within 100 feet (the adjacent area) of NYSDEC Wetland C-7.

A permit under New York State General Permit (GP) 0-08-001 - for construction stormwater discharge - will be required since total Project disturbance at all seven sites will exceed one acre in area (each site individually has less than an estimated one acre of disturbance).

A clearance from the Federal Aviation Administration (FAA) will be required given the proximity of Site S-5: Ronkonkoma LIRR Station to MacArthur Airport. A Notice of Proposed Construction or Alteration – Off Airport has been submitted to the FAA.

The Suffolk County Legislature must authorize: the issuance of a lease agreement with enXco; access approval to LIPA; and, County site plan and building permits to enXco will be required.

Project Impacts

Based on an analysis of the construction and operation of the Project, there will be no significant adverse impacts, either individually at a Project Site or cumulatively across all seven sites. The assessment of potential impacts addressed the following resource categories:

- Land Use and Zoning
- Community Facilities
- Cultural Resources
- Visual Resources and Aesthetics
- Socioeconomics and Environmental Justice
- Traffic and Transportation
- Air Quality
- Noise
- Topography and Soils
- Infrastructure

- Hazardous Materials
- Natural Resources
- Electromagnetic Forces
- Construction Impacts
- Cumulative Impacts.

Potential impacts are described below for each Project Site. Impacts determined to be minimal or of a de minimis nature and findings of no impact are not presented in this summary.

Site S-1: Riverhead County Center Complex

Site S-1 is located within the river area of the Peconic River which is designated as a 'recreational' river (in this site vicinity) under the Environmental Conservation Law (ECL), Article 15 Title 27, 6NYCRR Part 666 – WSRR System. The ESP is considered "Major" under Parts 621 and 666, and is therefore subject to the Public Notice provisions of the WSSR Application. A permit application will be submitted to NYSDEC for approval. The SGFs at this site will be located, designed and constructed in a manner to avoid undue adverse environmental impacts, and to minimize visibility from the river.

Visual impacts on the Peconic and Little Rivers are expected to be minimal given their locations with respect to existing vegetation buffers along the rivers' banks, the maximum height of the carports, and the distances between the carports and the rivers.

Located within an area of potential archaeological concern, a request for a determination of no impact from the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) has been made. The Project Review Cover Form and attachments indicate that all work (trenching, boring, foundation excavation) will be done in previously disturbed site areas, either paved or unpaved. The amount of disturbance on unpaved surfaces will be about 80 square feet in the northwest portion of the site; in the southwest portion of the site, there will be nearly 200 square feet of ground surface area disturbed, and about 450 lineal feet (lf) of horizontal boring done at a depth of three feet.

A temporary parking plan (for a maximum period of 15 months) has been developed to minimize the temporary loss of parking spaces on this site during construction.

A minimum distance of at least 100 feet will be maintained between the proximate NYSDEC Wetland R-5 and site disturbance. Best Management Practices (BMPs) will be implemented, resulting in no adverse wetland impacts.

An estimated 15 trees (maximum) will be removed to prevent shading of the solar panels. Trees of the same species will be replaced on a 1:1 basis at locations determined in cooperation with Suffolk County Department of Public Works (SCDPW).

Site S-2: H. Lee Dennison Complex

It may be necessary to conduct work within 100 feet of NYSDEC Wetland C-1; however, the final site design will endeavor to place as many project components outside the 100-foot wetland adjacent area as possible to minimize wetland impacts. A freshwater wetland permit will be applied for and obtained, as necessary. Best Management Practices (BMPs) will be implemented, resulting in no adverse wetland impacts.

A maximum of 50 trees will be cut at this site and will be replaced in accord with the tree replacement plan.

Site S-2 is located within an area of potential archaeological concern. In the northern part of the site there will be about 300 square feet of work on previously disturbed, unpaved ground surface. In the southern portion of the site, approximately 100 square feet of work on the previously disturbed, unpaved site ground surface, will be performed. Along East County Access Road, an interconnection of 1,200 lineal feet comprising about 3,000 square feet of disturbance will occur on this previously disturbed but unpaved area, if the work is done by trenching; alternatively, the use of horizontal boring adjacent to the roadway would reduce this surface disturbance to about 65 square feet.

The carports will be visible from portions of the War Veterans Memorial located just to the north of the site's northern parking lot; however, current visitors to this public memorial site already see the parking lot and parked vehicles. Visual screening will be done through selective vegetation planting. Thus, the visual impact will not be significant.

Site S-3: Cohalan Court Complex

A minimum distance of at least 100 feet will be maintained between the nearby NYSDEC Wetland BE-5 and any site disturbance. BMPs will be implemented, resulting in no adverse wetland impacts. An estimated 75 to 105 trees will be cut and replaced 1:1 in accordance with a tree replacement plan.

Site S-4: Brentwood LIRR Station

Minimal impacts across all resource categories are expected at this Project Site. Approximately 20 trees, maximum, will be cut and replaced.

Site S-5: Ronkonkoma LIRR Station

As noted previously, this site will require a clearance from the FAA given its proximity to MacArthur Airport. FAA approval is anticipated given that the maximum height of the carports is 16.5 feet above ground surface, that existing buildings within the vicinity of the airport exceed that height, that the solar PV panels are non-reflective, and do not project skyward glare.

There will be an estimated 250 trees, maximum, that will be cut and then replaced in accordance with a tree replacement plan, in cooperation with SFDPW.

A temporary parking plan has been developed to minimize the temporary loss of parking spaces on the site during construction. The on-site construction schedule will be expedited to reduce the duration of the temporary parking impacts; and, there will be designated areas to compensate for the number of parking spaces temporarily lost during construction.

Site S-6: Deer Park LIRR Station

There will be approximately 35 trees, maximum, that will have to be cut and will then be replaced.

A temporary parking plan has been prepared to minimize the temporary loss of parking spaces at this LIRR commuter parking lot site during construction. The on-site construction schedule will be expedited to reduce the duration of the temporary parking impacts. There will also be designated off-site areas within adequate walking distance to compensate for the number of parking spaces temporarily lost during construction.

Site S-7: North County Complex

This site will be the location of the smallest array of solar panels and carports of all seven sites. There will be an estimated maximum of five trees to be cut and replaced.

Cumulative Impacts

The presence of the SGFs, as compatible accessory land uses, in the parking lots of the Suffolk County properties will need to be taken into account when considering potential future land use development at each site.

Because the seven SGF sites have minimal impacts, all of which are localized to the actual SGF Project Site, the simultaneous construction of the seven sites will not result in significant adverse cumulative impacts. Operations of the seven SGFs will also not result in significant adverse cumulative impacts.

When considered cumulatively with potential impacts from the other solar proposal that LIPA selected in response to the Solar Photovoltaic RFP, the ESP would not result in any significant adverse environmental impacts.

Alternatives

The No Action Alternative does not meet the project objectives, purpose and need - LIPA's objective of diversifying Long Island' energy resources with renewable resources and fostering economic development in the green sector. Because the No Action Alternative does not achieve

the overall environmental and economic benefits of the Proposed Action, it was not considered to be the preferred course of action.

enXco also explored the development of solar PVs on existing commercial rooftops. However, to achieve the 14.75 to 17.00 MW of power, construction at more sites would have been necessary under the rooftop development alternative. Building larger SGFs at the County-owned Project Sites was determined to be more cost-effective, and that action is without the creation of significant adverse environmental impacts. Therefore, the enXco Eastern Long Island Solar Project was selected as the Proposed Action.

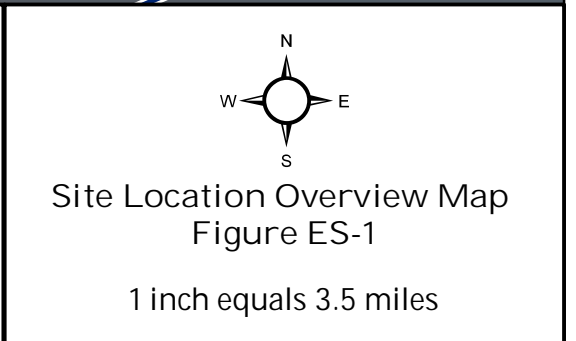
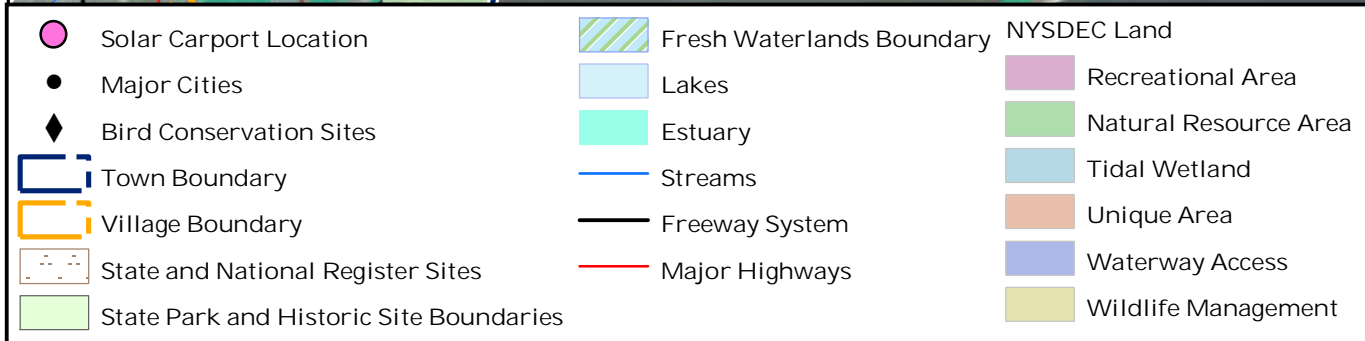
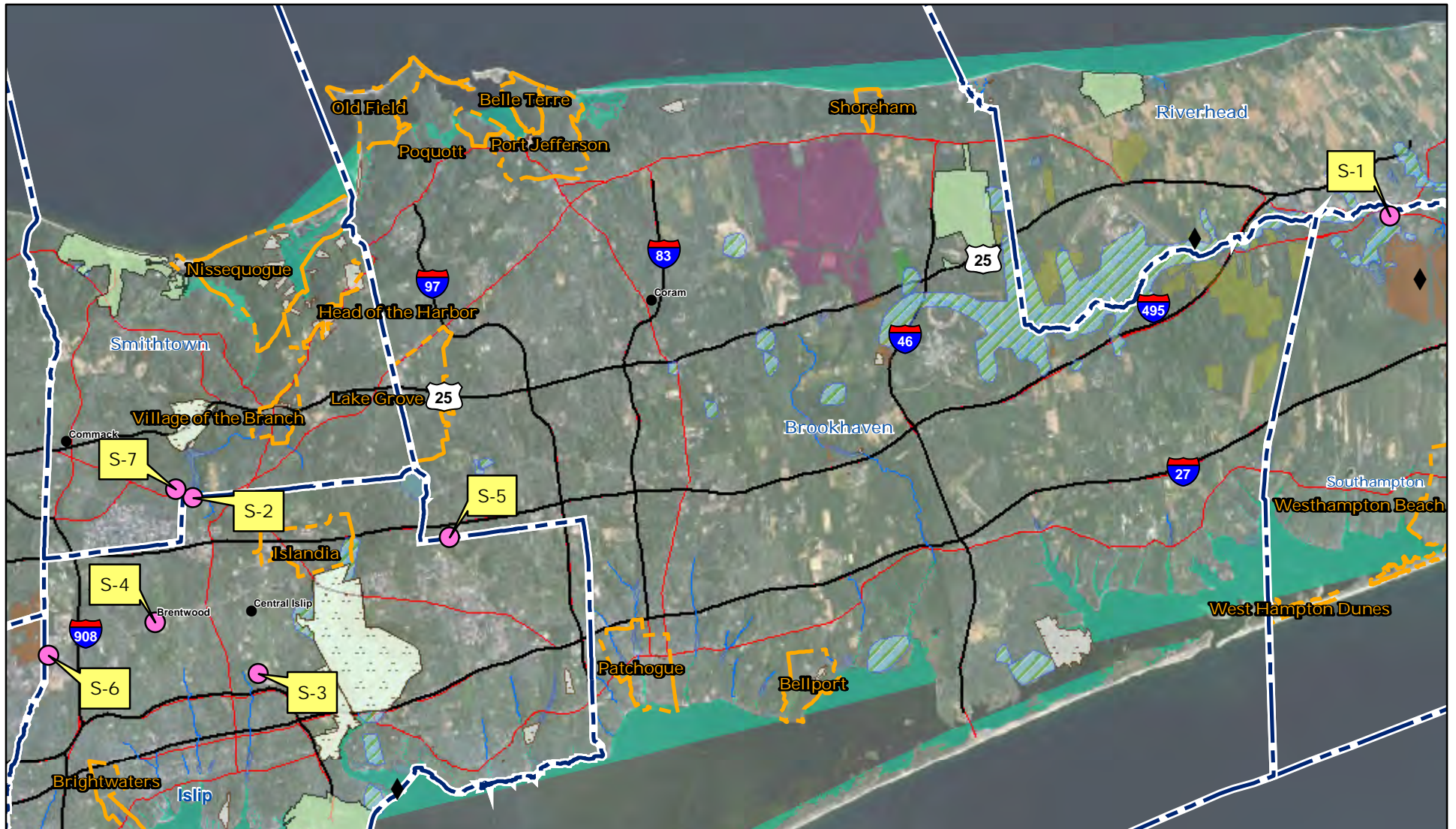




Photo 1: Rendering of a Typical Carport SGF Installation.



Photo 2: Rendering of a Typical Carport SGF Installation.



**Eastern Long Island Solar Project
Suffolk County, New York**

**Figure ES-2: Photosimulation of
Typical Carports**

Source: enXco