

# Solar Energy Generation Project

at Brookhaven National Laboratory



## Solar Project Overview

Approximately 37 megawatts (MW) of solar energy is proposed to be hosted by Brookhaven National Laboratory (BNL), purchased by Long Island Power Authority (LIPA) and supplied and developed by BP Solar (BP). This utility-scale solar energy project will provide enough power to sustain more than 4,700 households and avoid carbon dioxide emissions of 34,000 tons per year. The project will be implemented through a power purchase agreement (PPA) between LIPA and BP for a term of 20 years with contracted solar energy deliveries to begin no later than May 1, 2011.

BP Solar also plans to work closely with BNL to determine how it could provide solar to assist with the laboratory's energy needs, moving BNL closer towards achieving its renewable energy and energy independence objectives. In addition, as part of the project, it is envisioned that BP and BNL will work collaboratively on research to help solve technological challenges and advance the state of today's solar photovoltaic technology.

## Project Facts:

- **Size:** Approximately 37 MW of electricity generated by solar electric panels
- **Location:** Brookhaven National Laboratory in Upton, NY
- **Land use:** Approximately 195 acres
- **Construction schedule:** Spring/Summer 2010 start with completion slated for May 2011
- **Workforce:** 265 full-time employees estimated during peak construction with two full-time operations and maintenance managers after system commencement

## Environmental Benefits:

- Avoids 34,000 tons of CO<sub>2</sub>/year – the equivalent of planting 50,300 acres of trees and taking approximately 6,500 cars off the road/year
- Avoids 36 tons/year of NO<sub>x</sub> and 83 tons/year of SO<sub>2</sub>
- Fully compliant with applicable local, state, and federal laws and regulations

## Project Benefits:

- Supports recommendations for solar power by the New York State Renewable Energy Task Force;
- Supports the U.S. Department of Energy in advancing renewable energy goals;
- Successfully meets the objectives of LIPA's Request for Proposals for solar projects;
- Helps LIPA meet its commitment to provide green energy to its Long Island customers;
- Avoids greenhouse gas emissions;
- Creates local, clean energy jobs;
- Contributes to U.S. energy diversity and security;
- Advances solar photovoltaic technologies;
- Increases awareness about solar power and its benefits.

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1 Sunlight striking the solar panels creates direct current (DC), which is converted into alternating current (AC) by the inverter.



2 The AC is adjusted to the optimal voltage and fed into the grid at a nearby substation.



3 The clean energy is sent to your home as well as other homes and businesses in Long Island.

“This project is not only the largest of its kind in State history, it is also one of the first of its kind in our nation, proving once again that New York is at the forefront of the renewable energy revolution.”

Governor David A. Paterson



- Designs, manufactures, markets, and develops solar electric solutions for utility-scale, large commercial, and residential applications
- A U.S.-based global solar energy company with more than 1,300 employees
- A commitment to no accidents, no harm to people, and no damage to the environment
- Committed to driving the cost of solar energy to parity with conventional electricity
- A solar energy industry leader since the formation of its heritage company Solarex and start up of its Frederick manufacturing plant in Maryland more than a quarter century ago
- In addition to the proposed project with LIPA and BNL, BP Solar has helped deliver solar solutions to homes and businesses throughout Long Island, through more than 70 Home Depot retail sites
- Part of the global BP energy group that has invested more than \$30 billion in the United States in the past five years to increase existing energy sources, extend energy supplies and develop new low-carbon technologies



- A non-profit municipal electric provider responsible for the transmission and distribution of power on Long Island, NY
- Serves more than 1.1 million customers in Nassau and Suffolk counties
- 3rd largest power authority in terms of customers served and the 7th largest in terms of electricity delivered
- Now in its 9th year, LIPA's nationally recognized Solar Pioneer Program has installed over 1,700 PV systems on Long Island



- A multi-program national laboratory operated by Brookhaven Science Associates for the U.S. Department of Energy
- Staffs approximately 3,000 scientists, engineers, technicians and support staff and over 4,000 guest researchers annually
- BNL's role is to produce excellent science and advanced technology with the cooperation, support, and appropriate involvement of its scientific and local communities
- Develops advanced technologies that address national needs and transfers them to other organizations and to the commercial sector