



# Quarterly Report

*(April – June 2004)*



## **Programs Implemented**

LIPA's Clean Energy Initiative currently consists of several efficiency programs as well as a number of research, development and demonstration (RD&D) projects. The current Clean Energy Initiative consists of the following:

### Residential

Cool Homes  
LIPAE*edge*  
Lighting & Appliances  
Residential Energy Affordability Partnership (REAP)  
Solar Pioneer  
New York ENERGY STAR Labeled Homes

### Non-Residential

Commercial Construction

### Multi-Sector

Customer-Driven Efficiency  
Information/Education  
RECAP(Retro Efficiency Contractor Program)

The remainder of this report summarizes the results of the second quarter (April – June) of 2004 of LIPA's Clean Energy Initiative.

**Residential Lighting & Appliances (RLA) Program:** LIPA's Residential Lighting & Appliances Program proudly sponsors ENERGY STAR® - the name that means energy efficiency. LIPA encourages customers to buy appliances and lighting products that have earned the ENERGY STAR® label. This voluntary labeling program is sponsored by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE). LIPA's program is designed to build continued customer awareness and market demand for ENERGY STAR® lighting and appliances that help lower monthly utility bills, reduce air pollution and offer better performance than less efficient products. ENERGY STAR® retail partners help promote the program by labeling qualified products in their stores, displaying point-of-purchase materials and brochures, offering promotions on ENERGY STAR® products, and advertising in flyers and newspaper supplements.

When purchasing ENERGY STAR® products, be assured that the Environmental Protection Agency (EPA) and Department of Energy (DOE) have given their stamp of approval for products that meet stringent energy efficiency standards while saving you money, energy and helping to protect the environment. Through LIPA's Clean Energy Initiative efforts, 100% of Long Island appliance retail stores now carry refrigerators, dishwashers and clothes washers that bear the ENERGY STAR® label.

- Lighting rebates for fixture and torchiere in 2004 are \$15 respectively and Compact Fluorescent Lightbulb (CFL) rebates are \$2.
- The clothes washer mail-in rebate program is \$50 for 2004.

## Second Quarter Highlights

LIPA actively coordinated appliance training sessions in retail stores this quarter. In an effort to maximize ENERGY STAR® recognition, trainers guided sales staff through product knowledge training and in-store promotions. These were conducted at Lowe's in Garden City, Home Depot in Farmingdale and Home Depot in West Patchogue.

LIPA partnered with GE on Earth Day at the Home Depot in Farmingdale for a successful training and in-store promotion that was attended by Home Depot sales staff from all of the Long Island stores. LIPA also used this opportunity to promote the new Energy Star Rewards campaign.

**Energy Star Rewards** - The "Energy Star Rewards" Clothes Washer rebate promotion was launched on April 15, 2004. The promotion is part of the Northeast Energy Efficiency Partnership (NEEP) regional effort. The following manufacturers are participants in the promotion: ASKO, Eurotech, Frigidaire, Fisher & Paykel, GE, Maytag, LG, Bosch, Equator and Miele. LIPA customers who purchase select ENERGY STAR®-qualified clothes washers between April 15 and July 15, 2004 are eligible to receive between \$75 - \$100 back by mail (\$50.00 from LIPA's standard rebate, remaining rebate dollars from the manufacturer). The

promotion is being supported by a radio-spot featuring a voice over with Steve Thomas of the PBS, "This Old House" series.

**Stay Cool** - LIPA in partnership with NYSERDA and NYPA launched its Stay Cool Room Air Conditioner promotion in May. The Stay Cool promotion is the successor to the previous year's Keep Cool Program. This modified program does not feature a rebate as in years past but rather is focused on educating consumers with tips to save energy during the summer.

The "tips" message will be promoted through point-of-purchase materials in retail partner stores, and an on-line campaign. LIPA customers will also learn about the program through a bill insert during the summer. Public service announcements will also broadcast the Stay Cool message on National Public Radio stations throughout Long Island.

**Energy Star Fixture Show Room Pilot Program** - The Long Island Power Authority's Clean Energy Initiative launched the Lighting Showroom Pilot Program in the fall of 2003. Prior to the design and implementation of the program, it was recognized that very few, if any, lighting showrooms in the Long Island market carried ENERGY STAR® qualified lighting fixtures. The pilot program proved to be successful by achieving increased inventory levels of ENERGY STAR-qualified fixtures as well as establishing designated ENERGY STAR fixture displays within the enrolled showrooms.

Building on the success of the pilot program, LIPA launched Phase II of the Lighting Showroom Pilot Program in April 2004. All existing showrooms renewed their participation in the program with an additional retailer enrolling. Phase II is designed to stimulate higher sales and gain even more consumer recognition of Energy Star qualified fixtures.



**Cool Homes:** LIPA's Residential HVAC (Heating, Ventilation and Air Conditioning) Efficiency Program is comprised of: Central Air Conditioning (CAC), Residential Geothermal Heat Pumps, and the Home Performance Service (HPS). The program encourages customers to purchase and install energy-efficient CACs and geothermal heat pumps by providing financial incentives to offset a portion of the equipment's higher initial cost. The program's long-range goal is to encourage contractors/distributors to use energy efficiency as a marketing tool, thereby stocking and selling more efficient units and moving the entire CAC and heat pump market toward greater energy efficiency.

## Second Quarter Highlights

LIPA continues to offer training in Manual J calculations and System Charging and Airflow. Classes for HVAC contractors were scheduled for the spring.

- Manual J is the industry standard residential load calculation method. The training offers step-by-step examples of properly sizing equipment and also addresses principles of heat transfer. The training teaches HVAC contractors to accurately perform and document cooling load calculations in accordance with the Cool Homes program requirements and reduces oversizing.
- The System Charging and Airflow course addresses airflow and charging procedures and standards and includes hands-on training in the use of testing equipment.

Manual J and System Charging & Airflow training classes for HVAC contractors were held in May. The training was attended by 26 HVAC contractors.

The Building Operators Certification Course (BOC) was initiated and will be completed by year end. This series of classes is offered in conjunction with the Northeast Energy Efficiency Partnerships, Inc. (NEEP) and is available to facility operations and maintenance personnel. The training consists of eight courses in areas such as electrical systems, energy conservation, HVAC, indoor air quality, codes and lighting. Students completing the BOC series are eligible to apply for 5.6 Continuing Education Credits. There are 22 students currently registered for the course.

**Marketing** - The program continued to promote awareness of the Cool Homes program. Efforts focus on consumer awareness and education with the goal of creating a demand for energy efficient equipment and quality installations.

The Cool Homes customer brochure is very useful for contractors selling energy efficient HVAC systems. The brochure explains not only the importance of selecting qualified energy efficient equipment but also tips on selecting a contractor and rebate qualifications. Countertop displays

for walk-in customers at area distributors continue to be stocked with 2004 brochures on a regular basis.

Cool Homes was promoted at numerous shows and events including: the Home Improvement Show, Wantagh Street Fair and the Smithtown Festival Day. In addition, a presentation of the Cool Homes program was given at the annual Sid Harvey Trade Show and Dealer meeting. The presentation focused on rebate qualifications for the 2004 program and how incentives assist in product marketability.

**Residential Energy Affordability Partnership (REAP)** is dedicated to improving energy affordability for lower income households through the direct installation of a comprehensive set of cost-effective efficiency measures, and extensive energy education and counseling.

## **Second Quarter Highlights**

Program Implementation - REAP representatives participated in the New York Affordable Comfort conference, networking and learning about opportunities to increase energy savings for our customers.

REAP representatives participated in the New York State LIFE (Low Income Forum on Energy) New York City Regional Meeting. These meetings provide an opportunity for various low-income agencies, utilities other interested parties to get together and discuss the concerns and problems facing the low income community.

In the second quarter of 2004, the following energy efficient measures were installed through the REAP program:

- Replaced 171 inefficient refrigerators with energy-efficient models.
- Installed 4,707 compact fluorescent lightbulbs
- Replaced 18 energy-efficient torchiere lamps
- Installed 33 water aerators
- Replaced 48 window/wall a/c filters and cleaned 59 window/wall a/c filters
- Completed 54 a/c duct repairs
- Air sealed 105 homes

The Assisted Home Performance Pilot Program continues to be offered to customers through a unique partnership between the New York State Energy Research & Development Authority (NYSERDA), LIPA and Community Development Corporation (CDC) of Long Island. To date the program has performed as follows:

- 68 Homeowners have applied to the program
- 39 Homes have been audited
- 6 Homes are finished with significant energy saving improvements
- 7 Homeowners have been approved for low interest rate loans
- 5 Homes are presently under construction.

The Assisted Home Performance Program is continually marketed through workshops and weekly mailings.

Marketing - The REAP Marketing Coordinator provided REAP information through workshops, presentations, and one-on-one meetings with representatives of human service agencies throughout LIPA territory, including:

- Empire Medicare Services
- Nassau County Office for Senior Citizen Affairs
- Suffolk County Office for the Aging

- Suffolk County Senior Umbrella Network
- Nassau County Coordinating Agency for Spanish Americans (CASA)
- Bi-County Alliance of Senior Club Presidents
- Nassau County Veterans Service Agency
- Long Island Council of Churches
- Economic Opportunity Council of Nassau
- Head Start of Nassau
- Island Harvest
- Queens Independent Living Center

REAP representatives also set up table top displays at community events sponsored by:

- Nassau County Office for Senior Citizen Affairs
- Suffolk County Office for the Aging
- New York State Department of Labor
- Long Island Cares
- Peconic Community Council
- Brookhaven National Laboratories
- Wyandanch Community Day
- Kings Park Community Day
- Town of Amityville
- Town of Smithtown

Through the REAP Program, numerous customers were referred to community service organizations, including:

- Catholic Charities Parish Outreach
- Catholic Charities NOEP (Nutrition Outreach & Education Program)
- CDC –(WAP and Assisted Home Performance)
- Expanded In-Home Services for the Elderly
- HEAP
- Project Warmth
- Health & Welfare Council
- Hospice Care Network
- Long Island Center for Independent Living
- Queens Independent Living Center
- Nassau & Suffolk Dept. of Senior Affairs
- Rebuilding Together Long Island
- St. Vincent de Paul
- East End Disabilities Assoc.
- American Lung Assoc.
- Family Service League
- Life Center of Long Island
- Nassau & Suffolk Depts of Social Services
- Hands Across Long Island

- Long Island Council of Churches
- Long Island Cares
- Dept of Labor One Stop Center
- Family Health Plus
- Child Health Plus
- Nassau Suffolk Law Services
- United Way
- NYSERDA

**Solar Pioneer:** LIPA's Solar Pioneer Program is designed to promote the use of clean energy on Long Island through residential PV rooftop installations. To promote the use of PV on Long Island, LIPA is currently offering LIPA residential customers a \$4.50/watt rebate for PV systems 10 kW or less, with a maximum rebate of \$45,000 per PV installation. LIPA's current incentive at \$4.50/watt is being applied towards a 1000 kW incentive block. When the 1000 kW incentive block is depleted, LIPA will continue to offer incentives at \$4.00/watt up to 10 kW towards a 1000 kW incentive block. In addition to LIPA's incentives, homeowners can take advantage of New York State's 25% Solar Tax Credit that is applied towards purchased and installed PV equipment. Homeowners may also be eligible for New York State's 15-year property tax exemption towards installed solar energy equipment.

Commercial customers installing PV systems can also participate in LIPA's \$4.50 per watt PV incentive, with a maximum rebate of \$45,000 per PV installation. The New York State Solar Tax Credit does not apply towards commercial PV installations, however, a 10% Federal tax incentive is available, along with a five-year accelerated depreciation of solar energy equipment.

## Second Quarter Highlights

Rebate levels - For the second quarter, the program has provided rebates to 32 participants, for a total amount of \$843,861, equating to 174kW (DC). Additionally, applications pre-approved by LIPA and pending customer installations equate to applications amounting to 241kW (DC) towards a total rebate amount of \$1,080,030.

### LIPA Solar Contractor Allies and General Solar Contractors

- A quarterly Solar Contractor meeting was conducted on April 7, 2004. Eighteen contractors attended. Topics for discussion included: Solar Pioneer program updates; revised program rebate requirements; upcoming inverter technologies; DRAFT Interstate Renewable Energy Council Inspector Guidelines for PV Systems; upcoming solar workshops and conferences; and financial assistance through the U.S. Small Business Administration Loans Association.
- During this quarter, two solar contracting firms requested their removal from LIPA's Solar Contractor Ally list due to the fact that each consolidated their business. There are now 18 LIPA Solar Contractor Allies who are marketing and installing PV systems within LIPA's service territory.
- Coordinated a LIPA sponsored workshop on "Inspecting Grid Connected Solar Photovoltaic Systems", conducted at Farmingdale University on April 23, 2004. Topics presented included an introduction to PV system installations, outline of NEC Article 690, NEC code compliance regarding wiring, and inspecting PV systems. Forty-five people attended the workshop. Attendees included fire marshals, electrical inspectors, electrical contractors and solar contractors.

## Marketing/Advertising

- LIPA is promoting the Solar Pioneer Program through a tri-fold solar brochure and the posting of monthly LIPA sponsored seminars through the LIPA Clean Energy Newsday advertisement.
- LIPA's Solar Pioneer Web site has also generated leads about the program and solar seminars.

## Seminars/Conferences

- LIPA sponsored ten separate solar seminars this quarter, educating 98 homeowners to LIPA's Solar Pioneer Program and energy conservation.
- LIPA was represented at the Third Annual Long Island Solar Conference held at Farmingdale State University on May 7, 2004. This year's solar conference was open to the public as well as PV industry stakeholders. The featured speakers included Suffolk County Executive Steve Levy and Sharon Laudisi, LIPA. The conference provided a variety of sessions: An Introduction to PV Technology; Energy Star Homes & PV; NABCEP Certification for Solar Installers; Long Island Shines "Automated Internet Response System Overview"; Green Pricing; and Architectural and Design Issues for PV. Approximately 100 people attended the conference.

## Industry and Local Outreach Efforts

- On April 28, 2004, attended the annual New York Solar Energy Industries Association (NYSEIA) membership meeting in Albany, New York. Topics for discussion at the meeting included solar program presentations by LIPA and NYSERDA; an update on the national standardization of inverter testing (revisions to the New York Standard Interconnection Requirements) eliminating the requirement for New York State type testing of inverters; Suffolk County Bureau of Licensing requirements for all PV installations to be conducted by a Master Licensed Electrician; solar contractor insurance and options to lower insurance rates; and an update on the New York Renewable Portfolio Standard. Thirty-two NYSEIA members attended the meeting.
- Provided sponsorship to nine electricians that took the Residential PV System Installation and Maintenance Workshop conducted March 29 to April 1, 2004 at Farmingdale State University.

**Information & Education Program** provides valuable energy-saving information to customers through printed materials, advertising and marketing, a student education component (In Concert With the Environment (ICWE)), an *EnergyWise* Infoline (1-800-692-2626), the LIPA Web site ([www.lipower.org](http://www.lipower.org)) self-directed energy audit services, and LIPA shows and events.

## **Second Quarter Highlights**

Trade Shows and Clean Energy Initiative (CEI) events – LIPA participated in several shows and events during the second quarter, where LIPA distributed Clean Energy Initiative information. The list of events includes the several Earth Day events including Earth Day at Hecksher State Park, the SCECA Trade Show, several REAP sponsored events, street fairs, the HIA Trade Show and several presentations on energy conservation. LIPA distributed over 1,000 EnergySmart CDs at these events. All events were successful and well attended.

In Concert With the Environment Program – As the 2003-2004 school year ended in June, there were more than 5,000 students that participated in the “In Concert with the Environment” program since January. That’s 31 schools across Long Island. McDonald’s continues to provide sponsorship for the program and LIPA’s residential Lighting & Appliance Program continues to distribute a free compact fluorescent bulb to each student that completes the ICWE survey.

LIPA Web site audits – In the 2<sup>nd</sup> quarter over 2,000 LIPA customers have visited the LIPA Web site to complete a Home Energy Audit. The Web site audit gives the customer the opportunity to evaluate their energy usage and use the audit as a tool for making energy decisions.

The Clean Energy Initiative (CEI) portion of LIPA’s Web site was activated in November of 2003. Overall, during the 2<sup>nd</sup> quarter of 2004, LIPA’s Web site received roughly 700,000 hits. The CEI section alone had approximately 55,000 hits, during this same time period. More specifically, during April, May, and June 2004 the CEI section had approximately 15,800, 19,700 and 19,700 hits respectively.

**NY Energy Star® Homes:** - LIPA's Residential New Construction Program, NY ENERGY STAR® Labeled Homes, seeks to improve the energy efficiency measures incorporated into the residential new construction market. This program is a collaborative effort between LIPA and the New York State Energy Research and Development Authority (NYSERDA).

## Second Quarter Highlights

LIPA received Office of the State Comptroller (OSC) approval on an implementation contract between LIPA and Conservation Services Group during the second quarter of 2004 and is now in full recruitment mode, seeking to sign as many Long Island builders on as partners to the program as possible.

The program was highlighted at the 2004 Long Island Builders Institute (LIBI) Trade Show. LIPA hosted a training class for 13 potential Home Energy Rating Specialists. These independent, third party, specialists will ultimately perform the required testing for a new home to be certified as meeting the Environmental Protection Agency's national requirements, and additional New York State requirements for Energy Star standards.

Conducted Combustion Appliance Zone (CAZ) training for all Home Energy Rating Specialists planning on performing energy ratings on new residential homes on Long Island. This training, and subsequent exam, are required as part of the certification process for any Home Energy Rating Specialist performing ratings in New York State.

Pictured below are LIPA's Director of Energy Efficiency and Distributed Generation Programs, Daniel Zaweski and LIPA's Clean Energy Program Manager, Sharon Laudisi in front of one of the first New York ENERGY STAR® Model Homes completed on Long Island.



**Commercial Construction:** LIPA's largest, most aggressive and most complex Clean Energy program. It promotes the application of a broad range of energy efficient electric technologies and design opportunities. It is comprised of three components: Prescriptive, Custom and Whole Building.

The Prescriptive component provides financial incentives to customers who purchase and install qualifying energy-efficient electric equipment from a list of technologies that exceed both current code requirements and standard practices in the marketplace.

The Custom component provides financial incentives to customers who install cost-effective, energy-efficient equipment or make design improvements that exceed those found in Prescriptive. Specifically, Custom targets customers installing equipment that falls between Prescriptive and Whole Building measures/projects.

The Whole Building component seeks to achieve the greatest degree of energy efficiency by encouraging building owners, developers and architects to design and construct the most energy efficient buildings from the onset of a construction project. Whole Building provides incentives for all commercial/industrial equipment replacement, new construction, major renovations and expansion projects in LIPA's service territory.

## **Second Quarter Highlights**

### Program Modifications/Implementation

- During the second quarter, the Commercial Construction Program (CCP) Circuit Riders completed 74 visits to lighting and HVAC distributors/contractors servicing the LIPA territory, investigated 174 customer leads, and gave/attended 8 presentations/trade shows.
- During the second quarter, 46 different contractors participated in the Contractor Incentive Program with a total of 49 paid prescriptive projects, representing 648 mWh of energy savings. Three of the contractors received incentives totaling \$2,218. For the other 43, it was their first 2004 project.

### Marketing and Presentations

- LIPA's Commercial Construction program presentation was prominently featured at the Neighborhood Network Clean Energy Task Force meeting. The task force is made up of two representatives from each municipality in both Nassau and Suffolk counties. The purpose is to raise awareness of conservation issues in relation to the townships and how to implement and share cost effective conservation measures that have both short and long term savings as well as being environmentally friendly.
- Commercial Construction presented a check to the Animal Rescue Fund in Wainscott for \$24,058.00 for a new geothermal system installed in a recently expanded and updated facility, which provides life saving services for unwanted animals.

- **GLS Enterprises**, a large commercial lighting installer has had such tremendous success with LIPA's Commercial Construction program, that LIPA's program manager was requested to initiate an in-house check and balances policy at GLS to streamline their application process. An overview of the policy was given to managers and staff, with representatives from both meeting on a weekly basis for project review.
- **Sid Harvey Inc.**, one of Long Island's largest HVAC distributors, requested LIPA representatives from Commercial Construction to be the keynote speakers at their annual Trade Show and Dealer recognition meeting at the Smithtown Sheraton. Sid Harvey continues to be one of LIPA's Clean Energy Initiatives efforts biggest supporters, and directly equates a portion of their sales figures to LIPA's Commercial and Residential HVAC programs.
- LIPA's Commercial Construction program was presented at Graingers Annual Trade Event at their New Hyde Park, Bohemia and Melville locations. During the event, contact was initiated with over 200 of the company's largest commercial, industrial, governmental and educational customers.
- LIPA's Commercial Construction Program was featured at ASHRAE's annual dinner at the Westbury Manor. The presentation consisted of a program overview, project highlights and a Q & A period. Several viable leads were received during the evening. Due to the overwhelming response, ASRAE's president invited LIPA to speak at additional events their organization has slated for 2004.
- A press conference was held at Hampton Bays School District with Supervisor Fred Thiele, Senator Ken LaValle and Richard Kessel as speakers. The event highlighted the cooperation between LIPA's Commercial Construction program and the district and showcased how partnering with LIPA saves the district financially in both long and short terms, as well as providing a healthier environment for students.

#### Program Performance

- The following chart shows the actual results (paid applications) for the Year to Date period ending June 30 2004:

<b>Category</b>	<b>Actual</b>	<b>Goal</b>
Participants	159	350
MWH	5,763	5,908
MW	1	1.1

- Presently, there are more than 235 Prescriptive, Custom and Whole Building Design projects in various stages of completion, representing an estimated 15,842,454 kWh

in potential energy savings for 2004. Several additional, large energy saving projects that have not yet gone through the application process are also expected to be completed by the end of 2004.

#### Major Projects Completed

- The **Suffolk County DPW** completed a Custom project consisting of a unitary HVAC VAV system at their facility in Yaphank. The annual energy savings is approximately 754,100 kWh and a rebate of \$300,000.00 was issued.
- The **Modern Italian Bakery** completed a Custom project consisting of energy efficient industrial refrigeration at their facility in Oakdale. The annual energy savings is approximately 632,968 kWh and a rebate of \$217,302.00 was issued.
- The **Home Depot** completed a Prescriptive project consisting of energy efficient AC units and High-Low Bay fluorescent lighting at their store in Shirley. The annual energy savings is approximately 356,282 kWh and a rebate of \$45,715.00 was issued.
- **LI 2000 Inc.** completed a Custom project consisting of an Energy Management System and HVAC controls at their facility in Westbury. The annual energy savings is approximately 327,544 kWh and a rebate of \$35,757.00 was issued.
- **Steel Garden LLC** completed a Custom project consisting of an Energy Management System and HVAC controls at their facility in Garden City. The annual energy savings is approximately 145,664 kWh and a rebate of \$46,697.00 was issued.
- **N. Racnelli Assoc.** completed a Prescriptive project consisting of energy efficient lighting at their location in Amityville. The annual energy savings is approximately 101,889 kWh and a rebate of \$12,555.00 was issued.

**LIPA's Customer-Driven Efficiency Program** provides assistance to both residential and commercial customers wishing to make energy efficiency improvements not covered in any of LIPA's other Clean Energy Initiative programs. The program also provides technical, on-site energy analysis and audits to help commercial/industrial customers evaluate potential energy-saving opportunities. LIPA provides financial incentives for those opportunities shown to be cost effective.

## Second Quarter Highlights

Seminars - As part of LIPA's continuing effort to provide information to the community concerning energy efficiency and the Clean Energy Initiative programs, we participated in the Suffolk County Schools' Custodial and Maintenance Workshop held in June. Our instructor taught a track that focused on:

- The importance of maintenance staff with regards to energy conservation and energy conservation initiatives.
- The importance of periodically checking the performance of economizers and dampers to ensure savings and air quality.
- Converting gym and pool lighting from the current standard of metal halide to the new standard of fluorescent high-bays with occupancy sensors.
- The application of LIPA's Clean Energy Initiative programs.

Energy Audits - The second quarter of 2004 saw the completion of sixty energy studies. A number of these were of particular interest.

- **Denton Green Housing** - This not-for-profit senior housing facility was delighted to receive free assistance from LIPA. They spend over \$100,000 annually for energy and the energy study showed them the potential to save 16% of those costs. Recommended measures included compact fluorescent lighting, lighting controls, new windows, and a motor upgrade. The facility was very pleased with the thoroughness of the study and they plan to immediately install new compact fluorescent fixtures in their hallways and apartments. They also plan to utilize the benefits of LIPA's Not-for-Profit Rebate Program for this project (approximately \$15,000) as well as all future projects.
- **North Shore University Hospital** - This hospital complex spends over \$1 million in energy costs. They have already implemented a number of energy conservation measures (T8 lighting, compact fluorescent lighting, some variable speed drives) and they did not think that the audit would be able to identify any new, viable ideas. However, the auditor was able to identify over \$250,000 in savings with a payback of less than three years. This is over 20% in energy cost savings from an already energy conscious facility. Savings were derived from an energy management system, boiler operating improvements, energy efficient motors, and more variable speed drives.
- **Magnacare** – Preferred Choice Management. This facility was shown a large number of measures including lighting, lighting controls, upgrading the HVAC, new motors and

variable speed drives, and an energy management system. These measures will yield 24% savings and a six year payback after the application of over \$30,000 in LIPA rebates.

- **General Semiconductor dba Intertechnology** - This facility was shown the application of a new technology with regards to their RF generators. The old generators used an oscillating technology while the new units are solid state. The annual savings are over \$50,000 in energy, alone.

Rebate:

- **Ocean Village** - A rebate check in the amount of \$131,600 was issued to Margert Community Development Corporation for the Ocean Village East Apartment project. This project was an excellent low-income opportunity to get LIPA involved in a project in the Rockaways. It also was a project that received funding from multiple sources including the NYS Division of Housing and Community Renewal (DHCR), the U.S. Department of Housing and Urban Development (HUD) and Energy Conservation Assistance to Preserve Affordable Housing (ECAPAH). The rebate represents payment for the installation of energy efficient windows and individual thermostats for 329 apartments, as well as an energy management system.

**LIPAedge Program** - a direct load control program targeted at residential and small commercial customers on Long Island. This program is available to LIPA customers who have Central Air Conditioning (CAC) systems installed in their homes or small business. LIPA will utilize wireless technology to signal to each customer's device in order to curtail load between the hours of 2 PM and 6 PM for no more than seven times during the summer on Critical Demand Days. In addition, residential pool pumps are controllable through this program.

## **Second Quarter Highlights**

LIPAedge Installations – Through June, 26,261 cumulative units were installed equating to 27.09 MW of peak load reduction. There were 20,734 units installed for residential customers, 2,903 units installed for commercial customers through the LIPAedge Program. In addition there were 2,624 units installed for pool pump customers through the LIPAedge Pool Pump Program. 2004 program installation totals through June have exceeded year to date goals. Through the end of the second quarter the LIPAedge program is currently 99.63% of annual goal. The November 1<sup>st</sup> goal of 26.97 MW's was met the week of June 17<sup>th</sup>.

Advertising – Newsday ran the LIPAedge advertisement periodically. Other advertising included a stand-alone bill insert during the April billing cycle.

Hotel Pilot Program – Finalized agreement between Howard Johnson's of Westbury, LIPA, and Digi-Log Technologies for the Hotel Pilot Program. This pilot calls for the installation of 80 room ac controls. On June 16<sup>th</sup>, installation was completed and we are now able to monitor the usage and savings from curtailing these 80 units.

System Upgrade – On May 2<sup>nd</sup>, in conjunction with Carrier UTC, completed an upgrade to the [www.mytsta.com](http://www.mytsta.com) Web site. Customers with multiple thermostats can now login once and control, program, and rename all of their thermostat zones without the need to login to each individual thermostat.

## RESEARCH, DEVELOPMENT AND DEMONSTRATION (RD&D)

### EXECUTIVE SUMMARY

LIPA strongly believes that technology is the key to exciting new innovations in the realm of clean energy. That's why substantial financial and human resources have been committed to LIPA's Clean Energy Research, Development and Demonstration (RD&D) Program. This cutting-edge program – which explores everything from wind energy to fuel cells to electric vehicles – uses in-house expertise to conduct Clean Energy RD&D projects, as well as review and analyze project results. The program also provides information and education encouraging the Long Island community to team with LIPA on Clean Energy RD&D initiatives.

### WIND ENERGY

Wind is increasingly being recognized as a great potential source of clean, renewable energy. And Long Island, with its strong ocean winds, is a great candidate for testing state-of-the-art turbines that harness the powers of the wind to create a sustainable source of energy.

### **LIPA/Long Island Farm Bureau Wind Turbine Demonstration Project**

LIPA has been working with the Long Island Farm Bureau in pioneering 50kW land-based wind turbine demonstrations on Long Island.

Governor Pataki formally dedicated LIPA's first land-based wind generator in August 2002. The 50 kW Atlantic Orient wind turbine located at the Zeh brothers' Windy Acres farm in Calverton was erected by LIPA, in cooperation with the Long Island Farm Bureau. From installation through the end of the second quarter 2004, the wind turbine generated and fed into the electric grid over 93,000 kilowatt hours (kWh) of electric energy. The output of the wind turbine has reduced air emissions by 529 pounds of Sulfur Dioxide, 190 pounds of Nitrous Oxides, and 130,877 pounds of Carbon Dioxide since August 2002.



LIPA's second wind turbine under this effort was to be located at Osprey's Dominion vineyards in Southold. However, during the second quarter of 2004, after more than two years of activity on siting studies associated with the project, the Southold Zoning Board of Appeals denied the request for a variance for the project. In their denial the ZBA cited that the application didn't meet the special variance requirement of Public Utility zoning code, that the application requested a height variance which was 5 times that of the code and finally that the demonstration would adversely impact the visual scenic aesthetics of the local by-way zone.. LIPA is currently investigating alternate sites.

These land-based demonstration programs have provided LIPA and other stakeholders with valuable experience in developing approaches and insights into public education, facility siting as well as general wind turbine operational and power quality issues. The lessons learned are currently being incorporated in the utility scale Offshore Wind Project.

## **SOLAR / PHOTOVOLTAICS**

Long Island has a plentiful resource in the sun, as a result, LIPA is investigating, solar systems that harness the power of totally natural, renewable (it will never run out!) source to provide Long Island with clean, reliable energy.

### **Citibank/Long Island Ducks Stadium Photovoltaic Installation**



This project was initiated in 2002 in partnership with Suffolk County and the Long Island Ducks to site and demonstrate a 5kW Solar system. Following a slight hiatus in activity, a 5kW grid-connected photovoltaic system was installed on the roof of Suffolk County's Citibank Park, home of the Long Island Ducks baseball team during the second quarter of 2004.



Hoisting a PV array onto the roof of Citibank Park, home of the L.I. Ducks.

This demonstration installation will provide power to the lights and office equipment in the executive office area as well as some rented suites. Over the expected 25 years, the power generated will displace approximately 203,642 pounds of Carbon Dioxide, 823 pounds of Sulfur Dioxide, and 296 pounds of Nitrous Oxide.

## RESEARCH, DEVELOPMENT AND DEMONSTRATION (RD&D)

### Electric Vehicle Programs - GEM Donations

Through a unique arrangement with Daimler Chrysler GEM (Global Electric Motors, LLC) LIPA received the donation of 50 limited-use (legal on any road 35 mph or lower) electric vehicles. The donation of the vehicles contemplated LIPA having them deployed by various municipalities and publicly owned facilities. During the second quarter of 2004, LIPA began delivering the vehicles to a variety of municipalities and school districts. The only restrictions the recipient of the vehicles has is that they must keep the vehicles registered in New York State for at least one year, they need to maintain LIPA's signage on the vehicles and answer periodic use surveys. All costs associated with the operations and maintenance of the vehicles is the responsibility of the recipient.



The vehicles are an “open-air” design (although either soft or hard doors are available as an option). They come in a variety of colors and may be either two-seater or four-seater. Using lead-acid batteries, they have a range of about 30 miles at 30 mph. (speed is limited by design and regulation). They are charged with a standard 110 volt, 20 amp circuit available in most homes and businesses and are ideal for short range, local use.

At the end of the second quarter of 2004, 23 vehicles have been delivered to 14 different entities on Long Island. Agreements for an additional 11 entities have been sent out and are awaiting agreement with the potential participants.

The 50 GEM vehicles can be expected to provide an annual emissions savings of 755 pounds of hydrocarbons, 5,955 pounds of Carbon Monoxide, 112,125 pounds of Carbon Dioxide and 389 pounds of Nitrous Oxide. This is based on the saving 5,665 gallons of gasoline or avoiding 97,500 miles of driving by a light-duty vehicle (pickup truck).

**AND SO MUCH MORE ...**

## Distributed Generation Monitoring

Working with Connected Energy Corporation (CEC, a monitoring system was built in 2003). This monitoring system is an Internet Web-based technology that can host multiple distributed generation technologies on a common platform. LIPA is developing this technology in partnership with the U.S. Department of Energy, other utilities, and Independent System Operators throughout the country. This common platform is capable of aggregating multiple generation sources to be monitored and in the future dispatched by a single system operator. This technology is capable of storing valuable data on the performance of renewable and traditional technologies. It provides site and equipment overviews down to the specific controls which monitor efficiency and electrical outputs.

The next phase of development for this technology will include command and control of distributed generation devices on a secure platform. Additional sites that will support the fuel cell deployment are being developed in 2004, and DOE funding for this effort has been secured.

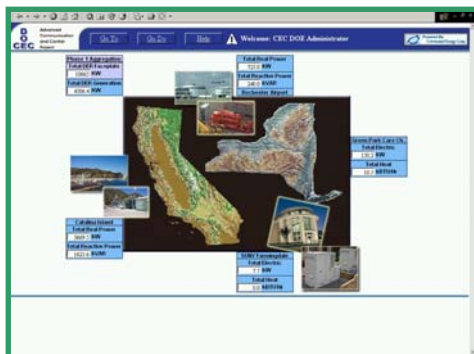
It is anticipated that new data transmission schemes will be deployed in an effort to achieve reductions in installation costs which will enable this technology to approach commercial viability.

LIPA has this monitoring system currently deployed and encompasses five fuel cell sites, five solar sites and one wind site:



LIPA's "CEC"

- *Farmingdale University (Fuel Cells)*
- *Suffolk County Legislative Building, Hauppauge (Fuel Cells)*
- *Nassau Community College (Fuel Cells)*
- *Long Island University-Southampton College (Fuel Cells)*
- *Hempstead Animal Shelter (Fuel Cells)*
- *Fala Direct Marketing-3 sites (Solar Photovoltaics)*
- *New York Institute of Technology, Westbury (Solar Photovoltaics)*
- *JonesBeach Nature Center (Solar Photovoltaics)*
- *Zeh Farm, Calverton (Wind Turbine)*

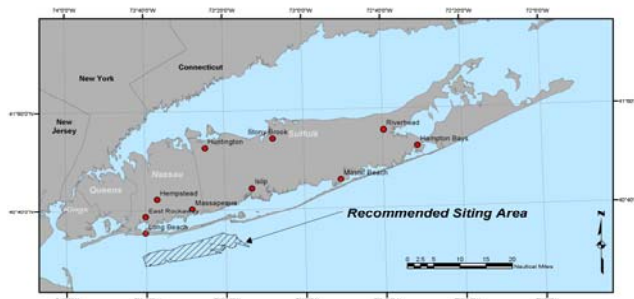


LIPA's "DOE/CEC" Site.

# Offshore Wind Farm

## Looking Offshore

In 2003, LIPA issued a Request for Proposals (RFP) to select a highly experienced developer with the credentials needed to construct the proposed 100-140 MW wind-powered electric generating plant (“Wind Park”) to be located off the southern shore of Long Island. Click on <http://www.lioffshorewindenergy.org> for more information

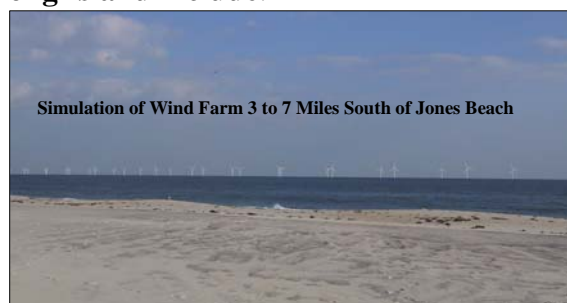


In May of 2004, LIPA's selection committee for the Offshore RFP recommended to LIPA's Board of Trustees that LIPA move forward negotiating a power purchase agreement with Florida Power and Light Energy (FPLE) providing for LIPA's purchase of the energy, capacity, ancillary services and environmental attributes from a 140 MW Offshore Wind Park which would be built, owned and maintained by FPLE. Negotiations are currently underway.

Offshore wind power has the potential of providing a significant portion of Long Island's electricity. Wind can be a major electricity provider, as evidenced in Denmark, which derives 18% of its electricity needs from the wind. Long Island, however, is in short supply of appropriate onshore sites for large-scale wind project development. As a result, turning to the sea is Long Island's only option if it wants to secure wind power as a meaningful part of its energy mix.

### Positive attributes of Offshore Wind for Long Island include:

- Clean and renewable wind energy is abundant with no emissions.
- Provides Diversified Energy Portfolio which reduces risks associated with fossil fuel price supply and volatility.
- Helps Long Island meet Governor Pataki's 25% Renewable Portfolio Standard (RPS) by 2013.



This project is supported by a unique partnership consisting of a large number of energy, environmental and civic organizations known as the Long Island Offshore Wind Initiative (LIOWI). During the first quarter of 2004, the LIOWI has been active in public education and outreach efforts in support of the project.

