

Overview of Long Island Electric Service Territory

Long Island Electric Service Territory

- » Long Island's electric service customers are located in Nassau County and Suffolk County (except for the villages of Freeport, Greenport and Rockville Center) and the Rockaway Peninsula in Queens
 - 2012 revenues \$3.526 billion - second largest public power utility according to the American Public Power Association ("APPA")
 - 1.1 million customers - third largest public power utility according to the APPA
 - 2012 sales totaled more than 20,000 GWh (or 20,258,158 MWh) - seventh largest public power utility according to the APPA
 - Record summer peak load of 5,915 MW set on July 22, 2011
- » No significant single customer concentration
 - Largely residential (representing 54% of revenues), with a large portion of affluent households
 - No concentrated industrial customer base
 - Largest customer, the Long Island Rail Road, accounts for less than 2% of total sales and revenue

Long Island Electric Service Territory (continued)

Service Territory

Queens/Nassau

Serves approximately 210,512 customers
 109 square miles of service territory,
 1,035 miles of overhead wire
 288 miles of underground cable
 75,158 utility poles

Central

Serves approximately 290,018 customers
 210 square miles of service territory
 2,374 miles of overhead wire
 667 miles of underground cable
 145,389 utility poles

Western Suffolk

Serves approximately 320,839 Customers
 305 square miles of service territory
 2,718 miles of overhead wire
 1,486 miles of underground cable
 152,644 utility poles

Eastern Suffolk

Serves approximately 289,484 customers
 606 square miles of service territory
 2,823 miles of overhead wire
 2,220 miles of underground cable
 161,859 utility poles



Renewable Energy Programs

Goals are to continue to help improve environment, lower costs for renewable energy, reduce peak load, diversify energy portfolio, and transform & sustain a robust solar & renewable energy market to create clean energy jobs

- » **Solar Pioneer and Solar Entrepreneur Program** - Since its inception in 2000, almost 8,000 commercial & residential solar installations totaling over \$163 million in rebates. Commercial installations are able to remote net meter, residential solar leasing is authorized, & net metering cap has been raised to 3.0% of peak
- » **Backyard Wind Program** – rebates are available for residential & commercial customers; approximately 20 wind installations totaling approximately 400kW
- » **Geothermal Programs** - geothermal rebates for residential & commercial customers
- » **LI NYC Offshore Wind Project** - Collaboration with NYPA & Con Ed for an offshore wind project off southern coast of the Long Island; request for lease of area is currently before US Bureau of Ocean Energy Management

Renewable Energy Programs (continued)

- » **Utility–Scale Solar - Carports & LI Solar Farm** – In 2012, solar carport projects, comprising a total of 12.8 MW capacity were completed. These carports are in addition to the 37 MW solar installation at Brookhaven National Laboratory that was completed in 2011
- » **Smart Grid Route 110 Solar Panel Project at Substations-** investigating use of solar panels at three substations along the Smart Grid Route 110 Corridor in Melville to develop & evaluate benefits & costs of using solar energy to reduce internal power consumption, supplement or replace battery chargers & auxiliary power for substation needs, as well as increase the use of renewable energy resources
- » **Long Island Uniform Solar Code (LIUSPI)**– established a collaborative to uniform & streamline the solar installation approval process across Long Island by developing a model application & proposing a consistent & standard residential solar electric & solar hot water permit process for municipalities across Long Island to adopt

Demand Response & Request for Proposals

- » **LIPAEEdge Demand Response Program** -- Approximately 31,000 customers voluntarily participate in energy conservation program with a special programmable thermostat that the utility can access to initiate a timed curtailment on their central air-conditioning & pool pumps to help reduce stress on the electrical system & improve reliability during high periods of extremely high energy usage
- » **Request for Proposals for On-Island Renewable** - for up to 280 MW of new variable-sized renewable energy such as solar, offshore wind, & fuel cells capacity by 2018.
 - Received 38 proposals from 19 proposers, which included solar, off-shore wind, & fuel cell technologies
- » **Request for Proposals for Replacement of Peaking Generation** - replace current peaking generation, installed as early as the 1960s and nearing retirement, with newer, cleaner, & efficient technologies distributed & to be in service by 2019
 - Received 38 proposals from 16 proposers, which included gas, diesel, and energy storage technologies

CLEAN Solar & Renewable Initiatives

- » **CLEAN Solar Initiative Feed-In Tariff** - In July 2012, LIPA launched New York State's first feed-in tariff for 50MWs of solar at a price of \$0.22 per kWh for 20-year term. There are currently about 15 projects (of total of 63) developed with the remaining 48 projects forecasted to come on-line by late-2014 or early-2015
- » **CLEAN Solar Initiative II Feed-In Tariff** – In 2013, building on success of CSI, LIPA initiated the 100MW CSI II. After completing a 4-month application period, capping projects at 2MW, & using a “clearing price auction,” the price was set at \$0.1688 per kWh for 20-year term. While receiving a significant response the 100MW is expected to be generated from 76 projects. In an effort to reduce load on constrained area & help defer, reduce, or eliminate the need for new generation & infrastructure, a premium of 7-cents per kWh was offered for projects in designated areas of the South Fork of Long Island. However, less than the 40MW needed to be cost effective were proposed, so the premium will not be paid on these projects.
- » **CLEAN Renewable Energy Initiative Feed-In Tariff** – Last week began the 4-month application period for 20MW of renewable energy technologies (excluding solar) through similar price bidding process used in CSI II & subject to a 10-year PPA. Eligible technologies include wind, biomass, hydroelectric, landfill gas, & fuel cells.

CLEAN Solar & CLEAN Renewable Initiatives (continued)

- » CLEAN Solar Initiative, CLEAN Solar Initiative II, & CLEAN renewable Energy Initiative are feed-in tariff programs (aka, standard offer) in which the owner of an eligible renewable energy system is paid a fixed rate for every kilowatt hour generated over the term of a Power Purchase Agreement
- » These CLEAN Initiatives are New York State's first feed-in tariff programs & consistent with State initiatives to expand solar energy and grow the clean energy economy
- » All of the approximately 170MWs of renewable energy that is produced through these CLEAN Initiatives will be fed into the grid & the customer will be paid only for the energy produced
- » The feed-in tariff or "standard offer" has been used successfully by other utilities in the United States, Canada, and Europe to encourage solar PV projects & increase the production of renewable energy

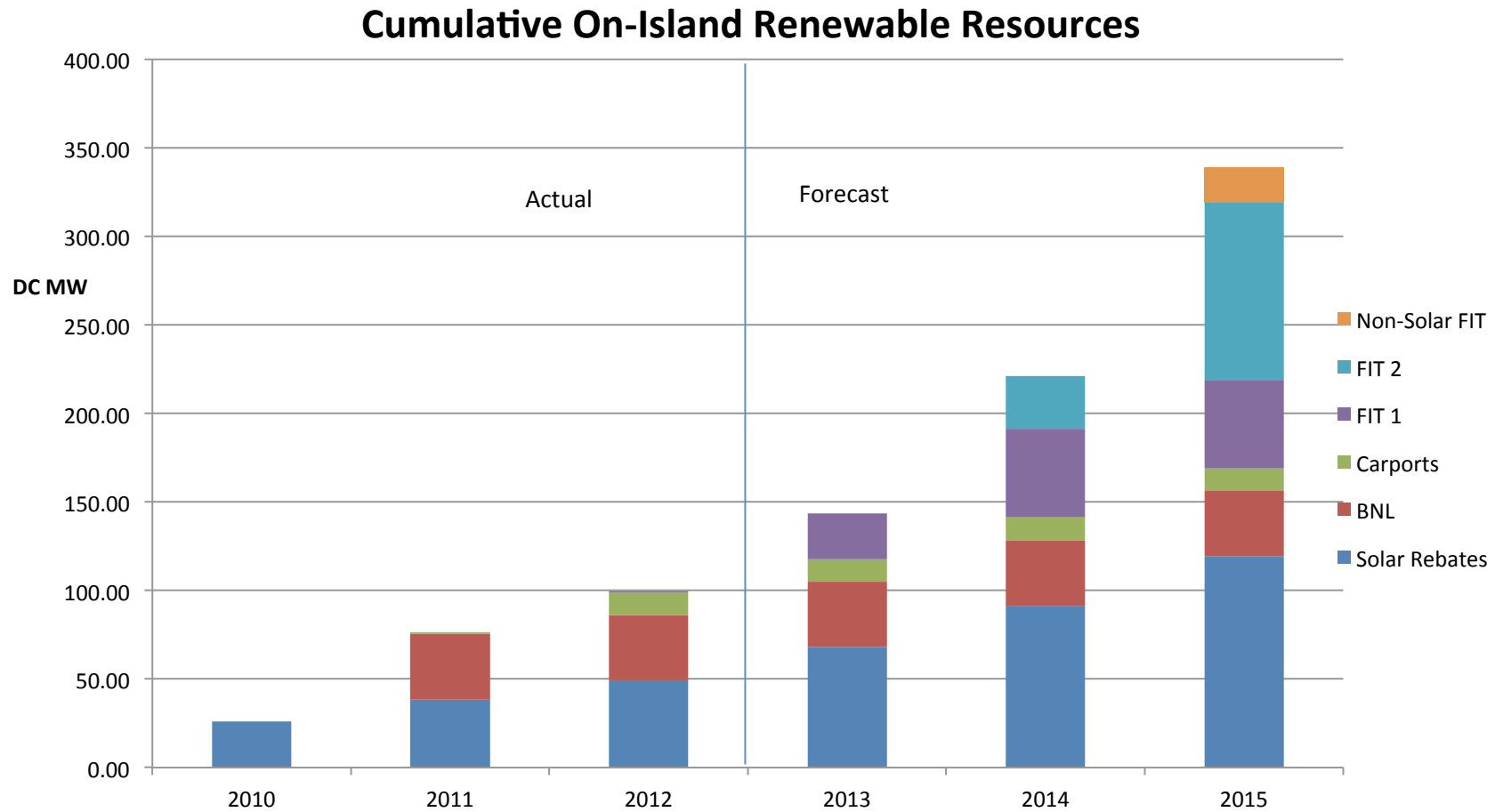
Why Use CLEAN Initiatives to Invest in Solar & Renewable Energy?

- » **Help meet Governor's goal of quadrupling customer-sited solar that was installed in 2011 by 2013**
- » **Expand development of larger solar systems & advance renewable energy on Long Island & diversify LIPA's energy portfolio**
- » **Pay for the actual performance of the renewable generation over a 10-year term for the CREI and a 20-year term for CSI I & CSI II**
- » **Enable developer to get project financing through use of Power Purchase Agreement (PPA) with LIPA**
- » **No lost revenue impact associated with net metering or remote net metering**
- » **Viewed favorably by Long Island renewable energy contractors**
- » **Stimulate local economic development, develop clean energy businesses & jobs**
- » **Facilitates solar & renewable energy growth in manageable sized tranches**
- » **Additional renewable energy funding mechanism to complement RFPs & customer-sided rebates**
- » **Encourage distributed renewable generation onto distribution networks close to load centers**
- » **Reduce peak load & use of fossil fuels**
- » **Defer or eliminate more expensive capital investments to transmission & distribution network**

CLEAN Renewable Initiatives – Lessons Learned

- » Consider alternate pricing mechanism
 - Price could vary by size of project, or geographic location
 - Consider having applicants submit price bids
- » Consider better identifying those projects that are of “best value”
 - Target specific areas on the T&D system
 - Better evidence of site control
- » Streamline the process with Small Generator Interconnection Procedure (SGIP)
- » Consider application process, municipal timing and availability issues
 - Municipal customers generally need more time to respond
- » Consider limiting the size of the projects
 - Large projects over 2.0 MW require longer and more involved review of potential interconnection

On-Island Renewable Resources



2014 PSEG Long Island Activity

- » Solar PV net-metered programs are on track to achieve 20 MWdc in 2014
- » This would be the most achieved on Long Island in any one year
- » The cost of procurement continues to decline with rebates now equal to \$0.50 per dc watt
- » From the utility perspective, solar PV is now roughly equal in cost to energy efficiency programs

Statewide New York Sun Program

- » To support the continued success of the solar industry on Long Island, and to support the industry's transition from the Long Island Power Authority to PSEG Long Island, NYSERDA will more than double the proposed allocation for the Long Island region from \$28 million to \$60 million, increase the maximum size of the PV system eligible for incentives up to 200 kW, and will partner with PSEG Long Island to locally implement the statewide NY-Sun program.
- » Source: Press Release, April 24, 2014: 'GOVERNOR CUOMO ANNOUNCES HISTORIC COMMITMENT TO SOLAR POWER'

Statewide MW-Block Design

1. Statewide goal of approximately 3 GW for \$1.1billion budget (includes LIPA MW Blocks)
2. Three regions – LIPA, Con Edison, balance of the state
3. Three separate block structures within each region
 - Res and small non-res = up to 50kW
 - Medium non-res = >50kW and up to 200kW
 - Large non-res = > 200kW (except on Long Island)

Utility 2.0 Plans

- » PSEG Long Island will be filing a “Utility 2.0 plan” with LIPA and the New York State Department of Public Service on July 1, 2014
 - Plan will include additional solar PV on the East End, South Fork of Long Island to meet load constraints
 - Potential to install utility-scale battery storage
 - Offer incentives for solar PV over 200 kW in size

- » Technical conference is scheduled for July 24 at Stony Brook University to discuss the plan