

BOARD AGENDA SUMMARY SHEET

Committee or Board: Board	Date: July 12, 2019	Board Meeting Date: July 24, 2019
-------------------------------------	-------------------------------	---

For All Board Voting Items:

Title of Agenda Item: Approval of the Annual Report and Amendments on the Board’s Policy on Resource Planning, Energy Efficiency and Renewable Energy

Consent Agenda: Yes No

Accompanying Presentation: Yes No

Recommendation from Committee: N/A F&A; GP&P; Oversight & REV

LIPA Presenter: Rick Shansky

PSEG Long Island Presenter: James Parmelee

For Policy Reports Only:

Type of Policy / Report: Operating; Governance; Compliance; Mission

Date of Last Report: July 25, 2018

Compliance Since Last Report: Yes No

Proposed Changes to Policy: Yes No

Requested Action:	The Board is requested to adopt a resolution: (i) approving the annual report for the Board Policy on Resource Planning, Energy Efficiency and Renewable Energy; (ii) finding that the Long Island Power Authority and its subsidiary, LIPA, have complied with the Policy; and (iii) approving certain amendments to the Policy.
Summary: (include proposed amendments to Board Policies, if applicable)	By Resolution No. 1372, dated July 26, 2017, the Board adopted the Policy. The Policy was last amended by the Board by Resolution No. 1421, dated July 25, 2018. The Policy sets objectives for resource planning, power supply procurement, portfolio management, and energy efficiency programs that support the Authority’s mission and the State’s clean energy goals. The Policy also establishes regular performance reporting by Staff to enable the Board to assess performance against the objectives of the Policy. As further detailed in the accompanying memorandum, the proposed revisions to the Policy include: (i) the reference to the Clean Energy Standard was updated to “clean energy goals” to reflect the comprehensive clean energy goals of the recently passed Climate Leadership and Community Protection Act; and (ii) amending the annual reporting requirements consistent with the reporting requirements for other Board policies.

FOR CONSIDERATION

July 24, 2019

TO: The Board of Trustees

FROM: Thomas Falcone

SUBJECT: Approval of the Annual Report and Amendments to the Board Policy on Resource Planning, Energy Efficiency and Renewable Energy

Requested Action

The Board of Trustees of the Long Island Power Authority (the “Board”) is requested to adopt a resolution: (i) approving the annual report on the Board Policy on Resource Planning, Energy Efficiency and Renewable Energy (the “Policy”) (the “Policy”); (ii) finding that the Long Island Power Authority and its subsidiary, LIPA (collectively the “Authority” or “LIPA”) have complied with the Policy; and (iii) approving certain amendments to the Policy, which resolution is attached hereto as **Exhibit “A”**

Background

By Resolution No. 1372, dated July 26, 2017, the Board adopted the Policy. The Policy was last amended by the Board by Resolution No. 1421, dated July 25, 2018.

The Policy sets objectives for resource planning, power supply procurement, portfolio management, and energy efficiency programs that support the Authority’s mission and the State’s clean energy goals. The Policy also establishes regular performance reporting by Staff to enable the Board to assess performance against the objectives of the Policy.

Compliance with the Policy

Staff recommends that, for the reasons set forth below, the Board find that the Authority has complied with the Policy since the review of the policy last year.

Compliance with each element of the Policy is discussed in detail below.

Planning

“Planning for and maintaining a power supply portfolio that meets applicable New York State Independent System Operator and New York State Reliability Council requirements, environmental standards, and the State’s Clean Energy Standard; and updating the Integrated Resource Plan to reassess system needs, when such updates are necessary, but no less often than every five years.”

- Long Island capacity reserves are expected to meet NYISO’s minimum capacity requirement through 2040.
- The load forecast continues to decline through the late 2020’s. Potential new electrification requirements resulting from New York’s recently passed Climate Leadership and

- Community Protection Act (“CLCPA”) will be incorporated into future forecasts.
- Implementation of the CLCPA will require replacement of existing fossil fuel plants by 2040 with renewable energy, battery storage, energy efficiency projects, and other carbon free technologies.
 - PSEG Long Island is studying Long Island’s peaking generation portfolio and integration of renewables, batteries, demand response, and distributed resources.
 - Existing resources and current procurements are projected to provide sufficient Renewable Energy Credits (“REC”) for the Authority to meet its share of the State Clean Energy for 2019. Future procurements or REC purchases from NYSERDA will be considered as part of new requirements resulting from the CLCPA for 2020 and beyond.

Managing the Portfolio

“Managing the power supply portfolio to minimize cost and maximize performance, including the economic scheduling of assets, power plant availability and thermal efficiency, within contractual constraints.”

- All power supply portfolio contracts met or exceeded contract targets.
- Heat rate (i.e. efficiency) and availability of generation fleet continues to be better than industry average for comparable technologies.
- Nine Mile Point Unit 2’s capacity factor for 2018 exceeded industry average.
- PSEG Energy Resource & Trade has met or exceeded all contractual performance targets, including Neptune and Cross Sound cable performance, generation bidding to the NYISO, load forecasting, fuel procurement and scheduling, as well as settlements and invoicing.
- LIPA obtained reductions in National Grid’s gas transportation rates for 2019.

Competitive Procurement

“Minimizing cost by competitively procuring generation and distributed energy resources through wholesale market purchases, bilateral contracts, and if appropriate, after balancing cost and risk, ownership or pre-payments for energy, utilizing to the extent feasible and cost-effective, Authority-owned land and rights to acquire legacy generating sites.”

- LIPA has competitively procured 374 MWs of Clean Energy Standard resources through RFPs and feed-in tariffs, including:
 - 88 MWs of solar projects that are currently operational;
 - 110 MWs of solar projects under development;
 - 130 MWs of offshore wind under development; and
 - 46 MWs of fuel cells under development.

Clean Energy

“Procuring cost-effective renewable resources, renewable energy certificates (“RECs”), and behind-the-meter resources such as energy efficiency and demand response, including acting in coordination with other State energy authorities, if advantageous to our customers; and integrating cost-effective distributed energy production and storage technologies into the power supply portfolio and enabling

the economic and secure dispatch of resources deployed within the distribution system and within customer premises.”

- LIPA had sufficient RECs to meet its share of the State Clean Energy Standard for 2018 and is projected to have sufficient RECs for 2019, including from the CES procurements described above.
- In 2018, residential and commercial energy efficiency programs resulted in 53.8 MW of incremental demand savings and 291,882 MWh of energy savings.
- Long Island continues to have the most robust rooftop solar market with more than 45,000 residential systems. In 2018, customer side installed capacity increased 56 MW (DC) with incremental annualized energy savings of 67 MWh.
- In 2018, two 5-MW (40 MWh) utility-scale storage systems became operational.
- Value of Distributed Resources (“VDER”) was instituted for demand-metered customers.
- PSEG Long Island has continued a five-year deployment of Smart Meters.
- Home Energy Management Program was expanded to 490,000 customers.
- Deployed Dynamic Load Management (“DLM”) and Edge load curtailment programs.
- Initiated the region’s first large-scale anaerobic digester project to produce electricity.
- Collaborative partnership for developing a microgrid project in Huntington.

Wholesale Market Policy

“Minimizing cost by representing the interests of Long Island electric customers in the New York and regional wholesale markets and their respective stakeholder processes, as well as direct engagement with appropriate Federal and State regulatory authorities.”

- Opposed rules that would increase Long Island’s capacity requirements while reducing capacity requirements for other regions in New York.
- Evaluated alternative means to integrate the Social Cost of Carbon into NYISO markets.
- Engaged in assessments of NYS NOx emission regulations, integration of carbon costs into energy markets, market rules and investments in energy storage, and offshore wind procurement and market mechanisms and development and integration into transmission and distribution system.

Annual Review of the Policy

Staff proposes the following revisions to the Policy:

- The reference to the Clean Energy Standard was updated to “clean energy goals” to reflect the comprehensive clean energy goals of the recently passed CLCPA.
- Amending the annual reporting requirements consistent with the reporting requirements for other Board policies.

The proposed changes are more specifically shown on Exhibit “B”.

Recommendation

Based upon the foregoing, I recommend approval of the above requested action by adoption of a

resolution in the form attached hereto.

Attachments

Exhibit “A”

Resolution

Exhibit “B”

Resource Planning, Energy Efficiency and Renewable Energy Policy (redline)

Exhibit “C”

Resource Planning, Energy Efficiency and Renewable Energy Policy (clean)

Exhibit A

RESOLUTION APPROVING THE REPORT TO THE BOARD OF TRUSTEES ON THE BOARD POLICY ON RESOURCE PLANNING, ENERGY EFFICIENCY AND RENEWABLE ENERGY

WHEREAS, the Resource Planning, Energy Efficiency and Renewable Energy Policy (the “Policy”) was originally approved by Resolution No. 1372, dated July 26, 2017; and

WHEREAS, the Policy was last amended by by Resolution No. 1421, dated July 25, 2018; and

WHEREAS, the Board has conducted an annual review of the Policy and affirms that the Policy has been complied with and the changes to the Policy recommended herein are due and proper.

NOW, THEREFORE, BE IT RESOLVED, that consistent with the accompanying memorandum, the Board hereby finds that the Authority has complied with the Resource Planning, Energy Efficiency and Renewable Energy Policy for the period since the last annual review and approves the annual report to the Board; and

BE IT FURTHER RESOLVED, that consistent with the accompanying memorandum, the changes to the Policy that are reflected in attachment **Exhibit “B”** are hereby approved

Dated: July 24, 2019



Board Policy:	Resource Planning, Energy Efficiency and Renewable Energy
Policy Type:	Operating Policies
Monitored by:	Oversight <u>and REV</u> Committee
Board Resolution:	#1372, approved July 26, 2017 #1421, amended July 25, 2018 <u>[xxxx], amended July 24, 2019</u>

Board Policy on Resource Planning, Energy Efficiency and Renewable Energy

It is the policy of the Long Island Power Authority to supply the energy needs of the Authority's customers in a clean, reliable and affordable manner by:

- **Planning.** Planning for ~~and maintaining~~ a power supply portfolio that meets applicable New York State Independent System Operator and New York State Reliability Council requirements, environmental standards, and the State's ~~Clean clean Energy energy Standard~~ goals; and updating the Integrated Resource Plan to reassess system needs, ~~when such updates areas~~ necessary, but no less ~~often~~ than every five years.
- **Managing the Portfolio.** Managing the power supply portfolio to minimize cost and maximize performance, including the economic scheduling of assets, power plant availability and thermal efficiency, within contractual constraints.
- **Competitive Procurement.** Minimizing cost by competitively procuring generation and distributed energy resources through wholesale market purchases, bilateral contracts, and if appropriate, after balancing cost and risk, ownership or pre-payments for energy¹, utilizing to the extent feasible and cost-effective, Authority-owned land and rights to acquire ~~legacy~~ generating sites.²
- **Clean Energy.** Procuring cost-effective renewable resources, renewable energy certificates ("RECs"), and behind-the-meter resources such as energy efficiency and demand response, including acting in coordination with other State energy authorities, if advantageous to our customers;³ ~~and~~ integrating cost-effective distributed energy production and storage technologies; ~~into the power supply portfolio~~ and enabling the economic and secure dispatch of resources deployed within the distribution system and ~~within on~~ customer premises.
- **Wholesale Market Policy.** Minimizing cost by representing the interests of Long Island electric customers in the New York and regional wholesale markets and their respective stakeholder processes, ~~as well as including~~ direct engagement with ~~appropriate~~ Federal and State regulatory authorities.

The Chief Executive Officer will report annually to the Board on the key provisions of this Policy.

¹ The Authority owns an 18% share of Nine Mile Point Unit 2 and has certain options to buy generation assets, typically at the expiration of a power purchase agreement, or to prepay for energy in exchange for a discount. The Authority will not take construction or development-related risks on new generation projects.

² In selecting among alternatives, the Authority will take into consideration the operational, environmental and economic benefits to the Authority's service territory, including their impact on long-term local employment.

³ In selecting among reasonably comparable alternatives, the Authority will opt for lower carbon-emitting resources.

~~The Chief Executive Officer will report annually to the Board on the key provisions of this Policy.~~
~~The Chief Executive Officer will report at least annually to the Board of Trustees on:~~

~~Compliance with applicable regulatory and environmental standards;~~

~~Resource adequacy of the power supply portfolio relative to the expectations of the most recent Integrated Resource Plan.~~

~~Performance of individual generation resources against industry benchmarks and contractual standards;~~

~~Activities to procure generation, renewable and distributed energy resources in a cost-effective manner, including compliance with the State's Clean Energy Standard for the prior calendar year, disposition of surplus RECs, and reductions in consumption arising from behind-the-meter resources; and~~

~~Activities to represent the interests of Long Island electric customers at the State, regional and Federal levels.~~



Board Policy:	Resource Planning, Energy Efficiency and Renewable Energy
Policy Type:	Operating Policies
Monitored by:	Oversight and REV Committee
Board Resolution:	#1372, approved July 26, 2017 #1421, amended July 25, 2018 [xxxx], amended July 24, 2019

Board Policy on Resource Planning, Energy Efficiency and Renewable Energy

It is the policy of the Long Island Power Authority to supply the energy needs of the Authority's customers in a clean, reliable and affordable manner by:

- **Planning.** Planning for a power supply portfolio that meets applicable New York State Independent System Operator and New York State Reliability Council requirements, environmental standards, and the State's clean energy goals; and updating the Integrated Resource Plan to reassess system needs, as necessary, but no less than every five years.
- **Managing the Portfolio.** Managing the power supply portfolio to minimize cost and maximize performance, including the economic scheduling of assets, power plant availability and thermal efficiency, within contractual constraints.
- **Competitive Procurement.** Minimizing cost by competitively procuring generation and distributed energy resources through wholesale market purchases, bilateral contracts, and if appropriate, after balancing cost and risk, ownership or pre-payments for energy¹, utilizing to the extent feasible and cost-effective, Authority-owned land and rights to acquire generating sites.²
- **Clean Energy.** Procuring cost-effective renewable resources, renewable energy certificates ("RECs"), and behind-the-meter resources such as energy efficiency and demand response, including acting in coordination with other State energy authorities, if advantageous to our customers;³ integrating cost-effective distributed energy production and storage technologies; and enabling the economic and secure dispatch of resources deployed within the distribution system and on customer premises.
- **Wholesale Market Policy.** Minimizing cost by representing the interests of Long Island electric customers in the New York and regional wholesale markets and their respective stakeholder processes, including direct engagement with Federal and State regulatory authorities.

The Chief Executive Officer will report annually to the Board on the key provisions of this Policy.

¹ The Authority owns an 18% share of Nine Mile Point Unit 2 and has certain options to buy generation assets, typically at the expiration of a power purchase agreement, or to prepay for energy in exchange for a discount. The Authority will not take construction or development-related risks on new generation projects.

² In selecting among alternatives, the Authority will take into consideration the operational, environmental and economic benefits to the Authority's service territory, including their impact on long-term local employment.

³ In selecting among reasonably comparable alternatives, the Authority will opt for lower carbon-emitting resources.

PSEG LONG ISLAND

**Annual Report to LIPA Board of Trustees
on Resource Planning, Energy Efficiency
and Renewable Energy**

JULY 24, 2019

Background

The LIPA Board of Trustees Resource Planning, Energy Efficiency and Renewable Energy policy requires annual reporting on:

- Compliance with applicable regulatory and environmental standards and the State's Clean Energy Standard
- Performance of generating units
- Procurement activities of generation, renewable and distributed energy resources
- Activities representing interests of Long Island electric customers at State, regional and Federal levels
- Resource adequacy of the power supply portfolio

Governor Cuomo's Green New Deal and Climate Leadership and Community Protection Act (CLCPA)

GREEN NEW DEAL

- Announced during January 2019 State of the State Address
- Changed 2030 electric energy target from 50% renewable to 70% renewable
- Added 2040 electric energy target for 100% renewable
 - Increased solar target from 3,000 to 6,000 MW by 2025
 - Increase storage target from 1,500 to 3,000 MW by 2030
 - Increased offshore wind target from 2,400 to 9,000 MW by 2035

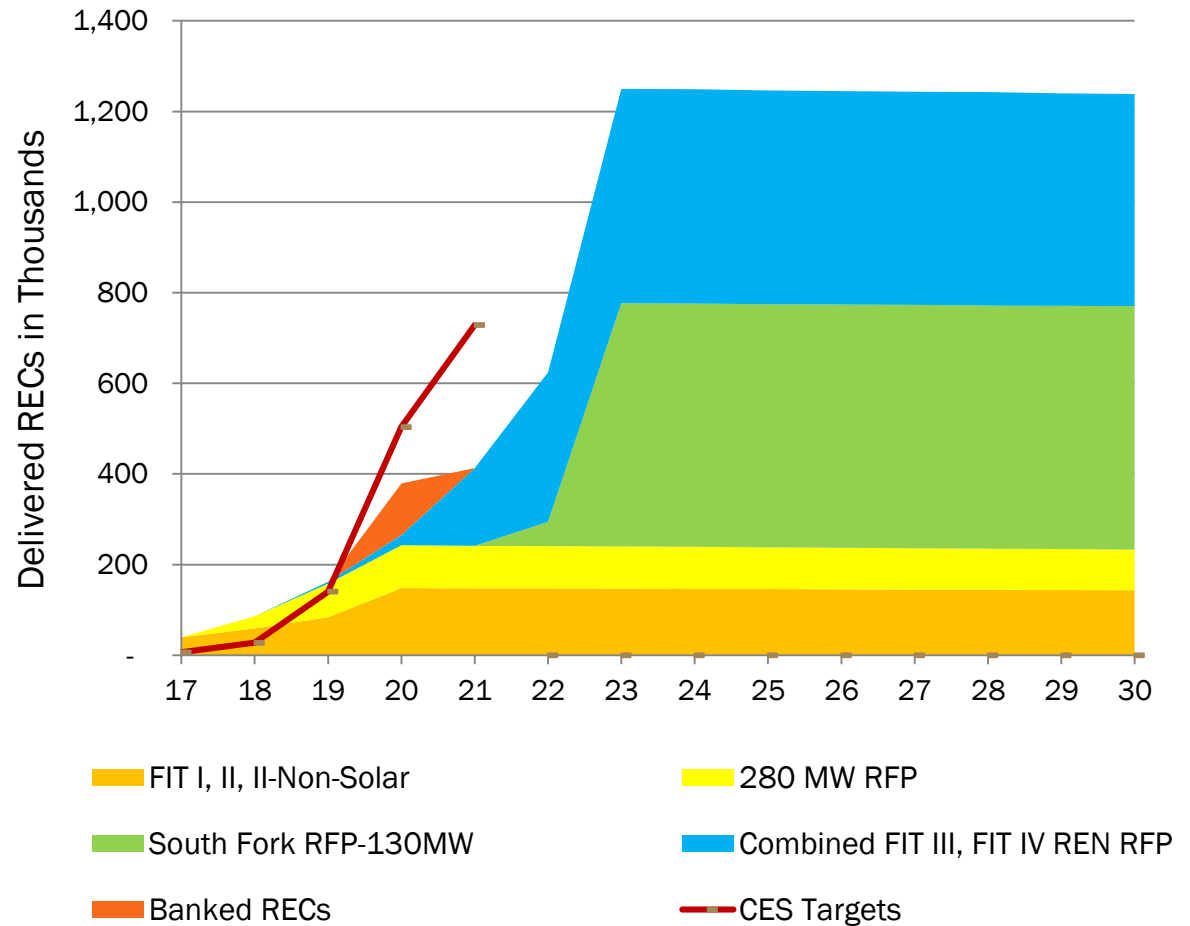
CLIMATE LEADERSHIP AND COMMUNITY PROTECTION ACT

- Passed by Legislature in late June
- Adopts the Governor's Green New Deal targets
- Establishes statewide goal for “zero-carbon” by 2050 – will require electrification of transportation and home heating
- Public Service Commission and Department of Environmental Conservation to establish regulations affecting utilities, power generators and buildings
- Excludes natural gas fuel cells from renewable energy sources*

*Status of fuel cells already under contract under prior CES rules to be determined

Projected CES Targets and Planned Supply

- Current procurements are expected to provide sufficient REC credits for 2019
- LIPA's estimated 2030 REC requirement increases from 3.6 million under the old CES program to 7.0 million under CLCPA
- Future needs to be met through REC purchases or additional procurements
- CLCPA rules may change eligibility of gas-fired fuel cells



Renewable Procurement Activities

Procurement	Date of Issuance	Operational As Of June 1, 2019 (MW)	June 1, 2019 Projected (MW)
FIT I	July 2012	38.8	38.8
FIT II	October 2013	19.1	32.0
280 MW RFP	October 2013	28.9	48.9
FIT II (Non-Solar) ¹	May 2014	0	6.0
South Fork ²	June 2015	0	130.0
2015 Renewable RFP	December 2015	0	59
FIT III	July 2016	0.9	19.6 ³
FIT IV ¹	July 2016	0	39.8
Total		87.7	374.1

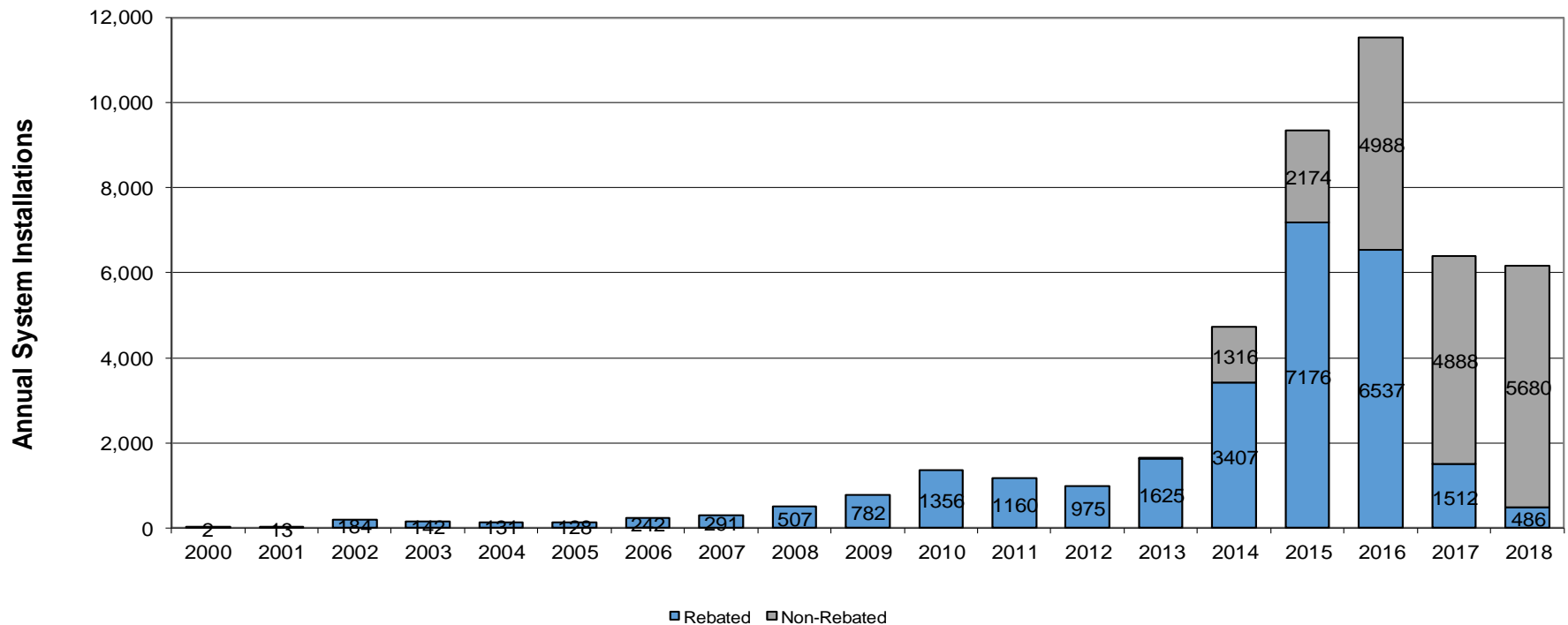
¹ CLCPA may change CES eligibility of gas-fired fuel cells

² Wind only

³ An additional 3.2 MW were on the wait list of the fully subscribed program

Rooftop Solar Program

- As of 12/31/2018, rooftop solar installations total 45,087 systems and 408 MWs (DC), providing an estimated 490 MWhs per year of energy (as an offset to demand)
- 2018 additions were 6,166 systems and 56 MWs (DC) providing an estimated 67 MWhs of energy



2018 Energy Efficiency Program

- **2018 Performance**

- Energy savings were 113% of goal
- Peak demand reductions were 97% of projection
- Expenses were 8% below budget

Program	Energy Savings (MWh)		Coincident Demand Savings (MW)	
	Goal	Verified Ex Ante	Projection	Verified Ex Ante
Commercial Efficiency Program	97,802	99,108	24.9	20.9
Residential Programs				
EEP	112,363	136,036	24.68	27.94
Cool Homes	3,234	3,528	2.42	2.39
Residential Energy Affordability Partnership (REAP)	1,920	1,907	0.49	0.48
Home Performance Programs	3,682	3,458	2.72	2.17
Home Energy Management	40,000	47,845	N/A	N/A
Subtotal Residential Programs	161,198	192,774	30.3	33.0
Total Energy Efficiency Portfolio	259,000	291,882	55.3	53.8

Generating Unit Environmental Compliance

- Compliance with applicable regulatory and environmental standards
 - Air permits and continuous emissions monitoring
 - Water discharge permits – monthly sampling and reporting
 - Petroleum and chemical bulk storage
 - Waste management
- Power Supply Agreement with National Grid
 - Winterized NO_x emission controls systems for Holtsville gas turbines to facilitate compliance during gas interruptions. Installation was completed, tested and in service for Winter 2018 / 2019
 - 316b of Federal Clean Water Act requires best technology available to reduce fish entrainment and impingement at circulating water intake systems.
 - Port Jefferson – Installation of fish friendly traveling screens and circulating water pumps to meet updated DEC permit requirements is completed
 - Northport – Installation of fish friendly traveling screens and circulating water pumps is underway. Northport 4 unit is complete, Units 1 to 3 on schedule for completion between 2019 and 2021
 - E.F. Barrett – In process with NYSDEC to determine required technology. Likely outcome to be similar to Port Jefferson and Northport. No changes since last year

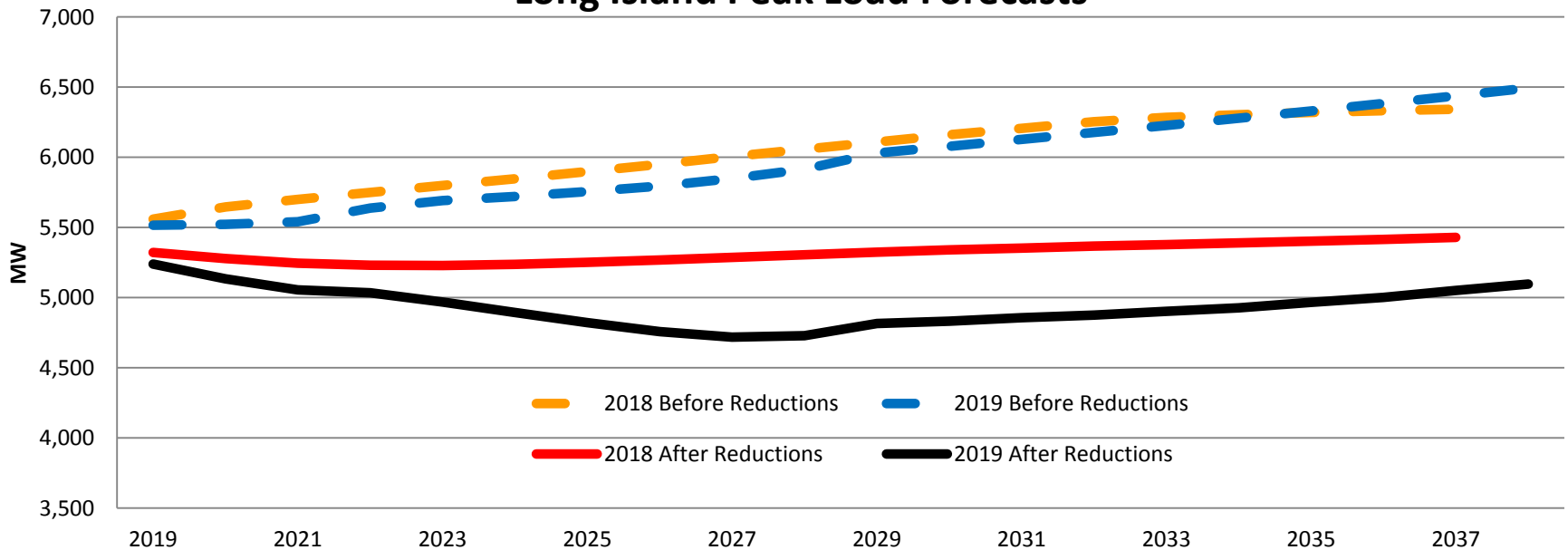
Generating Unit Performance 2018 vs. 2017

- All units met or exceeded contract targets
- Nine Mile Point 2 two year capacity factor (typical fueling cycle) was 93.9%, better than national average of 92.5%
- Availability of fleet is better than 2017 and New York average
- Heat rate (efficiency) performance of fleet is similar to last year
Peaking units are performing better than National Average

Load Forecast Change From Last Year

- Trend change is small before reductions for energy efficiency and renewables
- Impacts from greater energy efficiency and renewables result in lower load forecast

Long Island Peak Load Forecasts

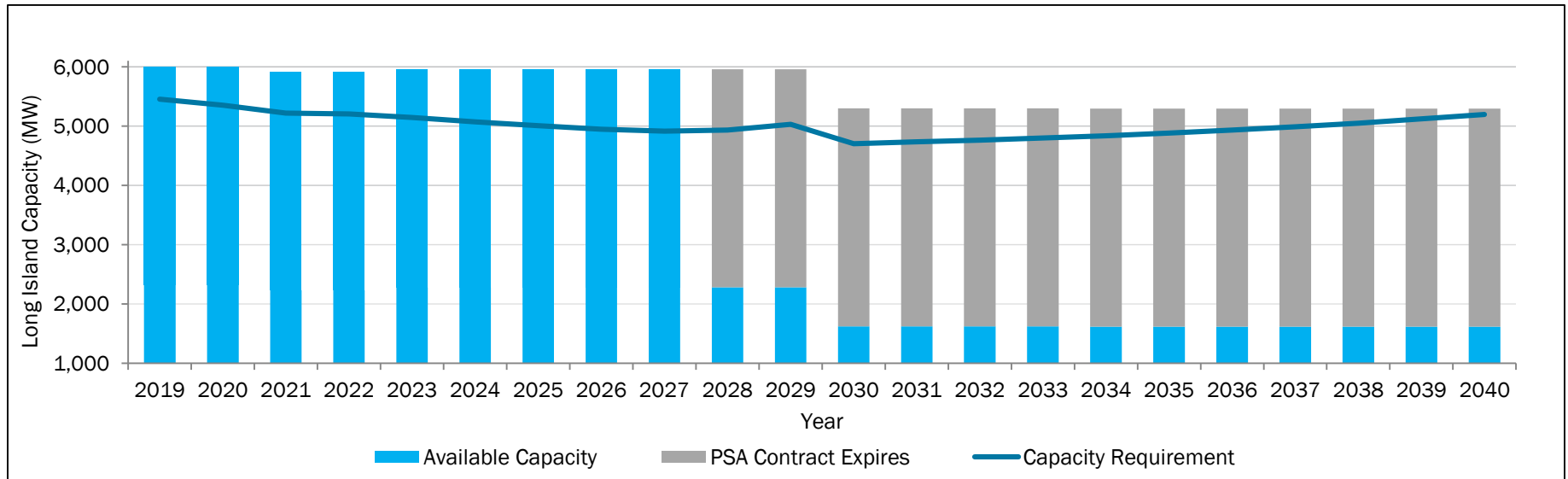


Representation of Long Island interests

- **New York State and Independent System Operator Rulemaking**
 - Opposed proposed rule that would increase Long Island's capacity requirements, while reducing all other regions in New York State
 - Evaluating alternative means to integrate the Social Cost of Carbon into NYISO markets
 - NY State DEC proposal to reduce NOx Emissions from combustion turbines
 - Studied impact on Long Island peaking units and participated in DEC stakeholder comment process to maximize cost-effective implementation
- **Studying Long Island's peaking generation fleet & integration of batteries and demand response to support intermittent renewable generation**
 - Partnering with NYSERDA to reduce the cost of offshore wind development
 - Collaborating with NYSERDA and others to develop procurement and market mechanisms for OSW
 - Studying Off Shore Wind development and integration into the Long Island T&D System

Resource Adequacy

- Current resources meet projected LI Locational Capacity Requirement through 2040
- PSA contract expires May 2028. Most other contracts expire before 2040
- Implementation of CLCPA will require replacement of existing fossil units with renewable and storage options by 2040



Note: Capacity requirement decreases in year 2030 due to expiration of Marcus Hook contract