# EVALUATION OF PSEG LONG ISLAND ENERGY EFFICIENCY & RENEWABLE ENERGY PROGRAMS

Presentation to LIPA Trustees Oversight & REV Committee







# **Opinion Dynamics**

- Opinion Dynamics Evaluation Team has been providing annual independent evaluation of programs for 11 years (2009-2019)
- Primary aim is to design and administer an evaluation that:
  - Is transparent
  - Is well documented
  - Relies on best-in-class methodologies
  - Complies with all regulatory requirements



# **Evaluation Overview**

- Evaluation found that energy efficiency and renewable energy programs continue to be delivered cost effectively overall
- \$81.0M investment in energy efficiency and renewable energy programs in 2019
  - \$90.4M in total first year economic benefits to the region
  - 607 FTEs on Long Island (first year impact)
- \$855M investment in energy efficiency and renewables from 2009-2019
- Benefit/Cost ratio (Societal Cost Test) for energy efficiency and renewables in 2019 = 1.9



# **Evaluation Overview**

- Energy efficiency and renewable energy programs combined
  - 2019 Evaluated Savings
    - 66.69 MW and 318,336 MWh
    - 110% of demand goal and 113% of energy goal
  - 2019 Greenhouse gas reductions
    - 188,493 tons of CO<sub>2</sub> equivalent
    - Equivalent to removing about 37,000 cars from the road
  - Cumulative Evaluated Savings 2009 through 2019
    - 632 MW and 2,855,000 MWh
    - 2.2 Million tons of CO<sub>2</sub> equivalent
    - Equivalent to removing about 430,000 cars from the road for a year



#### 2019 Program Energy Savings Vs Goals

	Annual Energy Efficiency and	Energy Efficiency and Renewable Energy Actual Cost	Evaluated Gross Savings	
Program	Renewable Energy Budget		MWh	% Goal
Commercial Programs	\$39,863,628	\$35,380,456	94,983	99%
Residential Programs				
Efficient Products (EEP)	\$20,104,610	\$21,695,269	172,583	132%
Cool Homes	\$4,058,314	\$4,271,156	3,578	131%
REAP	\$2,390,859	\$2,414,622	1219.29	83%
Home Performance	\$10,449,216	\$11,585,546	2,743	<b>99</b> %
Home Energy Management	\$3,859,601	\$3,322,058	31,405	<b>76</b> %
Subtotal Residential	\$40,862,599	\$43,288,652	211,528	118%
Total EE Portfolio (Commercial and Residential)	\$80,726,227	\$78,669,108	306,511	111%
Renewable Energy Portfolio	\$637,222	\$2,346,943	11,825	211%
Total Energy Efficiency and Renewable Energy Portfolios	\$81,363,449	\$81,016,051	318,336	113%



# 2019 Programs Cost Effective Overall

- In 2019, the energy efficiency and renewables portfolio was cost effective compared to conventional supply alternatives from a societal perspective
  - Using standard methodology with PSEG Long Island's avoided costs resulted in benefits > costs

Energy Efficiency Portfolio	Societal Cost Test (B/C)*	Levelized Cost (\$/kW-yr) Capacity*	Levelized Cost (\$/kWh) energy*
Commercial	1.91	\$288.62	\$0.05
Efficient Products (EEP)	3.73	\$112.16	\$0.03
Cool Homes	1.09	\$320.81	\$0.10
REAP	0.66	\$702.03	\$0.17
Home Performance	0.54	\$855.73	\$0.31
Home Energy Management	0.69	N/A	\$0.10
Total EE Portfolio (Commercial and Residential)	2.3	\$203.11	\$0.04
Renewable Energy Portfolio	0.68	\$470.76	\$0.18
Total Energy Efficiency and Renewable Energy Portfolios	1.9	\$234.37	\$0.05

\*Evaluated Results - Using 6.11% Nominal Discount Rate



# **Solar PV Installations Continue Despite Reduced Rebates**

- A total of 51,350 PV systems have been interconnected on Long Island through 2019
- Approximately 53% of these systems received up-front rebates from LIPA, PSEG Long Island, or NY Sun Initiative
  - All systems receive benefits of net metering or VDER



Cumulative Systems (2000-2019)

Source: PSEG Long Island Interconnection Data and Program Tracking Data



# Conclusions

- Programs are well managed and cost effective overall
- Program estimated savings compare well to evaluated savings
- PSEG Long Island continues to leverage evaluation results to improve program design, operations, and planning
- PSEG Long Island is proactively addressing changing markets and regulatory circumstances and identifying new savings opportunities
  - Residential lighting
  - Beneficial electrification
- Programs continue to yield positive impacts on Long Island electric system, economy, and environment





# Questions and Discussion

