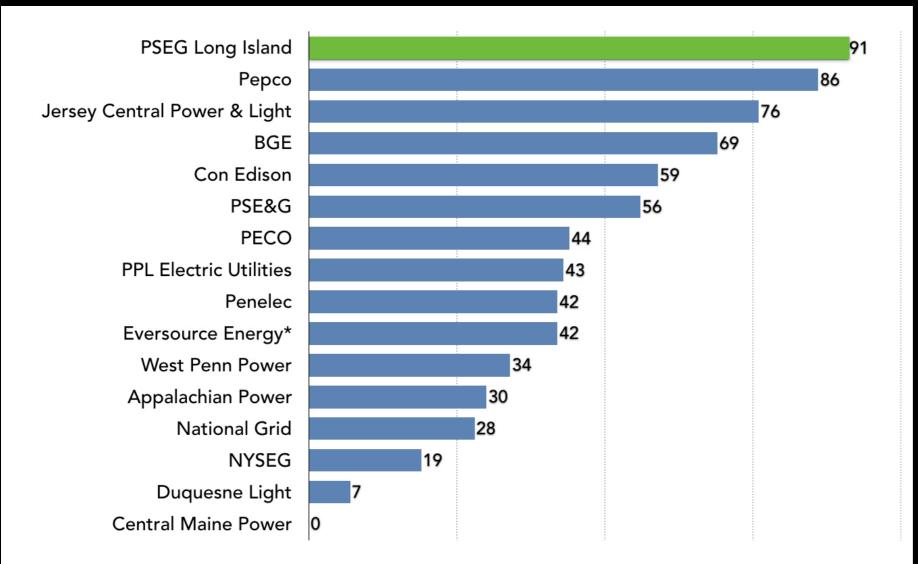


DPS PUBLIC STATEMENT HEARINGS INFORMATION SESSION AGENDA

- LIPA REFORM ACT UPDATE
- ELECTRIC UTILITY INDUSTRY TRENDS
- INTEGRATED RESOURCE PLAN & REPOWERING STUDIES
- LIPA STAFF RECOMMENDATIONS

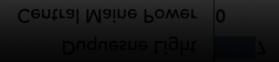
MOST IMPROVED UTILITY IN THE NATION

Change in JD Power & Associates Residential Customer Satisfaction Scores (2013 vs 2016)





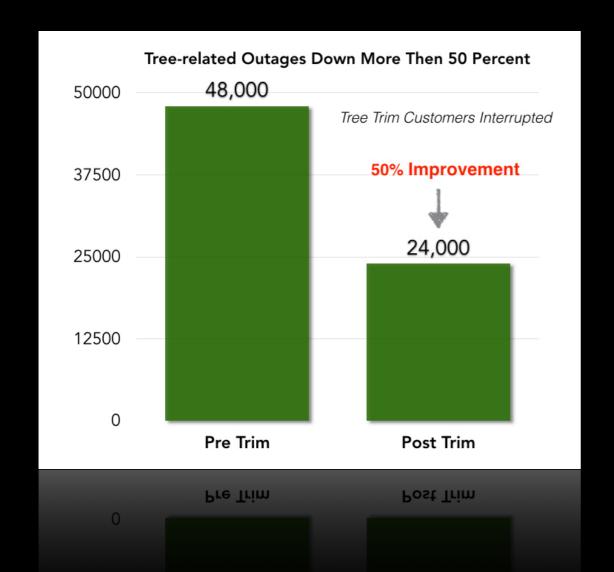
*2013 Eversource Energy is the average of NSTAR (611) and Connecticut Light & Power (580)

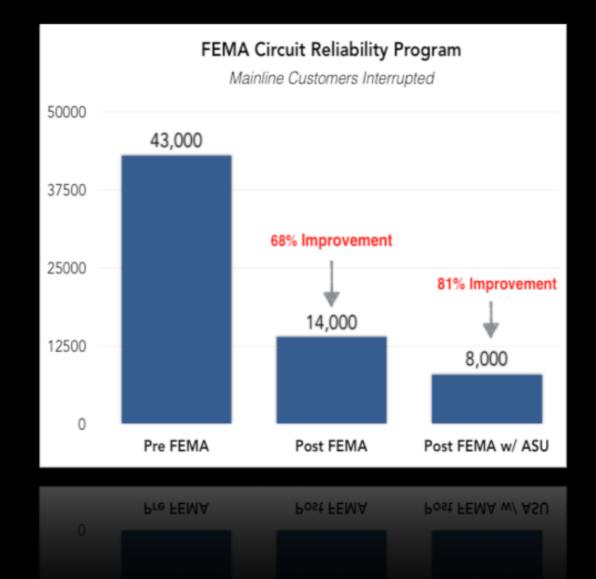




\$2.8 BILLION INVESTMENT IN RELIABILITY & RESILIENCY

- ▶ RECORD \$2.8 BILLION 5-YEAR INVESTMENT PLAN IN LONG ISLAND'S TRANSMISSION & DISTRIBUTION INFRASTRUCTURE SINCE 2014
- ▶ \$730 MILLION FEMA STORM HARDENING GRANT TO REBUILD AND HARDEN MAINLINE CIRCUITS & RAISE SUBSTATIONS PROVIDES 80% IMPROVEMENT IN RELIABILITY ON HARDENED CIRCUITS TO DATE
- ► NEW TREE TRIMMING AND MAINTENANCE PROGRAMS REDUCE TREE-RELATED OUTAGES 50%





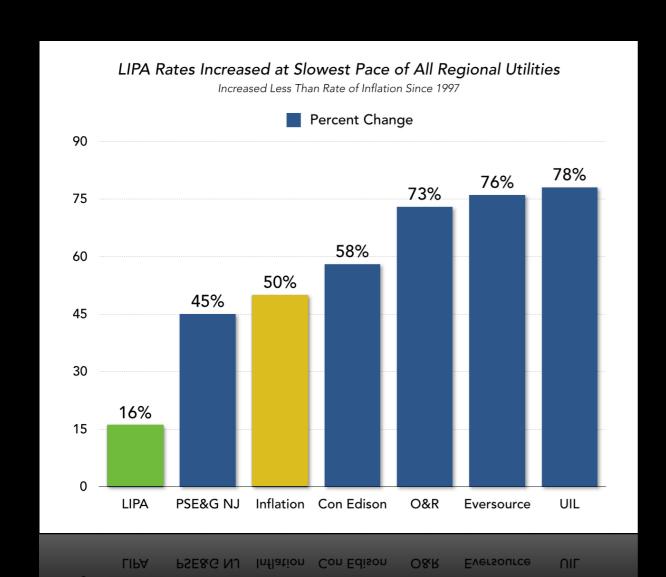
LIPA'S NEW FINANCIAL MODEL

"THEY HAVE POSITIVE MOMENTUM AND HAVE THE POSSIBILITY OF ADDITIONAL CREDIT RATING UPGRADES IN TWO TO THREE YEARS.

LIPA MANAGEMENT HAS DONE A GREAT JOB DISPLAYING VISION FOR THE COMPANY AND KEEPING RATES LOW FOR RATEPAYERS.

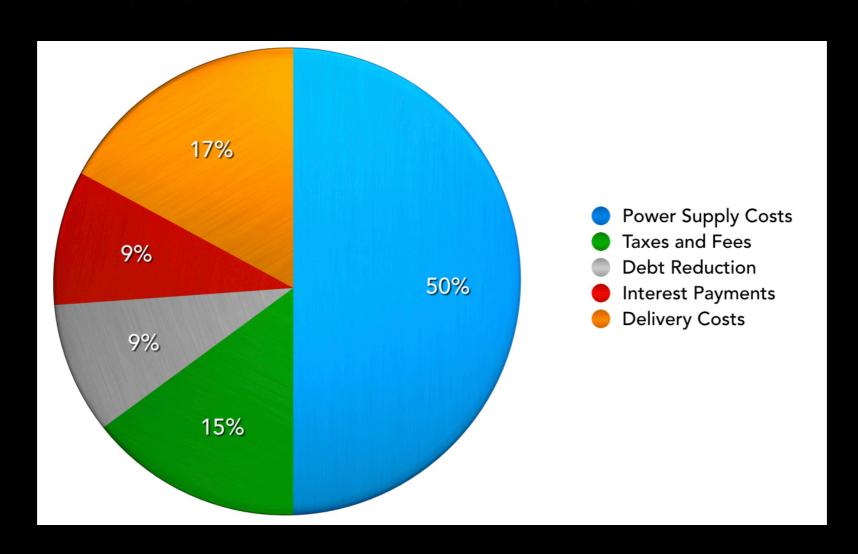
THE MANAGEMENT TEAM IS LASER FOCUSED." - MOODY'S

MAY 5 2017



- ► FIRST CREDIT UPGRADE BY MOODY'S FOR LIPA IN 11 YEARS DEMONSTRATES FISCAL RESPONSIBILITY
- ► ELECTRIC RATE INCREASES LOWEST IN REGION
- ELECTRIC RATES LOWEST IN 10 YEARS

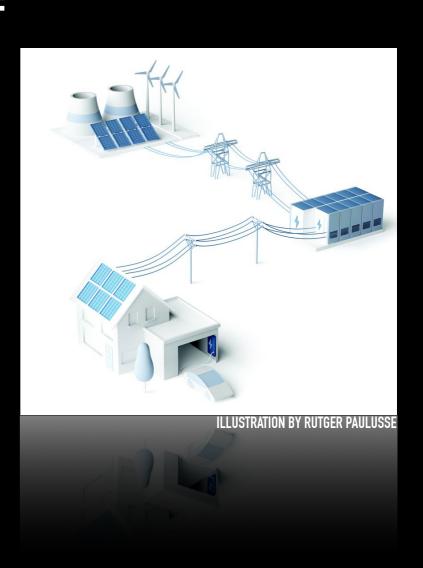
NEW 20-YEAR ENERGY PLANNING STUDY FOCUSES ON LARGEST DRIVERS OF CUSTOMER BILLS



▶ 65% OF CUSTOMER BILLS ARE POWER SUPPLY & TAXES

A CHANGING ELECTRIC GRID

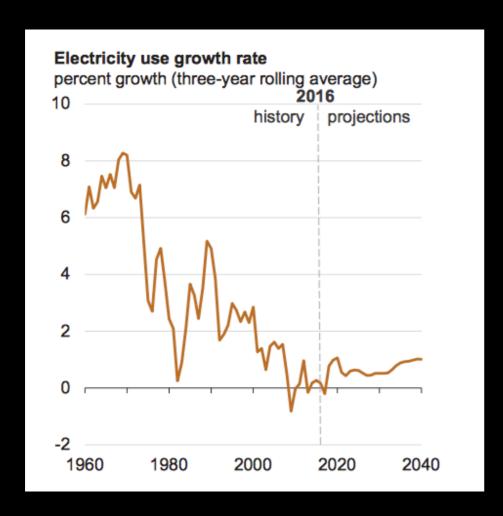
- ▶ NEW YORK'S REFORMING THE ENERGY VISION 2030 GOALS:
 - ▶ 40% GREENHOUSE GAS REDUCTION
 - ► 50% RENEWABLES
 - ▶ 2,400MW OFFSHORE WIND
- ► FLAT OR DECLINING ELECTRIC SALES DUE TO GREATER ENERGY EFFICIENCY AND PV SOLAR
- ► RAPIDLY DECLINING COST OF CLEAN ENERGY & BATTERY STORAGE WITH INNOVATION & ECONOMIES OF SCALE



CONSUMERS USING LESS ELECTRICITY NATIONWIDE

"ELECTRICITY CONSUMPTION REMAINS FLAT EVEN AS AMERICANS BUILT LARGER HOMES, CONSTRUCTED NEW COMMERCIAL BUILDING SPACE, BUILT NEW INFORMATION TECHNOLOGY INFRASTRUCTURE, [RAN] MORE HEAT AND AIR CONDITIONING, AND SPENT MORE TIME IN FRONT OF LARGE, BRIGHT SCREENS."

DR. COREY TYREE, PH.D - DIRECTOR OF ENERGY & ENVIRONMENT - ENERGY INSTITUTE OF ALABAMA



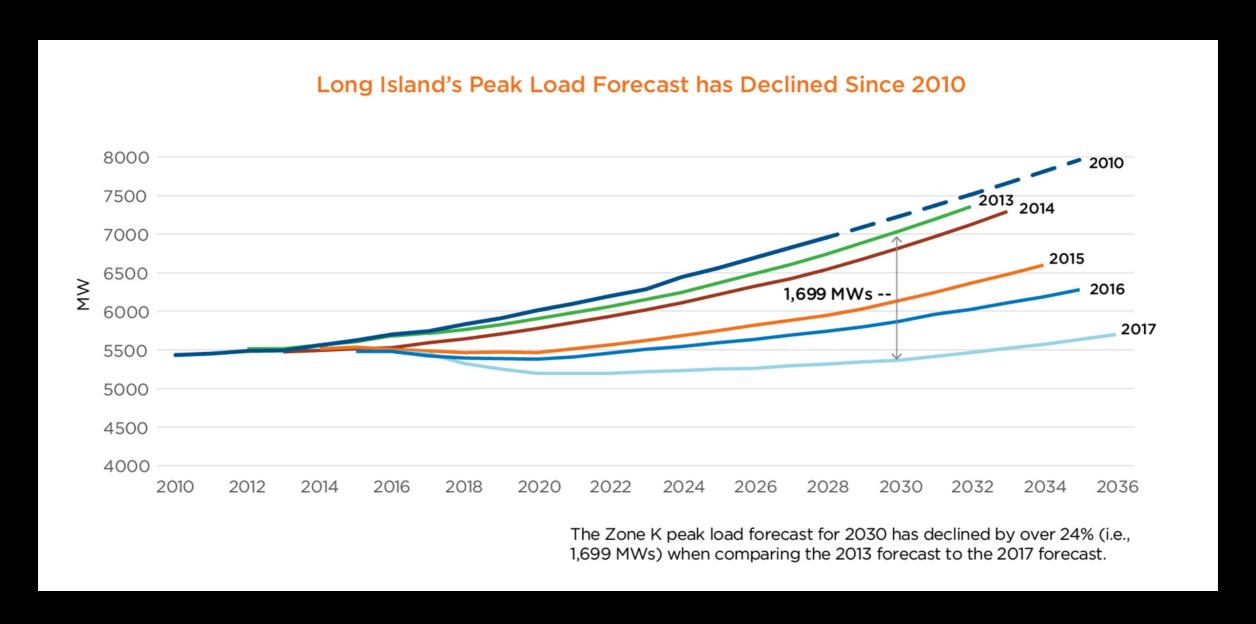
ENERGY EFFICIENT APPLIANCES



ROOFTOP SOLAR



LONG ISLAND'S PEAK LOAD FORECAST SHOWS DRAMATIC REDUCTIONS



- ► FORECAST NEED FOR POWER PLANTS IN 2030 HAS DECLINED BY 1,700MW OR (24%)
- ► ENERGY EFFICIENCY & ROOFTOP SOLAR WILL REDUCE LOAD BY 950MW THROUGH 2030

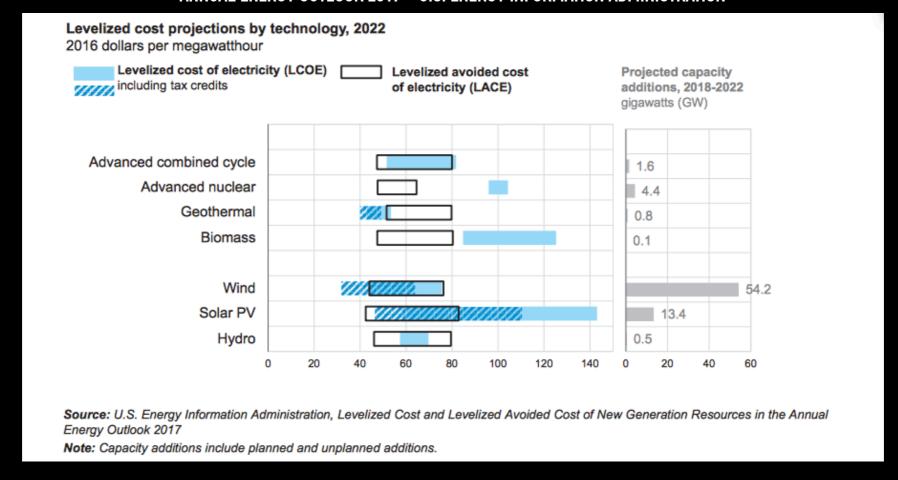
COST OF CLEAN ENERGY RAPIDLY DECLINING

BLOOMBERG'S NEW ENERGY OUTLOOK – JUNE 2017

"BY 2023 ONSHORE WIND & SOLAR ARE COMPETITIVE WITH NEW-BUILD GAS PLANTS"

- ▶ OFF-SHORE WIND: PROJECTED COST DECLINE 71% BY 2040
- **▶ SOLAR: PROJECTED COST DECLINE OF 66% BY 2040**
- **▶ BATTERY STORAGE:** PROJECTED COST DECLINE OF 70% BY 2030

ANNUAL ENERGY OUTLOOK 2017 - U.S. ENERGY INFORMATION ADMINISTRATION

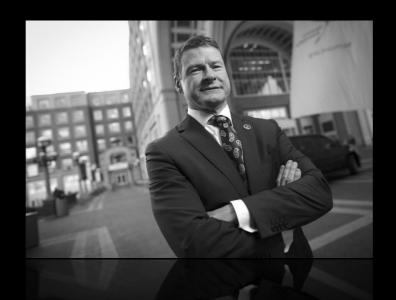


INDUSTRY LEADERS COMMENT ON NEW UTILITY ERA



STEVE MALNIGHT
PG&E SENIOR VICE PRESIDENT

"WITH 50 PERCENT RENEWABLES ON THE SYSTEM, THE IDEA OF A LARGE BASELOAD GENERATOR THAT RUNS PRETTY MUCH ALL THE TIME, 24 HOURS A DAY, JUST DOESN'T HAVE AS GOOD A FIT TO THE MARKET CONDITIONS WE EXPECT TO SEE."



STEVE HOLLIDAY NATIONAL GRID CEO (2007 – 2016)

"THE IDEA OF BASELOAD POWER IS ALREADY OUTDATED.
I THINK YOU SHOULD LOOK AT THIS THE OTHER WAY AROUND. FROM A CONSUMER'S POINT OF VIEW,
BASELOAD IS WHAT I AM PRODUCING MYSELF."

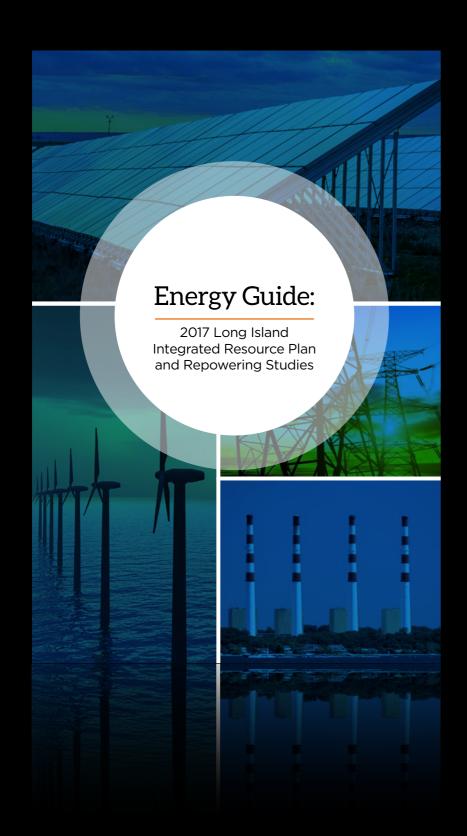


ARLEN ORCHARD
SACRAMENTO MUNICIPAL ELECTRIC UTILITY CEO

"NEVER BET AGAINST TECHNOLOGY.

THERE IS A LOT OF MARKET
UNCERTAINTY WITH LONG TERM
INVESTMENTS & YOU MUST MANAGE
FINANCES CAREFULLY TO AVOID
LONG TERM STRANDED ASSETS."

GUIDES TO THE 2017 INTEGRATED RESOURCE PLAN





METHODOLOGY

WHAT IS AN INTEGRATED RESOURCE PLAN?

An Integrated Resource Plan, or IRP, studies the generation and transmission investments that a utility may need to make over the next twenty years to provide reliable electric service to customers under a range of scenarios. The IRP analyzes customer usage trends, existing resources, changing technology, risks and opportunities. The study is used to identify the types of generation and transmission investments a utility may make under various conditions. If a transmission or generation need is identified by the study, the utility then runs a competitive procurement among various technologies, sites and developers to identify alternatives that best meet that need. This process, conducted every 3-5 years, provides the highest electric reliability at the lowest possible cost to customers.

WHY IS AN IRP IMPORTANT?

The costs to buy or manufacture electricity represent approximately half of customer bills. Decisions on power plants and transmission are long term commitments and potentially billions of dollars. A robust planning framework identifies the important trends that could alter the need for future investment.

HOW WAS THE IRP CONDUCTED?

PSEG Long Island's engineers, energy specialists, planners and consultants developed a 20-year study (2016-2035) with a 10-year action period (2016-2025). Decisions on needs identified beyond the next several years will be deferred until after a future IRP study, as changing electric grid conditions could alter future investment.

DID AN OUTSIDE ORGANIZATION VALIDATE PSEG LONG ISLAND'S ANALYSIS?

Yes, LIPA retained the Brattle Group to provide an independent second opinion on PSEG Long Island's reliability planning criteria and analyses of proposals for certain combined cycle plants (Caithness II and the repowerings of the Barrett and Port Jefferson steam plants).

The NYS Department of Public Service also participated in the Brattle Group review and provided a supportive recommendation to LIPA.

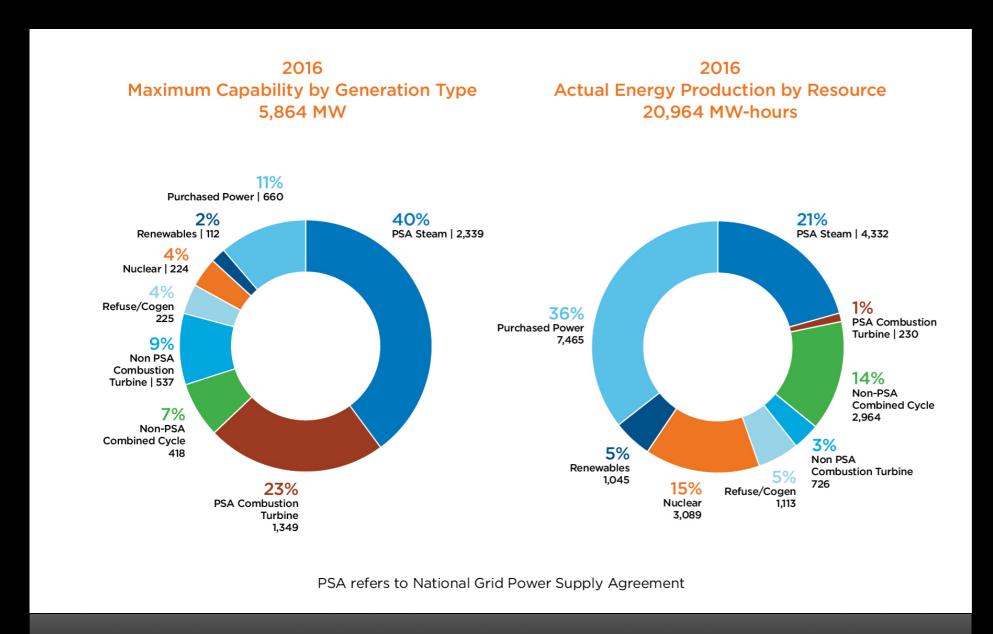
Valuable contributions to the IRP and Repowering Studies were provided by: PSEG LONG ISLAND • LONG ISLAND POWER AUTHORITY • THE BRATTLE GROUP M TECHNOLOGIES • NATIONAL GRID • NYS DEPARTMENT OF PUBLIC SERVICE • NYSERDA

PSEG LONG ISLAND » LONG ISLAND POWER AUTHORISTY » THE BRATILE GROUP RCM TECHNOLOGIES » NATIONAL GRID » NYS DEPARTMENT OF PUBLIC SERVICE » NYSERDA

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SOURCES OF ELECTRICITY TO POWER LONG ISLAND

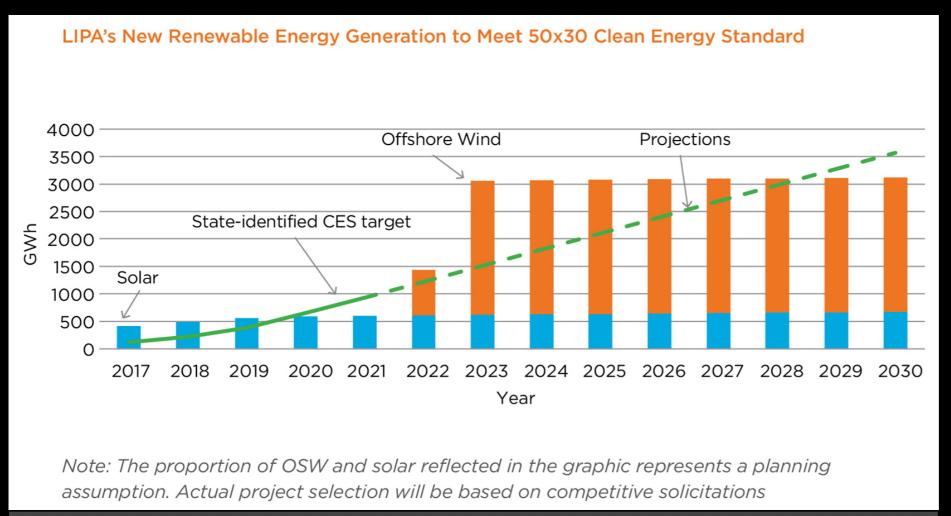




PSA refers to National Grid Power Supply Agreement

THREE LARGE LEGACY GENERATION PLANTS (PSA STEAM UNITS) REPRESENT 40% OF LIPA'S MAXIMUM ELECTRIC PRODUCTION CAPABILITY WHILE ONLY GENERATING 21% OF ITS ENERGY

EXPANDING CLEAN ENERGY

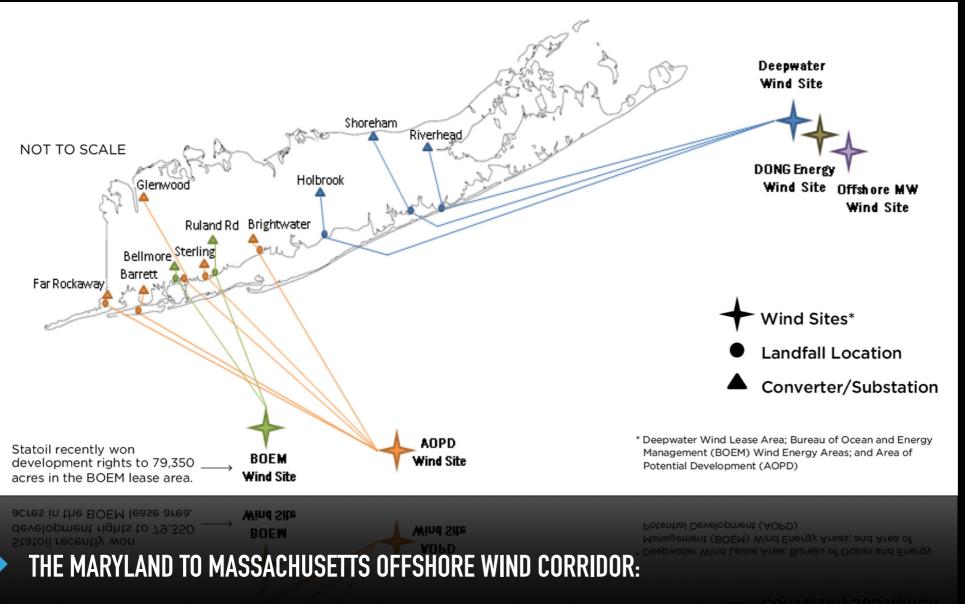




Note: The proportion of OSW and solar reflected in the graphic represents a planning assumption. Actual project selection will be based on competitive solicitations

- NY'S 50 PERCENT RENEWABLE BY 2030 CLEAN ENERGY STANDARD REQUIRES LIPA TO ADD 800MW OF NEW RENEWABLE GENERATION
- ► LOAD IS EXPECTED TO BE REDUCED BY 950MW THROUGH 2030 AS RESULT OF ENERGY EFFICIENCY, ROOFTOP SOLAR, AND OTHER 'BEHIND THE METER' INITIATIVES

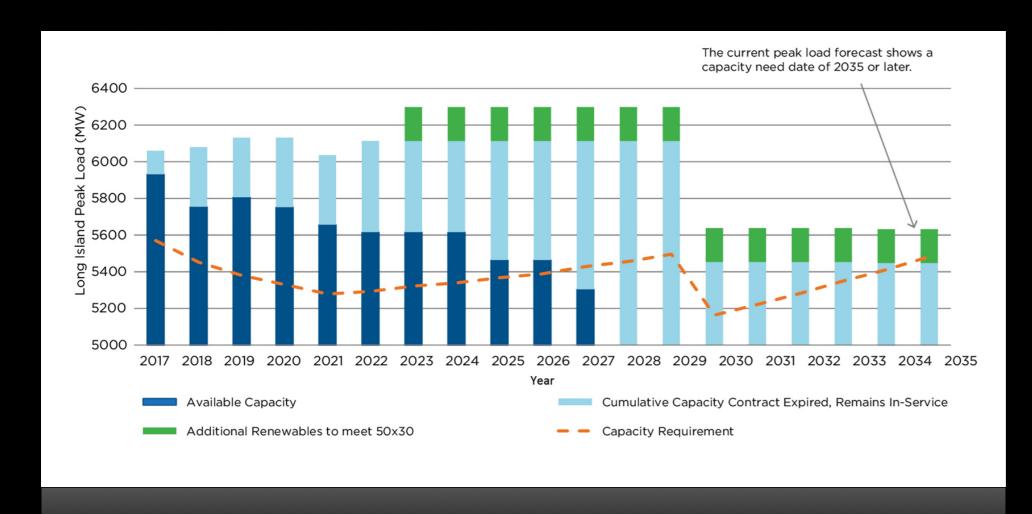
NEW YORK: 2,400MW OF OFF-SHORE WIND BY 2030





- NEW YORK 90MW BY 2022; 2,400MW BY 2030
- MASSACHUSETTS 1,600MW BY 2027
- MARYLAND 368MW BY 2022

LIPA HAS SURPLUS GENERATION THROUGH 2035





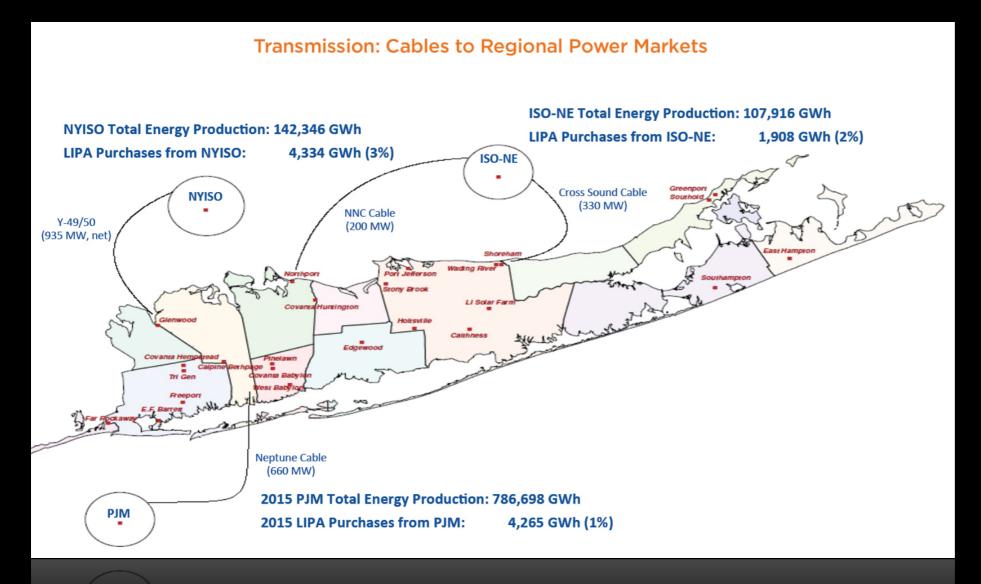
Additional Renewables to meet 50x30

Capacity Requirement

WITH FLAT LOAD GROWTH AND THE ADDITION OF RENEWABLE GENERATION, LIPA HAS EXCESS GENERATION THROUGH 2035

▶ 99% OF LIPA'S GENERATION CONTRACTS ARE UP FOR RENEWAL BY 2030

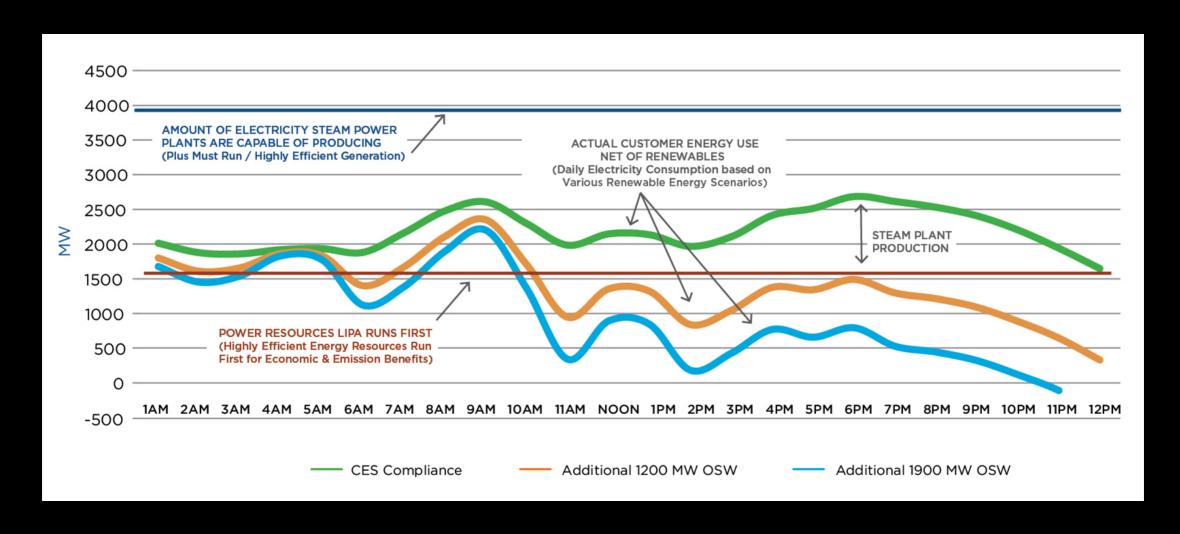
CABLES TO REGIONAL POWER MARKETS





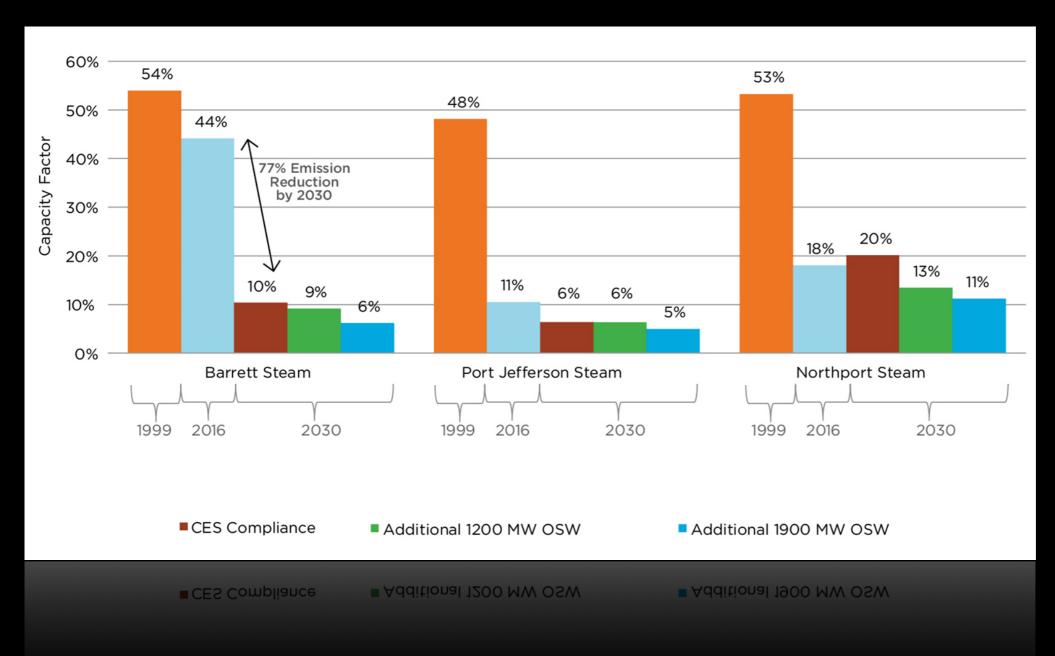
- LIPA'S ANNUAL PURCHASES OF APPROXIMATELY 10,500 GWH OF ENERGY ACROSS FIVE TRANSMISSION CABLES PROVIDES DIVERSE AND ROBUST SUPPLY, REDUNDANCY AND LOWER COST
- ▶ LIPA'S PURCHASES ARE A SMALL FRACTION OF THE ENERGY PRODUCED IN THOSE MARKETS

RENEWABLES DECREASE RUN-TIME OF STEAM PLANTS



THE ADDITION OF OFF-SHORE WIND AND OTHER RENEWABLE RESOURCES SIGNIFICANTLY REDUCE THE RUN TIME OF PSA STEAM PLANTS AND INCREASE THE NEED FOR PEAKING UNITS, BATTERIES, DEMAND RESPONSE AND OTHER MORE FLEXIBLE UNITS

RUN-TIME OF STEAM PLANTS FORECAST TO DECLINE





RENEWABLES REDUCE USAGE & EMISSIONS OF FOSSIL FUEL PLANTS

PSA STEAM UNITS OPERATE RELIABLY

Steam Plants 2016					
Plant	Equivalent Availability: Summer (%)				
Barrett Steam Units	92				
Northport Steam Units	94				
Port Jefferson Steam Units	98				
New Combined Cycle Plant Contractual Guarantee (typical)	95 - 97				



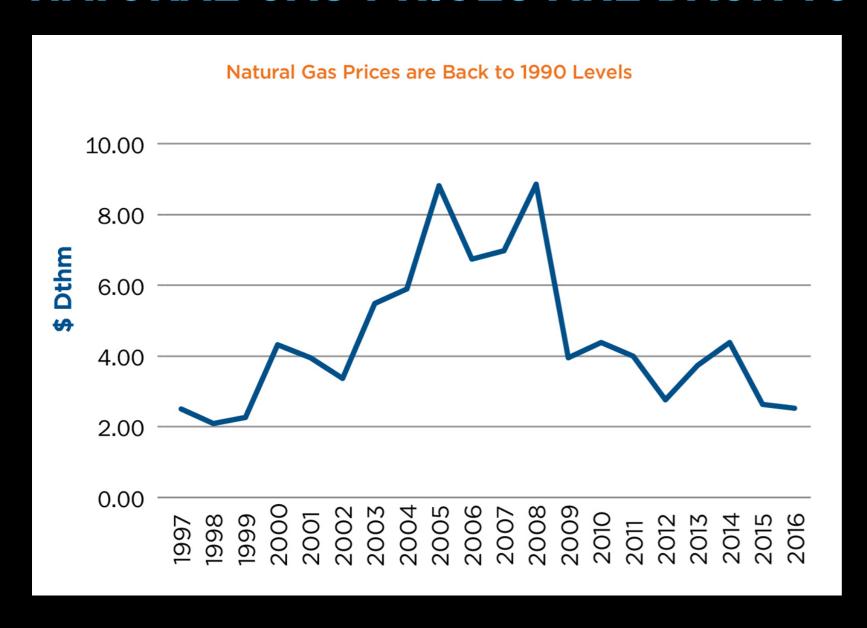
THE PSA STEAM UNITS OPERATE RELIABLY WITH EQUIVALENT AVAILABILITY (SUMMER) AVERAGING WELL ABOVE 90%, IN LINE WITH CONTRACTUAL GUARANTEES FOR NEW COMBINED CYCLE PLANTS

ONGOING INVESTMENTS AT STEAM PLANTS

- AN INDEPENDENT CONDITION ASSESSMENT BY RCM TECHNOLOGIES CONCLUDED THAT THE NATIONAL GRID CAPITAL AND 0&M PLANS ARE SUFFICIENT FOR RELIABLE OPERATION THROUGH THE CONTRACT PERIOD OF 2028
- ► IMPROVING COOLING WATER FACILITIES AT NORTHPORT, PORT JEFFERSON & BARRETT:
 - FISH-FRIENDLY SCREENS
 - VARIABLE SPEED PUMPS
 - PROVIDES SAME FISH PROTECTION AS COOLING TOWERS AT LOWER COST
 - PORT JEFFERSON PLANT RUNS BELOW ITS 15% RUN-TIME LIMIT
- TENS OF MILLIONS TO STORM HARDEN & ELEVATE LIPA SUBSTATION AT BARRETT



NATURAL GAS PRICES ARE BACK TO 1990s LEVELS

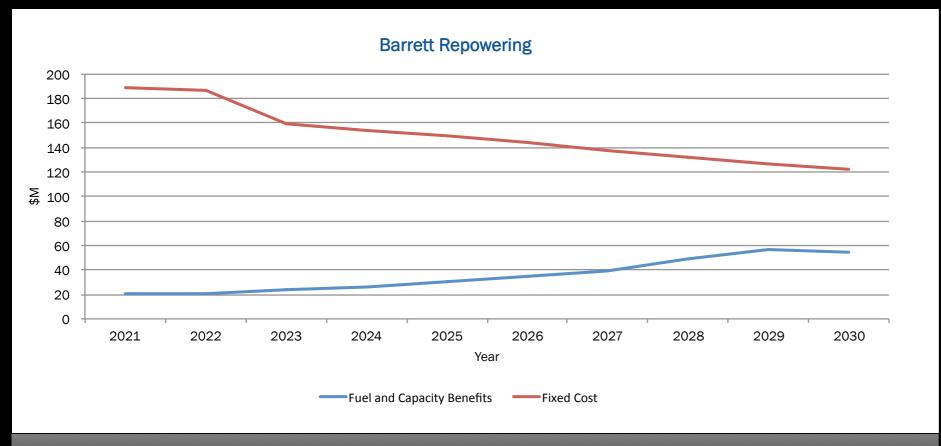




- ► NATURAL GAS PRICES HAVE DECLINED 72% SINCE 2008
- ▶ LOWER NATURAL GAS PRICES REDUCES THE VALUE OF THE FUEL SAVINGS FROM NEWER PLANTS

COSTS TO BUILD NEW GAS PLANTS EXCEED FUEL SAVINGS

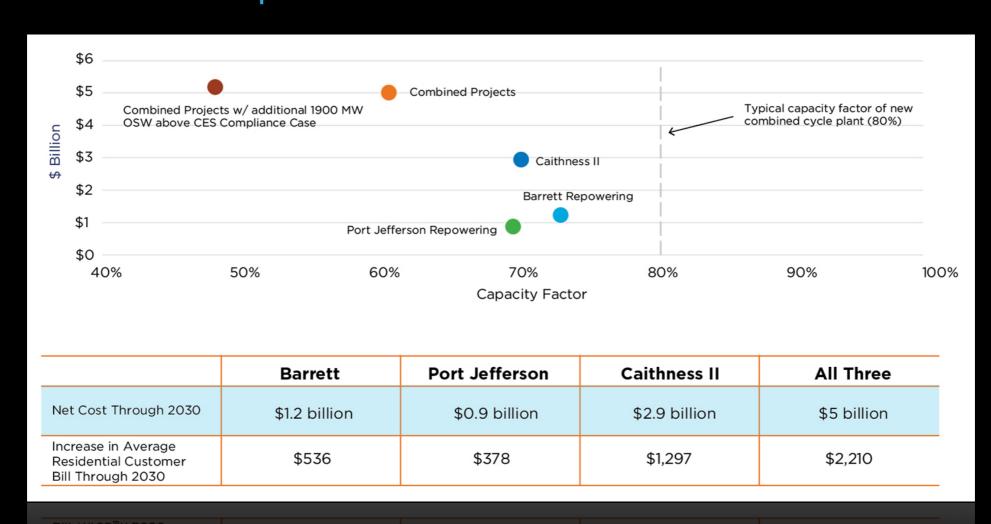






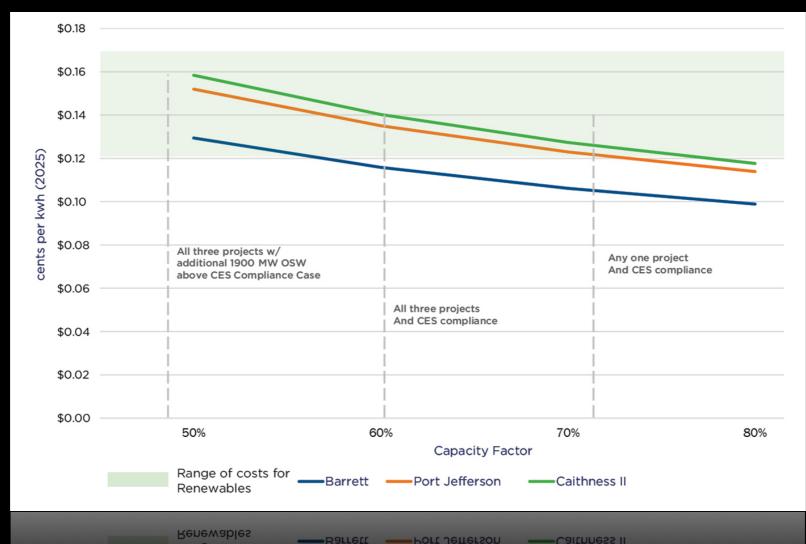
REPOWERING THE PLANTS OR BUILDING NEW COMBINED CYCLE PLANTS IN ANOTHER LOCATION DO NOT PAY FOR THEMSELVES WITH FUEL SAVINGS

PROPOSED COMBINED CYCLE PLANTS HAVE A NET COST UP TO \$5 BILLION THROUGH 2030



- THE CONSTRUCTION OF PROPOSED COMBINED CYCLE PLANTS TO REPLACE EXISTING STEAM PLANTS IS TECHNICALLY FEASIBLE, BUT NOT REQUIRED FOR RELIABILITY
- NET COST TO CUSTOMERS UP TO \$5 BILLION OR \$2,210 FOR THE AVERAGE RESIDENTIAL CUSTOMER THROUGH 2030

COST OF NEW COMBINED CYCLES PLANTS ARE SIMILAR TO TODAY'S RENEWABLE ENERGY PRICES



- DUE TO LOWER THAN TYPICAL RUN TIME (CAPACITY FACTOR), THE COST PER KWH OF THE NEW REPOWERED STEAM PLANTS WOULD BE SIMILAR TO TODAY'S COSTS FOR RENEWABLE ENERGY
- ADVANCING TECHNOLOGY AND ECONOMIES OF SCALE ARE EXPECTED TO RESULT IN A DECLINE IN RENEWABLE ENERGY COSTS

NEW GENERATION FLEET FOR LI'S FUTURE ENERGY GRID

Characteristic	Existing PSA Units		New Units			
	Steam Units	Combustion Turbines	Combined Cycle	Peakin Large Frame	g Units (Simple Small Frame	e Cycle) Areo
Cold Start Time	26 - 30 hours	10-30 minutes	3 - 4 hours	10 min	10 min	≤ 10 min
Time (hours)	16	1	4	No technical minimum limit		
Ramp Rate (MWs/min)	2 - 4	NA	15 - 40	50 - 100+	25	25
Heat rate (Btu/ kWh)	10,000 - 11,300	13,000-16,500	6,600 - 6,800	8,000 - 8,200	9,700	8,900 - 9,500
KAANS						





MODERN PEAKING UNITS, BATTERIES & DEMAND RESPONSE PROVIDE MORE FLEXIBLE RESOURCES AND SUPPORT RENEWABLES

▶ BASELOAD COMBINED-CYCLE PLANT

INDEPENDENT SECOND OPINION

► LIPA RETAINED THE BRATTLE GROUP TO PROVIDE AN INDEPENDENT ASSESSMENT & SECOND OPINION OF PSEG LONG ISLAND'S RELIABILITY PLANNING CRITERIA AND ANALYSES OF PROPOSALS FOR CAITHNESS II AND THE REPOWERED STEAM PLANTS

"WE DO NOT FIND A COMPELLING REASON FOR LIPA TO PROCEED WITH CAITHNESS II OR THE REPOWERING PROJECTS. NONE OF THE PLANTS ARE NEEDED FOR RELIABILITY OR ECONOMIC PURPOSES.

FOR ALL THE OPTIONS THE PLANT COSTS EXCEED THEIR BENEFITS FOR AT LEAST THE NEXT DECADE"

- THE BRATTLE GROUP

▶ THE DEPARTMENT OF PUBLIC SERVICE STAFF ALSO PARTICIPATED IN THE BRATTLE GROUP'S REVIEW

"THE DPS REVIEWED THE BRATTLE REPORT AND CONCLUDES THAT ADOPTION OF THE NYSRC / NYISO PLANNING CRITERIA IN 2014 AND THE ANALYSIS WITH RESPECT TO CAITHNESS II ARE REASONABLE"

- DEPARTMENT OF PUBLIC SERVICE

LIPA STAFF RECOMMENDATIONS

- ▶ MEET NEW YORK'S 50 X 30 GOAL WITH 800MW OF CLEAN ENERGY & 950MW OF ENERGY EFFICIENCY & ROOFTOP SOLAR
- PARTNER WITH NYSERDA TO REDUCE THE COST OF OFFSHORE WIND DEVELOPMENT
- > STUDY LONG ISLAND'S PEAKING GENERATION FLEET & INTEGRATE BATTERIES AND DEMAND RESPONSE TO SUPPORT INTERMITTENT RENEWABLE GENERATION
- RUN COMPETITIVE SOLICITATIONS AMONG MULTIPLE SITES, TECHNOLOGIES AND DEVELOPERS TO OBTAIN THE LOWEST COST AND BEST SOLUTIONS FOR CUSTOMERS TO MEET ANY FUTURE NEEDS
- ▶ **DECLINE** TO MOVE FORWARD WITH REPOWERING STEAM PLANTS OR BUILDING NEW COMBINED CYCLE PLANTS
 - > SPECIFIC PROPOSALS PROVIDE TOO FEW BENEFITS AT TOO MUCH COST TO CUSTOMERS
- ► MONITOR AND UPDATE IRP BASED ON EXPERIENCE AND TRENDS

CUSTOMERS PAY OVER \$535 MILLION PER YEAR IN TAXES



1967 - 1,135 MW Max Output

COMMUNITY SUPPORT



"THIS PLAN VALIDATES OUR CALL FOR A TRANSITION AWAY FROM ANTIQUATED ENERGY TECHNOLOGY TO A MODERNIZATION OF OUR ENERGY INFRASTRUCTURE"

Adrienne Esposito, Executive Director
 Citizens Campaign for the Environment



"THE TIME IS NOW FOR FOR ALL PARTIES
TO COME TO AN AGREEMENT ON BOTH THE
FUTURE OF THE PLANTS AND THE TAXES
BEING PAID BY ALL LONG ISLANDERS"

Mitch Pally, CEOLong Island Builders Institute



"WHAT WE ARE WITNESSING HERE IS A HISTORIC GAME CHANGER ON HOW LONG ISLAND PRODUCES ITS ELECTRICITY"

Gordian Raacke, Executive Director
 Renewable Energy Long Island



"LIPA'S PLAN ENVISIONS SMART AND STRATEGIC INVESTMENTS IN RENEWABLE ELECTRIC GENERATION THAT WILL INCREASE RELIABILITY AND LOWER COSTS"

Liz Gordon, DirectorNew York Offshore Wind Alliance



"LIPA'S IRP PROVIDES AN EFFECTIVE ROADMAP THAT CUTS THE COST OF ENERGY & REDUCES OUR PROPERTY TAX BURDEN"

Kyle Strober, Executive Director
 Association for a Better Long Island



"WE APPLAUD THIS BOLD PROGRESS IN TRANSFORMING LONG ISLAND'S UTILITY INTO A MODEL FOR THE NATION."

Lisa Dix, NY Senior Representative Sierra Club

COMMUNITY SUPPORT



"I WANT TO COMMEND THE MATERIALS AND OUTREACH TO EDUCATE THE PUBLIC ON THE IRP'S IMPORTANT FINDINGS"

Neil Lewis, Executive Director
 Molloy College's Sustainability Institute



"LIPA'S PLAN IS ILLUMINATING, SHOWING US THAT BY TAPPING INTO THE GREAT POTENTIAL OF OFF-SHORE WIND, LONG ISLAND'S GRID WILL BE MORE EFFICIENT"

Anne Reynolds, Executive Director
Alliance for Clean Energy New York



"IT'S REFRESHING TO SEE A
PLAN THAT VALUES THE PUBLIC
INTEREST OVER POLITICS"

Sammy Chu, Executive Director
 US Green Buildings Council



"CLIMATE CHANGE IS THE MOST CRITICAL ISSUE OF OUR GENERATION. LONG ISLAND IS TO BE COMMENDED FOR TAKING THE LEAD MOVING TOWARDS MORE RENEWABLE ENERGY"

Ling Tsou, Co-Founder
United for Action



"WE APPLAUD THE IRP AS A TRIUMPH IN THE FIGHT AGAINST CLIMATE CHANGE AND BOLD MOVE TO ECONOMIC AND EFFICIENT RENEWABLES"

George Povall, Director All Our Energy



"OFF-SHORE WIND REPRESENTS AN OPPORTUNITY FOR THE LABOR COMMUNITY TO GO TO WORK AND EARN A DECENT WAGE. WHEN LABOR THRIVES, LONG ISLAND THRIVES

Dick O'Cane, President

Nassau Suffolk Building Trades

COMMUNITY SUPPORT



"THIS IS THE BLUE PRINT WE NEED FOR ALL NEW YORKERS."

Kim Fraczek, DirectorSane Energy Project



"LIPA'S PLAN IS IS A CRITICAL PART OF THE EMPIRE STATE'S COMMITMENT TO GET 50% OF OUR POWER FROM RENEWABLE SOURCES"

Heather Leibowitz, Director
Environment New York



"FROM TURBINE CONSTRUCTION & MAINTENANCE & SUPPLY CHAIN JOBS, LARGE SCALE OFF-SHORE WIND DEVELOPMENT MEANS FORWARD PROGRESS"

Tim McCarthy, Business Representative IBEW 25



"LONG ISLAND'S LEADERSHIP IN STARTING THE TRANSITION TO CLEAN ENERGY IS TO BE APPLAUDED, MAINTAINED AND REPLICATED."

Eric Weltman, Senior OrganizerFood & Water Watch



"AS SOMEONE WHO GREW UP ON LONG ISLAND, IT'S REFRESHING TO SEE LIPA TAKING STEPS TO HELP US TRANSITION TO A CLEAN ENERGY FUTURE"

Mark Dunlea, ChairGreen Education and Legal Fund



"WE ARE EXCITED TO PUT OUR SKILLED WORKFORCE ON THE JOB FOR A NEW AMERICAN INDUSTRY – OFFSHORE WIND."

John Durso, President
 Long Island Federation of Labor

POWERING 1.1 MILLION CUSTOMERS

► LIPA IS A NOT-FOR-PROFIT PUBLIC UTILITY WITH A MISSION TO ENABLE CLEAN, RELIABLE, AND AFFORDABLE ELECTRIC SERVICE FOR OUR CUSTOMERS IN LONG ISLAND AND THE ROCKAWAYS

