

PSEG LONG ISLAND

Utility 2.0 Program

LIPA OVERSIGHT AND CLEAN ENERGY COMMITTEE BRIEFING

MAY 19, 2021

PSEG LONG ISLAND IS DELIVERING ON THE UTILITY 2.0 VISION ACROSS THREE STRATEGIC PATHWAYS

PSEG Long Island's Utility 2.0 vision is to be a customer-centric, innovative, and forward-looking utility that is dedicated to a clean, reliable, and resilient energy system. PSEG Long Island will achieve this vision by empowering its customers through advanced metering infrastructure (AMI), exploring new offerings, and evolving to become the utility of the future, including performing functions of the Distributed System Platform (DSP), for Long Island and the Rockaways.

PSEG Long Island's customers want to be a part of the energy industry transformation and desire improved reliability, resiliency, and cost-effectiveness of the energy system and customer programs.

3

EVOLVE INTO A CUSTOMER-CENTRIC DSP

Evolve the utility to become the Distributed System Platform (DSP) through the customer engagement and grid planning and operations functions of the utility, and by enabling foundational capabilities and technology platforms.

2

EXPLORE NEW INNOVATIVE OFFERINGS

Explore new energy efficiency (EE) and distributed energy resources (DER) projects to demonstrate value to both the customers and the utility, inform future rate design and business models, and aid customer adoption of advanced technologies in support of its mission and state policies.

1

EMPOWER CUSTOMERS THROUGH AMI AND DATA ANALYTICS

Empower customers with safe, reliable, and increasingly digital and automated investments that enable the evolution to the DSP and offer customers choice and solutions.

BETWEEN 2018 AND 2020, PSEG LONG ISLAND STARTED IMPLEMENTING 27 INITIATIVES ACROSS THE THREE PATHWAYS



Empower Customers

Solutions that empower customers by improving the way they interact with their energy provider and offer tools and choice for DER solutions and payment options

- AMI Core
- Rate Modernization
- AMI-Enabled Capabilities
- Data Analytics
- Customer Engagement
- Program Implementation Support
- Energy Concierge Pilot
- Next Generation Insights Pilot
- FlexPay Plan
- On-Bill Financing Plan + Pilot
- C&I Demand Alert Pilot



Explore New Offerings

Pilots that test how new system capabilities and customer resources can monitor and interact between them to improve system efficiency and reduce greenhouse gas emissions

- Electric Vehicle (EV) Program
- Super Savers: NWS with Targeted EE
- BTM Storage with Solar
- Electric School Bus V2G Pilot
- Heat Pump Controls Pilot
- Enhanced Marketplace
- EV Make-Ready Program
- NWS Process Development



Evolve into the DSP

Studies, pilots, and foundational capabilities to enable the DSP, with efficient management of grid assets and quicker and more cost-effective DER interconnection

- Grid Storage – Miller Place
- Utility of the Future
- Interconnection Online Application Portal
- Locational Value Study
- NWS Planning Tool
- Hosting Capacity Maps, Stages 1-3
- DER Visibility Platform
- CVR Program

THE APPROVED UTILITY 2.0 INITIATIVES HAVE A TOTAL BUDGET OF \$350M (\$265M CAPITAL, \$85M O&M) BETWEEN 2019-2025

PATHWAY	INITIATIVE	STATUS	2018 APPROVED	2019 APPROVED	2020 APPROVED	ALL
			2019-2022 Total Budget [\$M]	2020-2022 Total Budget [\$M]	2021-2025 Total Budget [\$M]	Sum of Total [\$M]
EMPOWER CUSTOMERS THROUGH AMI AND DATA ANALYTICS	AMI Core	Ongoing	203.49			288.04
	Rate Modernization	Ongoing	26.18			
	AMI-Enabled Capabilities	Ongoing	18.75			
	Data Analytics	Ongoing	9.97			
	Customer Engagement	Ongoing	8.72			
	Program Implementation Support	Ongoing	8.19			
	Energy Concierge Pilot	On Hold		4.08		
	Next Generation Insights Pilot	Ongoing		3.26		
	FlexPay Plan	Completed		0.25		
	On-Bill Financing Plan + Pilot	Not Started (Plan Completed)		0.25	2.93	
	C&I Demand Alert Pilot	Not Started			1.97	
EXPLORE NEW INNOVATIVE OFFERINGS	EV Program	Ongoing	12.82			32.16
	Super Savers	Ongoing	3.46			
	BTM Storage	Ongoing	0.16			
	Electric School Bus V2G Pilot	On Hold		0.73		
	Heat Pump Controls Pilot	Ongoing		0.30		
	Enhanced Marketplace	On Hold			9.16	
	EV Make-Ready Program	Ongoing			5.03	
	NWS Process Development	Ongoing			0.50	
EVOLVE INTO THE CUSTOMER-CENTRIC DSP	Grid Storage – Miller Place	Ongoing	10.36			29.80
	Utility of the Future	Ongoing	5.58			
	IOAP	Completed	2.37			
	Locational Value Study	Completed	0.68			
	NWS Planning Tool	Ongoing	0.20			
	Hosting Capacity Maps Stages 1-3	Ongoing		1.81	3.54	
	DER Visibility Platform	Not Started			4.23	
	CVR Program	Ongoing			1.03	
TOTAL			310.93	10.68	28.38	349.99

SUCCESS SNAPSHOT: PSEG LONG ISLAND EXPECTS 95% DEPLOYMENT OF SMART METERS BY SEPTEMBER 2021

AMI deployment remains ahead of schedule, successfully installing more than 112,000 smart meters island-wide in the first quarter of 2021, bringing the system total to 870,000.

SUMMARY OF THE INITIATIVE

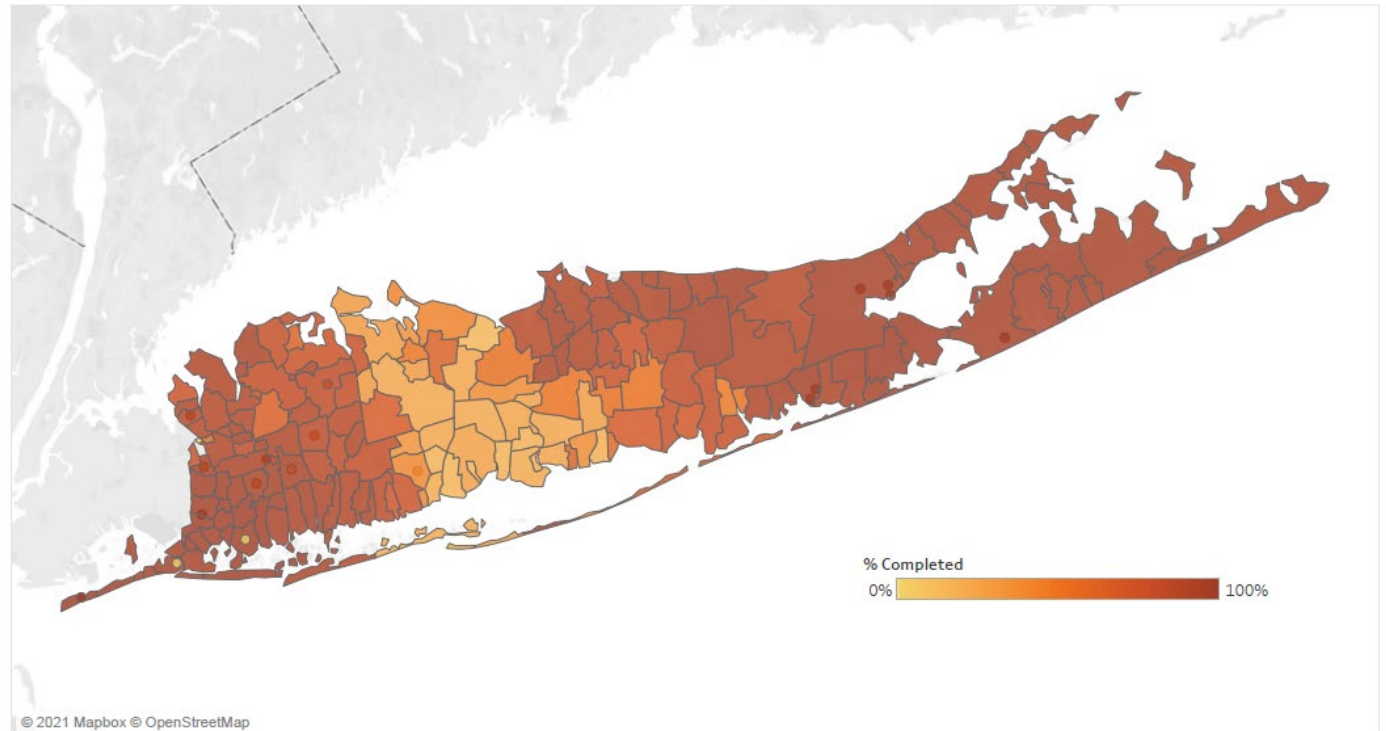
- PSEG Long Island is deploying smart meters across its service territory to maximize customer benefits and operational savings.
- Prior to 2019, PSEG Long Island began small-scale smart meter deployment. In Q1 2019, PSEG Long Island expanded to large-scale smart meter deployment.
- Between 2019 and 2022, PSEG Long Island will deploy approximately 1 million meters.

RECENT ACCOMPLISHMENTS

- Redeployed Field Collectors continue to focus acceleration of AMI installations on commercial meters.
- Restart of indoor AMI meter installations under strict COVID-19 safety protocols.
- Continue training employees to support commercial meters with heightened focus on commercial installs.

Smart Meter Installations by ZIP Code

% Smart Meter Installations Complete by Zip Code



Source: Q1 2021 Utility 2.0 Outcomes Dashboard

IN ADDITION TO THE AMI DEPLOYMENT PROGRAM, OTHER INITIATIVES ACHIEVED IMPORTANT MILESTONES IN Q1 2021

EMPOWER CUSTOMERS THROUGH AMI AND DATA ANALYTICS

- The **AMI Customer Engagement** strategy continues pre- and post-installation education to increase customer knowledge of AMI benefits.
- **Data Analytics** created AMI-based Storm Dashboards to identify outages and plan restoration activities based on meter data, including Business Continuity Plan solutions in case critical systems like OMS become unavailable. Includes division level outage summaries, circuit outage summaries, circuits with over 30% outages, and scattered outages.
- The **Next Generation Insights** team engaged over 120,000 customers since late last year and has sent nearly 1 million alerts including monthly bill disaggregation, mid bill cycle projections and bill threshold alerts. The **Rate Modernization** team launched five new Time of Use rates in February and kicked off their phased pilot approach to the full offering including rate comparison tools.
- **Remote Connect Switch** and **C&I Portal**, launched respectively in Q1 2020 and Q2 2020, continue to be monitored and pursue continuous improvement opportunities. **Green Button Connect** is fully launched and complete. **Energy Concierge** is on hold due to the COVID-19 pandemic.

EXPLORE NEW INNOVATIVE OFFERINGS

- **Super Savers:** Customers in Patchogue were introduced to the Super Savers program via email and a postcard. The program resulted in more than 276 kW of demand reduction for the quarter, 14% of the overall 2 MW goal.
- The **Electric Vehicle Program** is expanding beyond existing residential and commercial programs to include EV Make Ready, as approved in 2020, which will cover infrastructure costs on both sides of the meter. Smart Charge Rewards and Charger Rebates participation is ahead of Q1 targets.
- **BTM Storage Program:** Applications for new solar PV paired with battery storage systems continue to increase each month. Customers installed 63 new residential systems totaling 554kW AC in February 2021, the most installed in a single month to date (March data is not yet available).
- **Non-Wires Solution (NWS) Planning Tool:** The tool was delivered at the end of March and instruction modules for its use are being review internally.

EVOLVE INTO A CUSTOMER-CENTRIC DSP

- For the **CVR Program**, the **Utility of the Future** team imported actual AMI consumption data into the load analysis models.
- For **Hosting Capacity Maps**, the team joined the EPRI Drive user group to start the analysis for Stage 3 Hosting Capacity Maps.
- The **Miller Place Battery Storage** project was internally approved to award the bid to the selected vendor.

Source: Q1 2021 Utility 2.0 Outcomes Dashboard

LOOKING AHEAD: CONTEXT AND PRIORITIES FOR 2021

FACTORS IMPACTING THE UTILITY 2.0 PROGRAM IN 2021

- COVID-19 and rate sensitivity
- Increased number of ongoing Utility 2.0 initiatives
- Unplanned staff attrition

RESULTING PRIORITIES FOR PSEG LONG ISLAND

- Focus on execution of approved Utility 2.0 initiatives – resource optimization may lead to schedule changes in a small number of approved initiatives
- Propose a modest number of new initiatives supporting state clean energy goals in the 2021 Utility 2.0 Plan Filing






PSEG LONG ISLAND IS PLANNING TO PROPOSE A MODEST NUMBER OF NEW INITIATIVES TO SUPPORT STATE CLEAN ENERGY GOALS

The funding request for new initiatives is largely driven by the expansion of the EV Make-Ready Program, which adds approx. \$80 million between 2022-2025 to the already-approved budget of \$5 million for 2021.

	NAME	TYPE	CAPITAL 2022-25 (\$M)	O&M 2022-25 (\$M)
EMPOWER CUSTOMERS THROUGH AMI AND DATA ANALYTICS	Green Rate	Program	N/A ^[1]	N/A ^[1]
EXPLORE NEW INNOVATIVE OFFERINGS	EV Make Ready Program – Phase 2	Program	65.33	17.28
	Connected Buildings Pilot	Pilot	-	1.26
	Suffolk County Bus Initiative	Pilot	0.60	0.40
	Electric Bucket Truck	Study	-	0.10
EVOLVE INTO THE CUSTOMER-CENTRIC DSP	Increasing Hosting Capacity	Study	0.50	0.50
TOTAL (Without EV Make-Ready Program – Phase 2)			1.10	2.26
TOTAL (With EV Make-Ready Program – Phase 2)			66.43	19.54

[1] The budget estimate for the Green Rate program is still under development.

UTILITY 2.0 INITIATIVES CONTRIBUTE TO ACHIEVING NEW YORK STATE'S 2025 CLEAN ENERGY TARGETS

	 ELECTRIC VEHICLES	 ENERGY STORAGE	 ENERGY EFFICIENCY	 HEAT PUMPS	 SOLAR PV
Statewide goal (2025)	850,000	1,500 MW	185 TBtu	5 TBtu	6,000 MW
LI portion of goal (2025)	178,500	188 MW	7.85 TBtu	30,000 installations (1.15 TBtu)	750 MW
LI actuals (through 2020)	18,852	~14 MW (~3.78 MW queued)	2.29 TBtu	5,955 installations (0.218 TBtu)	~650 MW
Approved initiatives	<ul style="list-style-type: none"> • Electric Vehicles Program • Electric School Bus V2G Pilot • Enhanced Marketplace • EV Make-Ready Program • Rate Modernization 	<ul style="list-style-type: none"> • BTM Storage with Solar • Utility Storage – Miller Place • Enhanced Marketplace • On-Bill Financing Pilot • Energy Storage Bulk Solicitation • Rate Modernization 	<ul style="list-style-type: none"> • Energy Efficiency Programs (EEDR Plan) • Super Savers NWS • On-Bill Financing Pilot • Enhanced Marketplace 	<ul style="list-style-type: none"> • Energy Efficiency Programs (EEDR Plan) • Heat Pump Controls Pilot • On-Bill Financing Pilot • Enhanced Marketplace 	<ul style="list-style-type: none"> • BTM Storage with Solar • Hosting Capacity Maps Stages 1-2 • Interconnection Online Application Portal (IOAP) Phase I • Hosting Capacity Maps Stage 3 • DER Visibility Platform
Proposed initiatives (2022 start)	<ul style="list-style-type: none"> • <i>EV Make-Ready Program – Phase II</i> • <i>Suffolk County Bus Initiative</i> 	<ul style="list-style-type: none"> • <i>Grid-Beneficial Customer Storage</i> 	<ul style="list-style-type: none"> • <i>Energy Efficiency Programs (EEDR Plan)</i> 	<ul style="list-style-type: none"> • <i>Energy Efficiency Programs (EEDR Plan)</i> 	<ul style="list-style-type: none"> • <i>Increasing Hosting Capacity Study</i>
Planned (2023-2025 start)	<ul style="list-style-type: none"> • Fleet Electrification • Light-Duty V2G • DER Transactive Market 	<ul style="list-style-type: none"> • Utility Storage (Further Locations) • DER Transactive Market 	<ul style="list-style-type: none"> • Energy Efficiency Programs (EEDR Plan) • Partnership with Municipalities • Multifamily/LMI Financing 	<ul style="list-style-type: none"> • Energy Efficiency Programs (EEDR Plan) • Partnership with Municipalities • Multifamily/LMI Financing 	<ul style="list-style-type: none"> • DER Transactive Market

PSEG LONG ISLAND

APPENDIX

APPROVED BUDGETS FOR INITIATIVES PROPOSED IN 2018

PATHWAY	INITIATIVE	DESCRIPTION	2019-2022 CAPITAL [\$M]	2019-2022 O&M [\$M]
Empower Customers through AMI and Data Analytics	AMI Core	Installation of AMI meters and associated remote connect functionality	193.99	9.50
	AMI-Enabled Capabilities	Phased implementation of capabilities that leverage the data made available by AMI	13.83	4.92
	Program Implementation Support	Business process design and change management to launch core AMI functionality	7.64	0.55
	Customer Engagement	Communication of the AMI installation process to customers and active promotion and incorporation of feedback	-	8.72
	Rate Modernization	Simple, customer-centric rate options and tools that aim to improve customer experience and reduce peak demand	10.06	16.12
	Data Analytics	Capabilities that unlock value and insights from granular AMI data, grid data, and other customer data	5.26	4.71
Explore New Innovative Offerings	Super Savers	Non-wires solution administered by the utility, seeking to reduce peak and defer traditional capital investment	-	3.46
	BTM Storage	Solicitation opportunity for third-party aggregators to install batteries for customers using a 10-year tariff incentive.	-	0.16
	EV Program	EV outreach and marketing, a Residential Charging incentive, a Workplace Charging program, and a DCFC program	-	12.82
Evolve into the Customer-Centric DSP	Utility of the Future	Unlocking the capabilities of AMI data and directing the utility shift from system-level to location-based T&D planning	1.05	4.52
	Locational Value Study	Granular and locational analysis of load provides information needed to incentivize DER and evaluate the potential of NWS	0.50	0.18
	NWS Planning Tool	Calculates the feasibility of NWS by leveraging outputs from the Locational Value Study	-	0.20
	IOAP Phase 1	Customer portal designed for more timely and efficient processing of applications for DER interconnection	2.27	0.10
	Grid Storage – Miller Place	RFP to solicit third-party services for the deployment of a utility-owned grid storage project at the Miller Place substation	9.50	0.86
TOTAL			244.10	66.83

APPROVED BUDGETS FOR INITIATIVES PROPOSED IN 2019

PATHWAY	INITIATIVE	DESCRIPTION	2020-2022 CAPITAL [\$M]	2020-2022 O&M [\$M]
Empower Customers through AMI and Data Analytics	Energy Concierge Pilot	Team to facilitate home energy consultations, educating customers, and recommending DER and EE products & services	1.59	2.49
	Next Generation Insights Pilot	An energy disaggregation insights engine with the insights' portal and digital alerts including a suite of complementary CSR tools	0.71	2.56
	FlexPay Concept Plan	Billing program that would allow participating customers to pay in advance for electric service	0.00	0.25
	On-Bill Financing Concept Plan	Provides residential customers the option of paying for clean energy investments in EE and DER through on-bill charge	0.00	0.25
Explore New Innovative Offerings	Electric School Bus V2G	Electric school buses (e-buses) as mobile batteries to address specific locational needs on the distribution network	0.08	0.64
	Heat Pump Controls Pilot	Smart thermostats for ductless mini-split heat pumps to encourage greater heat pump utilization for winter heating	0.00	0.30
Evolve into the Customer-Centric DSP	Hosting Capacity Maps Stages 1-2	Develop initial hosting capacity maps to provide visibility to the developers and to further support the integration of DER	1.59	0.23
TOTAL			3.97	6.72

APPROVED BUDGETS FOR INITIATIVES PROPOSED IN 2020

PATHWAY	INITIATIVE	DESCRIPTION	2021-2025 CAPITAL [\$M]	2021-2025 O&M [\$M]
Empower Customers through AMI and Data Analytics	On-Bill Financing Pilot	Provides residential customers the option of paying for clean energy investments in EE and DER through on-bill charge	1.12	1.82
	C&I Demand Alert Pilot	Real-time alert-based solution that helps C&I customers avoid demand charges, or manage demand within a certain threshold	1.78	0.20
Explore New Innovative Offerings	Enhanced Marketplace	Includes products (e.g., EV chargers), services (e.g., home auditing services), point-of-sale instant rebates, product advisor	4.65	4.51
	EV Make-Ready Program	The study supports the program design for a new EV Make-Ready program, which is envisioned to kick off at scale in 2021	3.20	1.83
	NWS Process Development	Piloting a new market solicitation process based on approaches from other NY utilities, including the development of a mechanism to address funding shift from CAPEX to OPEX	0.00	0.50
Evolve into the Customer-Centric DSP	Hosting Capacity Maps Stage 3	Develop Stage 3 hosting capacity maps to provide visibility to the developers and to further support the integration of DER	1.70	1.84
	DER Visibility Platform	Measurement of DER output through sensors, meters, or customer Wi-Fi connections. Deployment of a DERMS pilot	3.95	0.29
	CVR Program	Extension of CVR to more substations with voltage optimization	0.94	0.09
TOTAL			17.31	11.07