

**PSEG - LONG ISLAND**

**2018 Utility 2.0**

**LIPA Board of Trustees REV Committee**

**July 25, 2018**

# AGENDA

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- Filing Overview
- Empower Customers Through AMI
- Explore New Innovative Offerings
- Evolve to the Distributed System Platform

# PSEG Long Island has designed its Utility 2.0 Roadmap to focus on bringing the latest knowledge, tools and capabilities to its customers.

*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*

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## Evolve to the Distributed System Platform (DSP)

Evolve the organization planning and operations functions of the utility

- Enable Distributed System Implementation Planning (DSIP)
- Modernize DER interconnection with Interconnection Online Application Portal (IOAP)

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## Explore New Innovative Offerings

Explore new EE/DER projects that provide value to both the customers and the utility, inform future rate design and business models and support customer adoption of advanced technologies in support of its mission and state policies

- Super Savers - Non-Wire-Solutions (NWS)
- Utility Scale Advanced Storage
- Behind the Meter (BTM) Storage Plus Solar including Locational VDER
- Electric Vehicles

1

## Empower Customers Through Advanced Metering Infrastructure (AMI)

- Deploy AMI system-wide to expand the data and analytics available for enhanced grid operations including specific projects for outage management and revenue protection
- Leverage this data to modernize the customer experience and pair it with tools and rate options that encourage customers to proactively manage their energy use to lower their costs or increase access to DER

# PSEG Long Island's experience and prior investments support this filing and demonstrate its capabilities to execute its strategy.



## Empower Customers Through AMI

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- 90,400 meters deployed
- 40% of PSEG Long Island's system load served is measured by AMI
- Meter Data Management System (MDMS) is deployed
- Communications network is complete
- Meter to cash processes has been established
- AMI levered during storm restoration



## Explore New Innovative Offerings

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- South Fork projects awarded
  - 90 MW Offshore Wind
  - 10 MW total battery storage
  - 8 MW of load reduction
- Super Savers – North Bellmore project underway
- Electric Vehicles progress on workplace charging and company vehicles
- Demand Load Management (DLM) tariffs in place



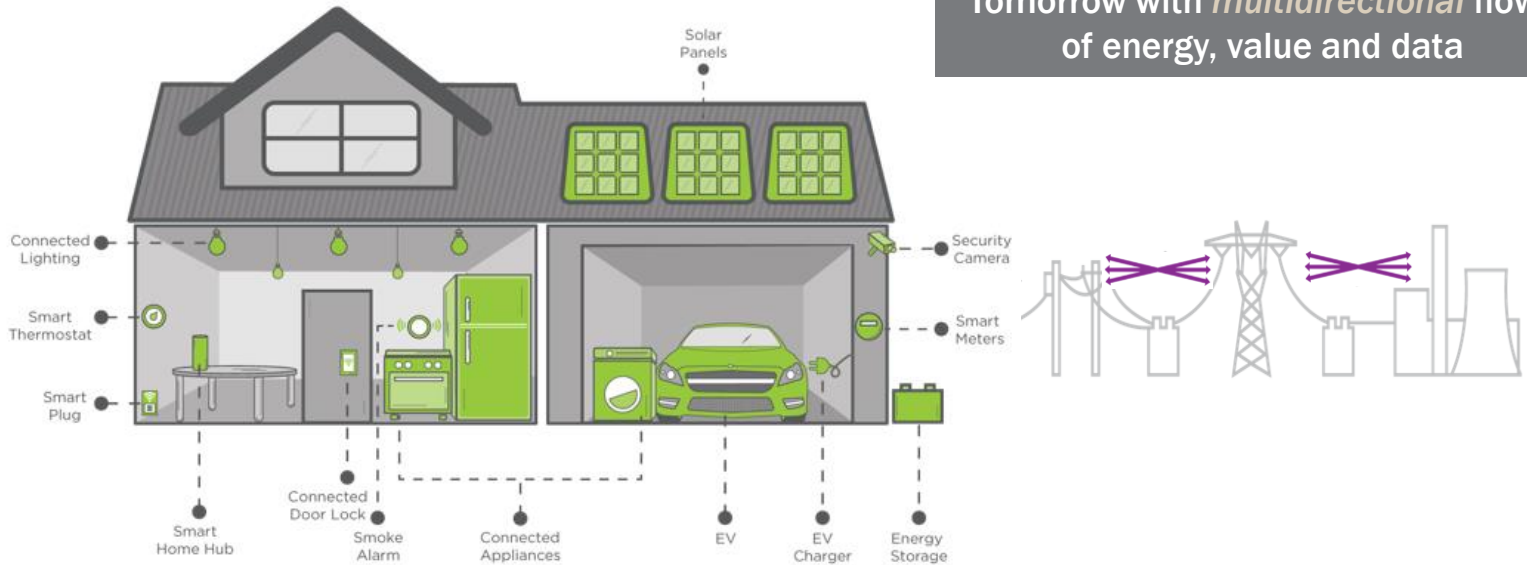
## Evolve to the DSP

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- Platforms under development:
  - Advanced Distribution Management System (ADMS)
  - Distributed Energy Resource Management System (DERMS)
  - Distributed Supervisory Control and Data Acquisition (DSCADA)
- Smart Wires project scheduled for 2019

# PSEG Long Island's journey continues the evolution of the customer and grid to traditional yesterday to the smart and enabled tomorrow.

Tomorrow: Smart and Enabled Tomorrow with *multidirectional* flows of energy, value and data



Yesterday: one way flow of energy and value

- Evolve to the DSP
- Explore New Innovative Offerings
- Empower customers through AMI



Enabled and Supported by PSEG Long Island Strategy

# Empower Customers Through AMI Filing Narrative

## Filing Designed to Engage Customers, Save Money Over Cost and Reduce Rates

### Smart Meter Full Deployment

- Complete deployment over 4 years
- Automate meter reading process
- Drive OPEX savings with employee attrition
- Install using PSEG Long Island labor

### New Capabilities

- Enhance customer engagement with new tools for C&I and residential customers
- Modernize rates
- Deploy outage functionality for timely and accurate communication of outage and restoration
- Build analytics and Utility of the Future Capabilities

### Business Process and PMO

- Build on program management and reporting
- Capitalize on opportunities to improve and redesign processes
- Provide change management

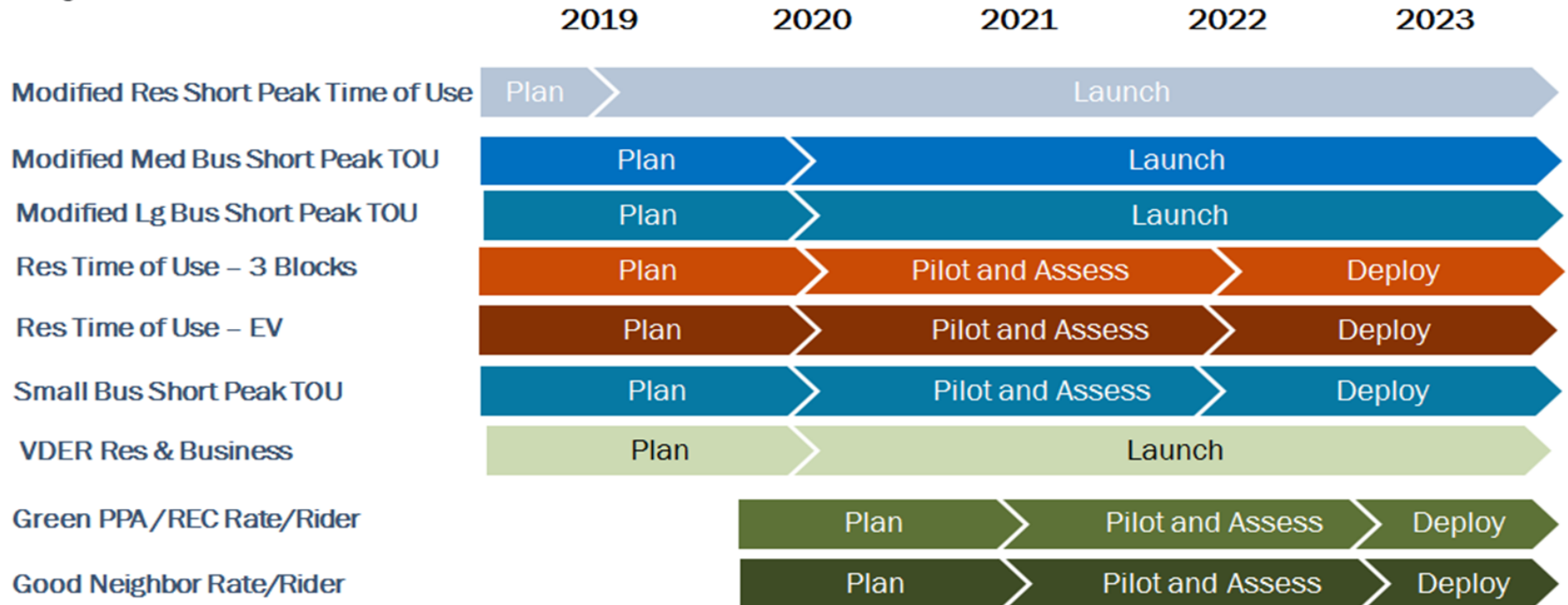
# Modernizing the Customer Experience

## SCOPE

Offer customers rate options that are simple to understand, easy to compare, and meet PSEG Long Island's current and future needs

## BENEFITS

Supports a deliberate and measured approach that allows PSEG Long Island to test and gauge customer acceptance, adoption, and engagement



# EE Programs In Support of DER

## Super Savers

- Expansion of Super Savers program to Patchogue
- North Bellmore substation customers are now receiving monthly Home Energy Reports and enhanced incentives
- Customers will be offered TOU rates in 2019 to encourage shifting energy use

## Electric Vehicles

- Expansion of workplace charging program
- Introduction of incentives to increase penetration of EVs with emphasis on off-peak charging

## Customer Battery Storage

- Promote the growth of battery storage systems and demonstrate its ability to help defer capital investment in traditional T&D infrastructure

## Utility Scale Battery Storage

- PSEG Long Island would install a 2.5 MW battery system in the vicinity of our Miller Place substation to defer the need for installing a new substation in that area



## 2019-2022 Capital and O&M request

PSEG Long Island Utility 2.0 Program and Project		4-Year CAPEX Request (\$M)	4-Year OPEX Request (\$M)	Benefit-Cost Ratio (SCT) <sup>1</sup>
Empower Customers Through AMI	AMI Deployment	204.3	8.5	
	AMI Enabled Capabilities and Customer Engagement	26.0	41.2	
	<b>Subtotal</b>	<b>\$230.3</b>	<b>\$49.7</b>	<b>1.6</b>
Explore New Innovative Offerings	Super Savers – NWS	0.0	3.0	1.5
	Utility Scale Advanced Storage	4.9	1.1	1.0
	BTM Storage Plus Solar Including Locational VDER	0.0	0.6	1.3
	Electric Vehicles	1.0	20.5	1.3
	<b>Subtotal</b>	<b>\$5.9</b>	<b>\$25.1</b>	
Evolve to the DSP	IOAP Interconnection	2.3	2.3	
	Locational Value Study	1.0	2.1	
	NWS Planning & Analysis Tool	0.0	0.5	
	<b>Subtotal</b>	<b>\$3.3</b>	<b>\$4.8</b>	
<b>Total Utility 2.0 Roadmap</b>		<b>\$239.4</b>	<b>\$79.7</b>	

**Note:**

1) BCA is over the 20-year life of the projects

## 2019-2022 capital and O&M detail view

PSEG Long Island Utility 2.0 Program and Project		Added CAPEX (\$M)	Reduced CAPEX (\$M)	Net CAPEX (\$M)	Added OPEX (\$M)	Reduced OPEX (\$M)	Net OPEX (\$M)
Empower Customers Through AMI	AMI Technology and Systems (Core)	\$196.3	-	\$196.3	\$7.5	(\$38.3)	(\$30.8)
	Program Implementation Support (Core)	\$8.0	-	\$8.0	\$1.0	-	\$1.0
	Customer Experience (Enabled)	\$7.8	-	\$7.8	\$16.4	-	\$16.4
	Rate Modernization (Enabled)	\$9.5	(\$0.9)	\$8.6	\$18.0	-	\$18.0
	Analytics and UoF (Enabled)	\$6.7	-	\$6.7	\$6.3	-	\$6.3
	Outage Management (Enabled)	\$0.9	-	\$0.9	\$0.5	(\$10.4)	(\$9.8)
	Revenue Protection (Enabled)	\$1.1	-	\$1.1	-	-	-
	<b>Subtotal</b>	<b>\$230.3</b>	<b>(\$0.9)</b>	<b>\$229.4</b>	<b>\$49.7</b>	<b>(\$48.7)</b>	<b>\$1.0</b>
Explore New Innovative Offerings	Super Savers – NWS	-	(\$2.8)	(\$2.8)	\$3.0	-	\$3.0
	Utility Scale Advanced Storage	\$4.9	(\$0.7)	\$4.2	\$1.1	-	\$1.1
	BTM Storage Plus Solar Including Locational VDER	-	(\$0.8)	(\$0.8)	\$0.6	-	\$0.6
	Electric Vehicles	\$1.0	-	\$1.0	\$20.5	-	\$20.5
	<b>Subtotal</b>	<b>\$5.9</b>	<b>(\$4.4)</b>	<b>\$1.5</b>	<b>\$25.1</b>	<b>-</b>	<b>\$25.1</b>
Evolve to the DSP	IOAP Interconnection	\$2.3	-	\$2.3	\$2.3	-	\$2.3
	Locational Value Study	\$1.0	-	\$1.0	\$2.1	-	\$2.1
	NWS Planning & Analysis Tool	-	-	-	\$0.5	-	\$0.5
	<b>Subtotal</b>	<b>\$2.3</b>	<b>-</b>	<b>\$2.3</b>	<b>\$4.8</b>	<b>-</b>	<b>\$4.8</b>
<b>All Utility 2.0 Roadmap</b>		<b>\$239.4</b>	<b>(\$5.3)</b>	<b>\$233.2</b>	<b>\$79.7</b>	<b>(\$48.7)</b>	<b>\$30.9</b>