



Seattle City Light

ADVANCED METERING PROGRAM UPDATE

Energy & Environment Committee

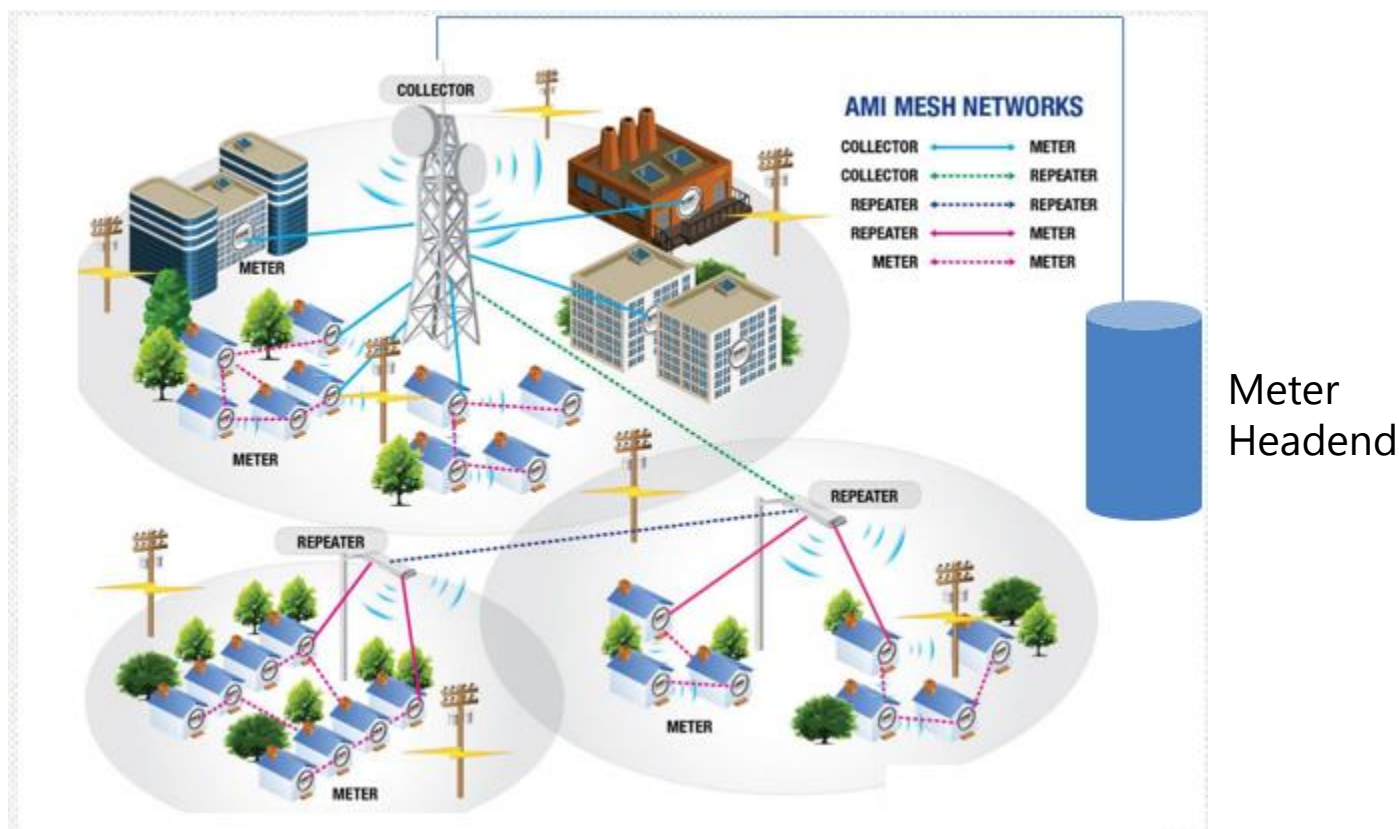
Jim Baggs & Kelly Enright | May 23, 2017

OVERVIEW

- What is Advanced Metering Infrastructure (AMI)?
- Why do it?
- Milestone timeline
- Program progress and status
- Finances
- Benefits and impacts
- What's next?

TECHNOLOGY – AMI MESH NETWORK

Fiber



Schematic from EDX Wireless



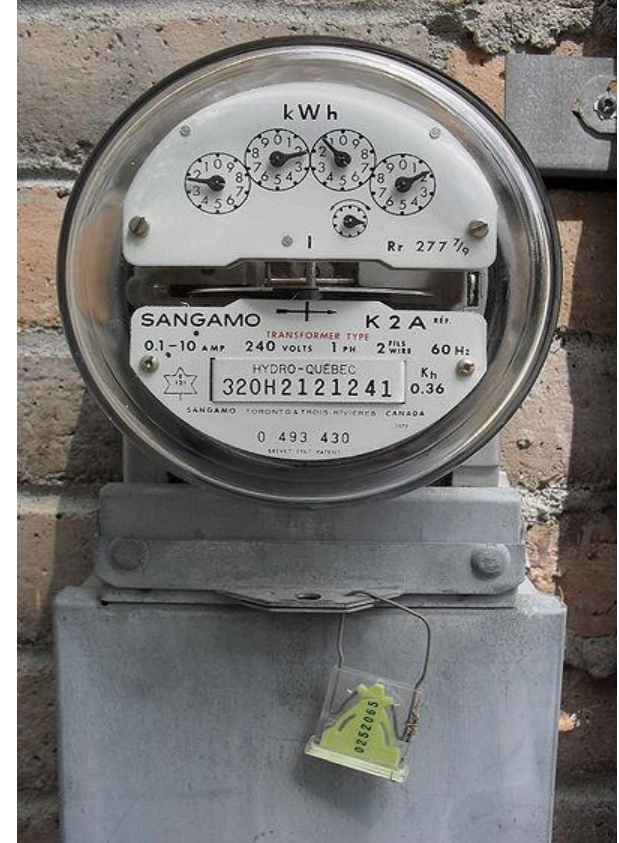
METER INTERACTION WITH UTILITY SYSTEMS

- Meter headend provides meter reading data directly to Meter Data Management system for billing
- Operations Center:
 - Monitors for alarms & events
 - Sends commands for meter operations
 - Provides energy data information for utility operations

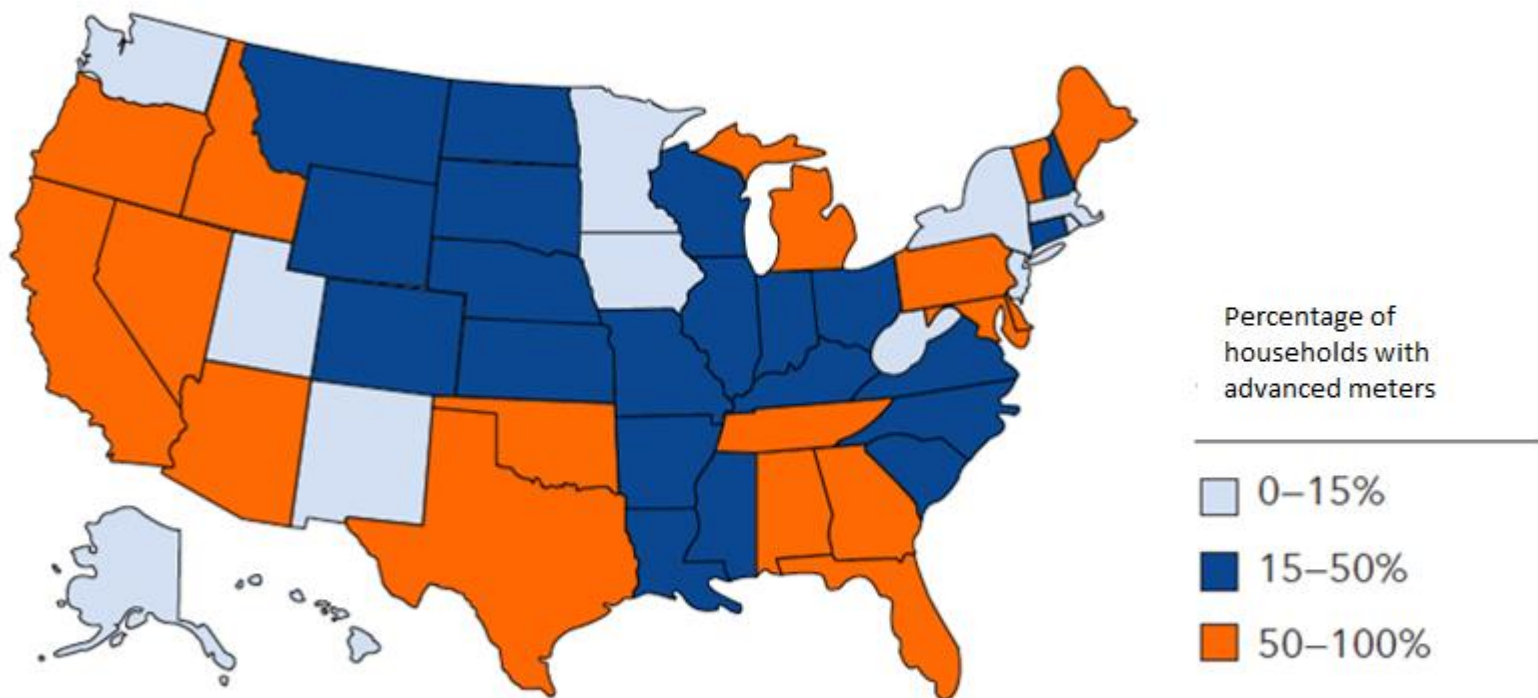


WHY ADVANCED METERING?

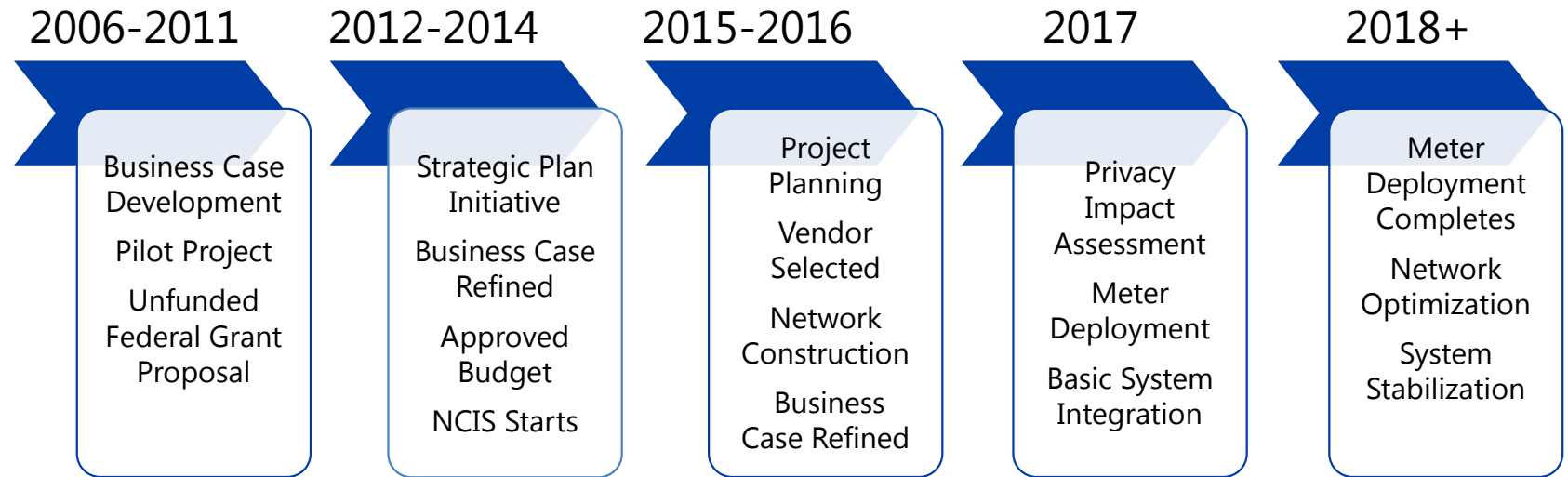
- Metering is a core function for every utility
- Current electro-mechanical meters are obsolete and out of production
- As meters age, the device under-measures customer electricity usage
- Meter reading currently has high costs, employee safety risks, and does not support our efforts to reduce our carbon footprint
- The majority of inquiries City Light receives are related to inaccurate bills



AMI METERS DEPLOYED IN UNITED STATES

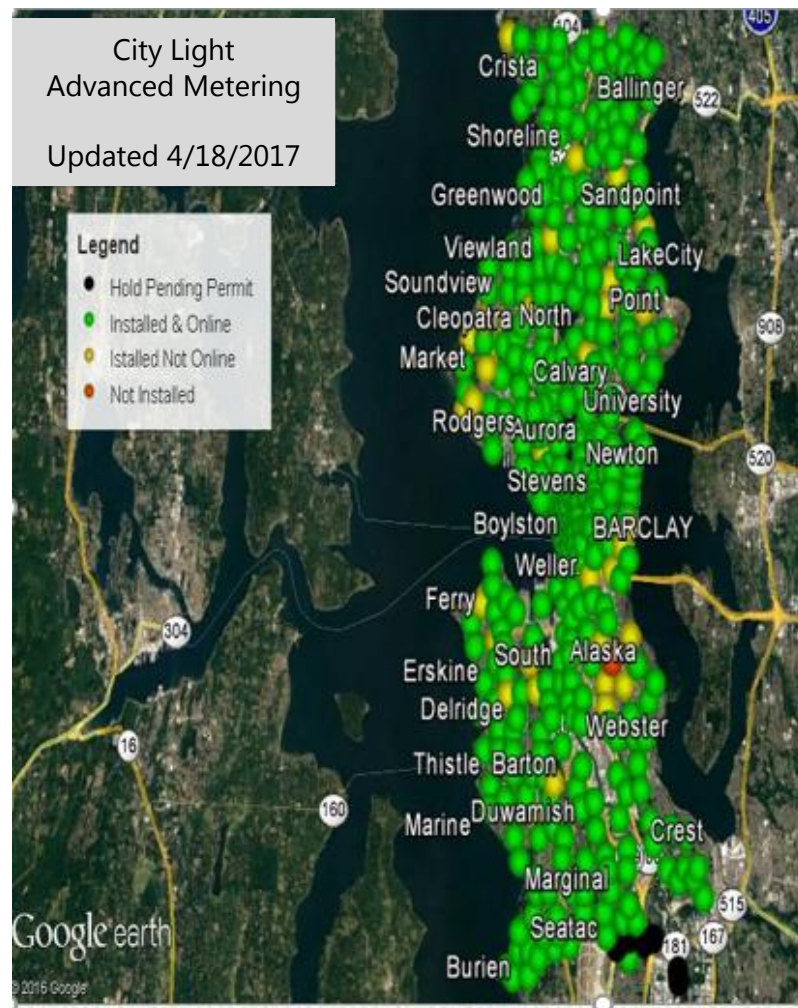


AMI MILESTONE TIMELINE



PROGRAM IMPLEMENTATION PROGRESS

- Network 99% complete
 - 48 of 49 collectors
 - 335 of 340 routers
- Installed roughly 7,000 meters as part of new electrical service connections
- 104 customers enrolled in opt-out
- AMI network integration with billing system will be complete by July 31, 2017
- Privacy Impact Assessment completed and approved
- Mass deployment of meters begins in August 2017
- Customer pre-installation communication begins June 2017



FINANCIAL CONSIDERATIONS

- Increased Meter Growth
- Higher System Integration Costs
- Extension of Program Timeline by 18 Months



METER GROWTH DECISIONS

- The number of meters for City Light is growing at a rapid pace
- At completion of AMI program deployment, City Light will have installed approximately 60,000 more meters than originally forecast due to population growth
- In October 2016, City Light began installing AMI meters under normal business operations funding

SYSTEM INTEGRATION ESTIMATES

- The original 2012 business case budgeted \$2.7M for basic system integration
- Additional automation and complexity of newer software applications resulted in increased estimated full system integration costs (\$12.4M)
- Deferred full system integration to stay within the approved budget while delivering key program goals:
 - Improved customer experience (billing and interaction)
 - Delivering on operational efficiencies
 - Keeping the program on schedule



PROGRAM TIMELINE EXTENSION

- To effectively integrate with the New Customer Information System, the AMI program was extended by 18 months
 - Original forecast for completion by end of 2017
 - Now planned for end of 2018, with clean up and final program close-out by July 2019
 - Extended schedule resulted in an estimated \$2M increase

BUDGET

	Budget & Forecasted Spend
CAPITAL ITEMS	\$ in millions
2015 Funding Level	\$ 94.4
Smart Grid Gateway/Meter Data Management Applications (Transferred to NCIS)	7.7
Upgrade metering facilities for AMI	2.6
2017 Funding Level	\$ 84.1
<u>Key Expenditures</u>	
Meters/ Meters & Network Install/Vendor PM	61.2
Systems Integration (SI)/ Quality Assurance of SI	3.6
Consultants	4.1
<u>Other Support</u>	
SI (City IT)	0.3
Program Team	8.4
Customer Communications - Material & Mailings	2.0
Advanced Grid Analytics License	0.8
AFUDC (Bond Interest)	1.1
Contingency	2.6
Total Program CIP	\$ 84.1



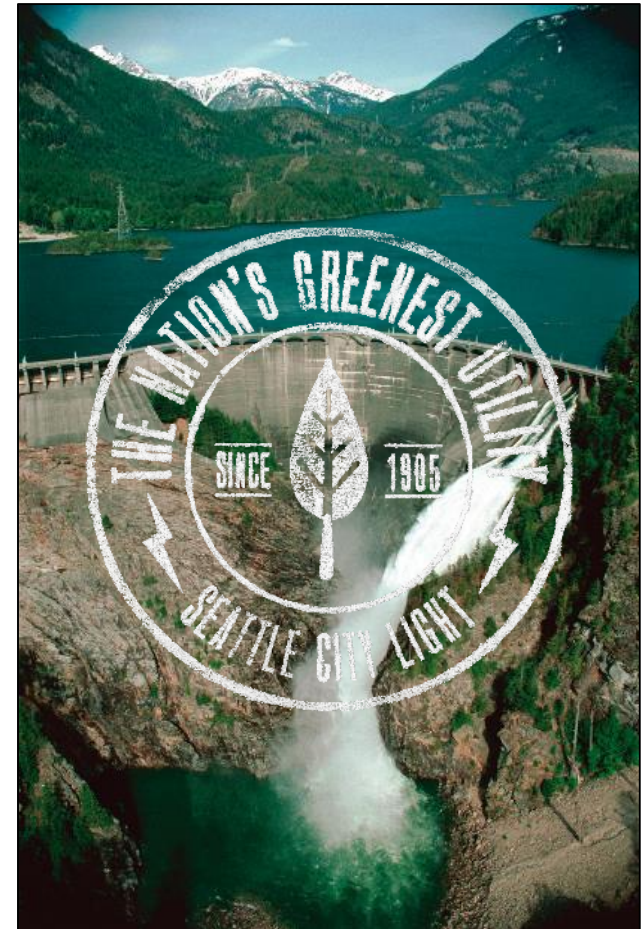
CUSTOMER BENEFITS AND UTILITY IMPACTS

Customer Benefits

- Accurate and timely billing
- Empower customers to make energy-saving choices
- Improved outage response
- Eliminates need for readers on property

Utility Impacts

- Improved safety
- Improved load/revenue forecasting
- Operational efficiencies
- Environmental considerations
- Full automation to occur in 2019-2021



WHAT'S NEXT?

- Comprehensive customer notifications during mass deployment beginning June 2017
 - Initial contact will occur seven weeks prior to installation
 - Will include language translation
 - Provides customer opportunity to consider opt out policy
 - Dedicated customer service representatives available to handle questions, concerns and opt out applications
- Minimal service interruption with installation time under five minutes
- Enhanced system integration/automation will begin in 2019



CITY LIGHT

OUR MISSION

Seattle City Light is dedicated to delivering customers affordable, reliable and environmentally responsible electricity services.

OUR VISION

We resolve to provide a positive, fulfilling and engaging experience for our employees. We will expect and reinforce leadership behaviors that contribute to that culture. Our workforce is the foundation upon which we achieve our public service goals and will reflect the diversity of the community we serve.

We strive to improve quality of life by understanding and answering the needs of our customers. We aim to provide more opportunities to those with fewer resources and will protect the well-being and safety of the public.

We aspire to be the nation's greenest utility by fulfilling our mission in an environmentally and socially responsible manner.

OUR VALUES

Safety, Environmental Stewardship, Innovation, Excellence, Customer Care



Seattle City Light

