

Findings and Lessons Learned from 3 Northeast Pilot Programs

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Presentation

- **Pilots Overview**
- **Utility Goals**
- **Preliminary Results & Observations**
- **Implementation Barriers Encountered**
- **Lessons Learned**

Pilots Overview

- **Unitil Residential Pilot**
 - Time of Use (TOU) Pricing
 - HANs, PCTs web portal
- **Unitil Commercial Pilot**
 - Critical Peak Pricing & Web Portal
- **Marblehead Municipal Light Pilot**
 - Critical Peak Pricing & Web Portal
 - PCTs and WH switches in Year Two

Unitil Residential Pilot

- **Three Treatment Groups**
 - Simple TOU
 - *TOU/ CPP Pricing, Information Only*
 - Enhanced Technology
 - *TOU/ CPP Pricing*
 - *HAN with PCT, IHD, Controllable Outlet*
 - Smart Thermostat
 - *One way PCT, **NO** TOU Pricing*
- **All Central Air Conditioning**
- **Three Month Summer Pilot**

Unitil Commercial Pilot

- **26 Small Commercial Customers, 10-75 kW Demand**
- **CPP Pricing**
- **Bill Protection**
- **Web Portal**
- **NO Enabling Technologies**
- **Three Month Summer Pilot**

Marblehead Municipal Light Pilot

- **Two year pilot running through 2012**
- **500 total residential customers, randomly assigned to treatment and control**
- **CPP Pricing only in 2011**
- **CPP Pricing plus PCTs and WH controls in 2012**
- **Part of a system wide AMI deployment**

Preliminary Impacts

Results forthcoming...

Observations

- **More than 4 in 5 had a positive experience**
 - However, 85% of C&I customers would not have participated if Bill Protection were not offered
- **Satisfaction decreased slightly as the level of technology increased**
 - 42% of participants with HANs experienced equipment issues
 - 13% of participants with PCTs only experienced equipment issues
- **Experienced problems with usability of thermostats**
- **Corporate structure inhibited communication about CPP events for about 20% of C&I customers**

Observations

- **Actions undertaken during CPP events**
 - Avoided use of appliances (78%)
 - Pre-cooled home (56%)
 - Sought activities outside the home (44%)
 - Some reported aggressive actions such as shutting off main circuit breaker (impact to HANs), AC, or WH
- **In Home technology**
 - Higher than anticipated failure rates, number of potential failure points
 - Trust but verify
 - Rapid Evolution

Technical Barriers Encountered

- **Installation Logistics of HANs**
 - Pairing devices with meters
 - Field troubleshooting, communications
 - Confirmations
 - Back office support
- **Field Turn Down Rates**
 - Primarily related to PCTs
 - Distance to meter issues; especially townhouses

Technical Barriers Encountered

- **Equipment Failure Rates**
 - Low for PCTs
 - Higher than anticipated for HANs
- **Required Software Upgrades**
 - Over the air updates required, lengthened and complicated field installations
- **Paging Coverage for PCTs**
- **AMI Event dispatch on back-to-back CPP days**

Lessons Learned

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Lesson 1: Run a Functional Pilot

- If you have the luxury of a functional pre-pilot, **DO IT!**
 - Budget and schedule permitting
- Gain thorough understanding of equipment, interaction with metering, data, billing
- Use findings to better estimate pilot costs, refine plans for pilot deployment

Lesson 2: Installer Training

- **Experience matters when it comes to HANs**
- **Don't underestimate time needed to thoroughly train installers**
 - Installers will encounter a wide variety of field conditions and barriers
 - Need to be comfortable enough operating interface and equipment to thoroughly explain to customers
- **Need a clear process for determining on site connectivity**
 - Clear and actionable next steps for resolution of the HAN is not communicating when installers leave

Lesson 3: Project Management

- **Impact of pilot design and turn downs on customer recruitment and assignment**
- **Managing oversight of field installations**
 - Coordination between installers and Utility
- **Have a pre-defined process for identifying and resolving HAN communication failures**
- **Technical Customer Support Issues, coordination with vendors**
- **Simplified, printed literature regarding equipment**

Questions



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