One Utility’s Perspective on Investment in Clean Energy

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- 6,400 employees
- 2.1M electric customers
- 1.7M gas customers
- 24/7 operation
- 2,600 sq miles service territory
- Serving 6 major cities and 300 communities
- 150,000 miles of wire
- 15,000 miles of pipe
NJ Energy Master Plan Goals

PSE&G Committed to State Goals
PSE&G Exploring Disciplined Investments to Address NJ’s State Goals

- 20% reduction in energy consumption by 2020
- Reduce Peak demand by 5,700 MW by 2020
- By 2020 20% of energy supply will come from renewable sources

Energy Efficiency
Demand Response
Renewables

Consumption back to 2005 levels
Placing information and control with customers
Wind, Biomass, Solar
Energy Efficiency - PSE&G’s Carbon Abatement Filing ($46MM)

- Residential customers in Urban Enterprise Zones (UEZs)
  - Tune-Up Program in targeted neighborhoods:
    - Energy audit, thermostat, weather stripping, CFLs
    - Attic insulation, duct sealing and/or insulation
  - Install programmable thermostats and provide CFLs as part of routine utility-related gas service calls

- Small business customers in UEZs – audit and direct installation of energy efficiency measures

- Large Customer Technology Demonstration

- Hospital Efficiency – audit and financial incentives

Pending approval from the Board of Public Utilities.
Peak Demand Reduction – PSE&G’s Demand Response Filing ($93MM)

- Residential Customers
  - Central Air Conditioner Cycling
    - Replace existing equipment
    - Increase program enrollment
  - Pool Pump Load Control
- Small Commercial A/C Cycling
- C&I Curtailment Services – investments in installation of infrastructure to enable demand response
- Load Shifting Demonstrations

Pending approval from the Board of Public Utilities.
Program Goals

- Understand how price signals can influence customers’ energy usage patterns.
- Test customers’ reaction to the opportunity to conserve and shift load when power is in peak demand.
- Assess the value of technology in supporting customers’ ability in becoming more energy savvy.
- Improve understanding of system requirements, technology options and performance.

Program Designed

- To test participant response to variable TOU and CPP rates.
- To integrate testing of in-home technology and multiple two-way communications systems that transferred energy pricing and interval consumption data to and from the customer’s meter.
- To try multiple technology solutions under real field conditions.
# myPower Pricing Pilot Overview

<table>
<thead>
<tr>
<th></th>
<th>Control Group</th>
<th>myPower Sense</th>
<th>myPower Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customers</td>
<td>450 Residential</td>
<td>379 Residential</td>
<td>319 Residential</td>
</tr>
<tr>
<td>Rate*</td>
<td>RS</td>
<td>TOU-CPP (RSP)</td>
<td>TOU-CPP (RSP)</td>
</tr>
<tr>
<td>Equipment</td>
<td>Electric interval meter</td>
<td>Electric interval meter</td>
<td>Electric interval meter Programmable thermostat Two-way communications infrastructure - PLC, RF, Hybrid</td>
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<tr>
<td>Customer Education and Communication</td>
<td>N/A</td>
<td>Mail E-mail Telephone</td>
<td>Mail E-mail Telephone Signal to thermostat</td>
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<tr>
<td>Usage and Billing Information</td>
<td>N/A</td>
<td>Internet</td>
<td>Internet</td>
</tr>
</tbody>
</table>

* RS = Residential Service, TOU-CPP = Time-of-Use, Critical Peak Pricing
myPower Time-of-Use – Critical Peak Pricing (TOU-CPP) Summer 2007 Pricing Plan

Weekdays
June - September

$1.46
Critical Price

23.7 ¢
High Price (On-Peak)

8.7 ¢
Medium Price (Base Price)

3.7 ¢
Low Price (Night Discount)

Time of Day

Weekends
June - September

8.7 ¢
Medium Price (Base Price)

3.7 ¢
Low Price (Night Discount)

Time of Day
myPower Pricing Impact Results

- Participants in the myPower Pilot reduced peak demand
  - Time-of-Use Impacts – shifting from High price periods to Low and Medium price periods
  - CPP Impacts – reduction in peak demand on critical peak days
- Participants in the myPower Pilot saved energy
  - Energy conservation effect - difference in energy use between Control Group and myPower participants
myPower Connection Customers
Time-of-Use and Critical Peak Impacts

TOU and CPP Impacts on Summer Peak Days

Customers with in-home technology reduced On-Peak period demand by 47% (1.33 kW) on critical peak days.

Source: myPower Pricing Pilot results based on 2006 and 2007 data through September 30, 2007
myPower Sense Customers
Time-of-Use and Critical Peak Impacts

Customers who received no in-home technology were able to reduce On-Peak period demand on critical peak days by up to 20%, even if they do not have Central AC.

Source: myPower Pricing Pilot results based on 2006 and 2007 data through September 30, 2007
Key Takeaways From myPower Pilot

- myPower Pricing participants consistently lowered their energy use in response to price signals across two summers (peak demand reduction of 1.33 kW for myPower Connection, and 0.32 to 0.43 kW for myPower Sense).
  - During the summer there were daily reductions in energy use from 1:00 p.m. to 6:00 p.m. due to on-peak prices in the TOU rate.
  - During Critical Peak Price events, customers increased their load reductions during the 1:00 p.m. to 6:00 p.m. period.
  - Participants achieved summer period energy savings of 3-4% when compared to the Control Group.
- Technology-enabled customers produced greater reductions in energy use in response to the TOU rates and the CPP events.
- Majority of participants achieved bill savings: 87% of myPower Connection and 68% of myPower Sense saved.
- myPower Pricing participants would recommend the program to a friend or relative, believe they saved money, believe the program is good for the environment and that PSE&G should offer more programs similar to myPower.
Beyond myPower

- **NJ’s Draft Energy Master Plan**
  - Smart grid technologies such as AMI are an essential part of the State’s plan to meet its EMP goals in energy efficiency and demand response (20% each by the year 2020)
  - EMP Implementation Plan lists a number Performance Metrics to be investigated in a new AMI Pilot. Some metrics were already studied in myPower.

- **PSE&G’s Two-Step Approach**
  - **Step One - Technology Evaluation**
    - Technical evaluation of the strengths and weaknesses of several AMI technologies
    - Determine the technology best suited for PSE&G’s service territory
    - Start in September 2008 for one-year. In municipalities of Wayne, Paterson and Totowa deploy 15,000 meter points.
Beyond myPower

- PSE&G’s Two-Step Approach
  - Step Two – Convene an educational stakeholder forum to address the societal, operational and financial aspects of deploying AMI in the PSE&G service territory.
    - AMI is the gateway necessary to proceed with future “Smart Grid” and demand response programs which will be needed to achieve the EMP goal to reduce electric demand by 5700 MW by 2020.
    - Educational stakeholder forum will allow interested parties to help PSE&G and the BPU refine the strategic and policy goals through consideration of participant inputs.
    - PSE&G will submit a final stakeholder report to the BPU for its information and consideration in the BPU’s evaluation of an appropriate AMI strategy for PSE&G and its customers.
  - PSE&G will seek BPU approval prior to deploying AMI or Smart Grid Technology Statewide
By 2020, 20% of energy supply will come from renewable sources

- Two year pilot program limited to 30 MW
- PSE&G will provide about $105 million in secured loans to qualified borrowers
- PSE&G provides 40-60% of the total capital
- Borrower can pay back in SRECs with secured SREC pricing
- Call option price is 75% of the then current market value of SRECs if loan is prepaid
- PSE&G earns rate of return on loan
- Since mid-April, received applications totaling 45% of available non-residential solar capacity (24 MW)
- Program was opened up to residential applications in July (6 MW)

Currently evaluating ways to expand this program beyond 30 MW
Summary

- **Growing the utility while providing a societal benefit**
  - Creation of new “green” sources of energy
  - Potential for green job growth
  - Developing additional initiatives

- **Providing universal access to customers**
  - Commitment to customers; serving under-served markets

- **Deploying patient capital for investments**
  - Energy efficiency, peak demand reduction and renewables
  - Seeking regulated returns