Benefits of Dynamic Pricing:
Two Utility Case Studies
Panelists

Drema Hughes  
Program Manager

Mike Ratliff  
Chief Technology Officer

David Eggart  
Program Manager
Leading Provider of Intelligent Energy Management/Demand Response Solutions

**Highlights**
- World-leading provider of Intelligent Energy Management (IEM)/Demand Response (DR) solutions
- Headquartered in Atlanta, GA
- ~520 employees
- Revenues: 2011 - $136.4 million 2010 - $119.4 million
- Acquired by H.I.G. Capital – 5/2012

**Wide Range of Services**
- Program Design, Planning and Execution
- Marketing Strategy & Execution
- Installation
- Measurement and Verification
- Energy Audit
- Customer Care

**Comverge by the Numbers**
- 5,000,000+ energy management devices deployed
- 1,000,000+ participants enrolled into DR programs
- 500+ Utility Customers
- 2,100+ Commercial and Industrial customers
- 4,500+ MW under management
Why Dynamic Pricing?

- Align the cost of electricity with the price paid by the energy consumer
- Increase consumer engagement and satisfaction
- Meet regulatory requirements

“With the convergence of telecom & electric sectors, the power industry needs to embrace dynamic pricing.”
- FERC

“Technology-enabled dynamic pricing programs enable energy efficiency goals, and offer the ability to significantly increase potential load reduction.”
- The Brattle Group
Dynamic Pricing Programs Overview

- Time-of-Use (TOU) Pricing
- Critical Peak Pricing (CPP)
- Real Time Pricing (RTP)
- Peak Time Rebate (PTR)
Benefits of Automated Dynamic Pricing
Comverge SmartPrice: Flexible Communication

Intelligent Dynamic Pricing Solution

Electric Utility

Utility Benefits
- Reliable MWs at "push of a button"
- AMI, Cellular or Broadband
- Scalable for large or small programs

Customer Benefits
- Control energy based on price
- Lower electricity bills

2-Way network communication via Broadband, Cellular or AMI

Comverge Web Portal
- PC-Laptop
- Tablet
- Smartphone

Smart Meter
Digital Control Unit
Smart Thermostat
In-House Display

Water Heater
Pool Pump
HVAC

Marketing
Installation
Call Center
Service
SmartPrice – Software Solution Components

- **IntelliSOURCE**: Software platform which enables utilities to send customers day-ahead or near real-time price signals to a variety of endpoints
  - Manages entire lifecycle of dynamic pricing program

- **Comverge Web portal**: Receive pricing signals
  - Enables consumers to create “set and forget” a control schedule for all high-energy use appliances
SmartPrice – Hardware Solution Components

- IntelliTEMP
  - Programmable Communicating Thermostat (PCT) that receives pricing signals and allows consumer to adjust central A/C and heating system in real-time as well as program in advance
  - Three different models available

- IntelliPEAK
  - Digital control unit (DCU) can control all high-energy use appliances
  - Capable of individually controlling up to four discrete loads, saving both hardware and installation costs over the life of the program.

- IntelliFOCUS
  - In-home display (IHD) receives pricing signals to prompt consumer to adjust energy consumption.
Panelist

Drema Hughes
Program Manager

Energy Planner

TECO
Tampa Electric
• Located in west central Florida
• Service Area: 2,000 sq. mi.
• More than 677,000 customers
• Active in DSM and conservation programs since early 1980s – both residential as well as commercial
  • Audits
  • Rebates
  • Load Management and Time of Use/Critical Pricing Programs
Load Control to Pricing Plan

- Legacy Direct Load Control: closed in 2005
- Residential Variable Pricing approved
- Permanent offering:

Energy Planner
Residential Variable Pricing

TOU + CPP = Customers can leverage lower rates 87% of the time (average of inverted rates)
Residential Variable Pricing
Variable Rates

Based on Florida Public Service Commission-approved rates as of January 2012

<table>
<thead>
<tr>
<th>Energy Planner Level</th>
<th>Energy Planner Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>8.683 ¢ / kWh</td>
</tr>
<tr>
<td>Medium</td>
<td>9.025 ¢ / kWh</td>
</tr>
<tr>
<td>High</td>
<td>15.362 ¢ / kWh</td>
</tr>
<tr>
<td>Critical</td>
<td>41.147 ¢ / kWh</td>
</tr>
</tbody>
</table>
Results

- Participating customers’ load shed:
  - 3.1 kW (winter peak)
  - 2.0 kW (summer peak)
- Annual kW h consumption savings: 1,154
- Bottom line: Customers are saving 8% to 10% on electricity bill.
Program Achieved High Ratings:

• 93% overall satisfaction
• 93% likely to remain
• 89% would recommend
• 81% no significant lifestyle adjustment
Partnership: using Maingate Home technology

- 2011: 2,000 customers enrolled
- Required landline communication = challenge meeting enrollment goals (phone issues)
Fall 2011 Program Upgrade: Selected Comverge SmartPrice™ dynamic pricing / IntelliSOURCE™

Solution:

1) New technology using broadband communication:
   ✓ **Result:** Achieve enrollment goals.

2) Comverge integration expertise with metering: leveraged IntelliSOURCE demand response software platform:
   ✓ **Result:** Secured billing data in absence of AMI.
Communications

• Offer residential variable pricing before AMI / MDM investments;

• Positions us to transition billing communications over to future MDM, as part of Smart Grid / AMI.

Energy Planner
Panelist

David Eggart
Program Manager
Northwest Florida “panhandle”
Approximately 400,000 residential customers
Leader in DSM for Residential
Focus: Automated dynamic pricing
• Energy Select program initiated in 2000
• Largest CPP program in U.S.
• Energy Select = TOU-CPP
• Automated program
• **Program Goal:** Residential advanced energy management system that delivers *increased value to customers* while providing *peak reduction benefits to utility system*.

• **Key components**
  - Variable price rate
  - Ability to pre-program devices to automatically respond to variable prices

• “Set it and forget it”
Rate (RSVP)

Price Per kWh*

Standard Residential Rate 9.9 cents/kWh

LOW  7.2 cents
MEDIUM  8.3 cents
HIGH  14.9 cents
CRITICAL  57.9 cents

* All prices are as of 07/02/12, excluding any applicable taxes. These prices are subject to change.

Price per kWh

$0.50
$0.20
$0.10

LOW  7.2 cents
Medium  8.3 cents
High  14.9 cents
Critical  57.9 cents
(Limited To 87 Hrs/Yr)

Residential Service Variable Pricing (RSVP) Rate

Percent of Annual Hours In Effect

Low Price  28%
Medium Price  59%
Critical Price  12%
High Price  1% (Maximum)

Standard Residential Rate 9.9 cents
• Partnered in 1999 to launch Energy Select
• 2011: Introduced new equipment/technology
• Leverages Comverge IntelliSOURCE™
  – Demand response software platform
• Smart T-stats & intelligent load control units.
• Allows “Always on, Two-way IP network”
• Uses existing broadband
Customer Web Portals
Marketing

Residential Service Variable Pricing Rate
Percent of Annual Hours In Effect

- Lower prices 87% of the time
- Medium price 28%
- High price 12%
- Low price 5%
- Critical price 1%

The Carters' comfort zone:
Saving on energy 87% of the time. Doing their part for a greener planet 100% of the time. It just runs in the family.

“Get in the game and start saving with Energy Select!”
- Gulf Power Energy Coach

gulfpower.com
Results:
Increased Customer Engagement

• 10,000 participants get greater control over their energy usage.
• Customers learn more about their energy consumption – they “get in the game.”
  – Both end-use and total energy usage
• Result: Customers make more informed energy decisions.
Benefits

Customer:
✓ Increased customer satisfaction and engagement
✓ Control energy based on price
✓ Lower price of electricity 87% of the time.

Utility:
✓ Reliable MWs at “push of a button”
✓ Better use of existing generation
Customer Value:

• 94%: Satisfaction with “Control over energy purchases”
• 97%: Satisfaction with comfort level of the home
• 89%: Satisfaction with their bill savings.
• 87%: Say offering programs like Energy Select “improved their overall satisfaction with Gulf Power”
Thanks – Questions?

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