Understanding the Energy Efficiency Ecosystem
The Municipal Utility Perspective

Bruce Ceniceros
Sacramento Municipal Utility District
What are Publicly-Owned Utilities (POUs)?

• Authorized by state law
• Government entity (city, county, town, state dept. or special district).
• Customer-owned
• Usually not regulated by state utilities commissions
• Usually have autonomous budgeting and rate-setting authority
• Own and operate generation, transmission and distribution systems for electricity/gas/water
Who are POUs?

- Over 2,000 public electric utilities in US
- Serve 43 million customers
- Wide range in size:
  - LADWP serves 1.4 million customers
  - Whalen, MN serves 64 customers
  - 1,400 serve less than 10,000 customers
- Some very active and innovative in energy efficiency, but large number have no EE programs.
POUs are Subject to State and Federal Regulation

• California laws effecting energy efficiency:
  – POUs must treat EE as a resource and include in integrated resource planning process
  – Must capture all cost-effective EE before considering new supply
  – Must set 10-year EE goals ever three years and report progress toward goals annually

• These laws don’t necessarily constrain POUs’ ability to pursue behavior-change programs
Municipal Utilities Must Meet Self-Imposed Requirements

• Oversight of elected boards or appointees
  – Set strategic goals and directives
  – Subject to political forces, conflict-averse
  – Pressure to keep rates low

• Scrutiny of resource planners
  – Want EE to look like a power plant
  – Skeptical of impacts from behavior change
  – More comfortable with “concrete and steel” solutions
New Behavior Programs at SMUD: Branded Awareness Campaign
New Behavior Programs at SMUD: Power Cost Monitors
New Behavior Programs at SMUD: Home Electricity Reports

Content number 540696
Home electricity report
Bill period: 07/14/07 - 08/13/07

This home energy report is intended to help you understand and make choices about your electricity usage and costs. Each month you will receive:
- A comparison of your use to your neighbors
- A comparison to your own use last year
- Personalized tips for reducing your cost

We hope this helps you manage your home electricity use!

Last Month Neighborhood Comparison

<table>
<thead>
<tr>
<th>EFFICIENT NEIGHBORS</th>
<th>NEIGHBORS</th>
<th>YOU</th>
</tr>
</thead>
<tbody>
<tr>
<td>695 kWh*</td>
<td>1,626</td>
<td>1,902</td>
</tr>
</tbody>
</table>

HOW YOU PERFORMED
ROOM TO IMPROVE

12 Month Neighborhood Comparison

1,200 1,000 900 800 700 600 500 400 300 200 100 0

WHO ARE YOUR “NEIGHBORS”? You’re comparing your usage to 100 homes nearby and similar in size to yours (average 2,000 square feet). Your most efficient neighbors are the top 20% in terms of energy efficiency.

Personalized Action Steps

- Unplug appliances to reduce phantom loads
- Switch to Compact fluorescent lights
- Invest in an efficient refrigerator

Personal Comparison

How your energy use compares to last year

July Average Wh/day

<table>
<thead>
<tr>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>19</td>
</tr>
</tbody>
</table>

You used 10% LESS this July.
You earned a star!

So far this year, you’re using 5% LESS than last year.

Action Steps

Quick Fixes
Things you can do right now:

- Reduce phantom loads

  In the average home, 70% of electricity used to power home electronics is consumed while the products are turned off. That’s a lot of wasted energy and cost.

  Cell phone chargers, computers, and video game systems are just a few of the devices which consume electricity when turned off. Eliminate this waste by unplugging the devices or using a powerstrip which can be turned off.

Smart Purchases
Save a list by operating a little:

- Switch Compact fluorescent light bulbs (CFLs)

  CFLs use 75% less energy and last up to 10 times longer than standard incandescent lightbulbs.

  They greatly reduce energy usage and save you money on electricity bills and replacement costs. Today’s CFLs provide high-quality light output and are available in many sizes and shapes to fit most lighting fixtures.

  Replace 6 bulbs and save up to:

  **$100 SAVED OVER 1 YEAR**

Reduce your Impact
Offset your emissions:

- Enroll in SMUD’s carbon offset program

  Your electricity use for 2007 created 1.2 TONS of carbon emissions. Your carbon offset can be applied in SMUD’s carbon reduction programs.

  You can offset the emissions from your electric use for $50/month.

  Order online at livegreen.smaid.org

Don’t forget your account number 540696

$65 EACH YEAR

11 TONS OF CO2 SAVED
New Behavior Programs at SMUD: Green Social Networking Site

Despite the sour economy and many consumers' newfound sense of thrift, there’s one gadget that market watchers still think many Americans will buy in coming weeks: televisions.
Challenges

• Burden of proof for behavior programs is very high
  – Short history in EE
  – Requires thinking completely differently about persistence of energy savings
  – Expectation of similar precision as with monitored equipment that has 10+ year average life

• But…
  – This has been done in health education and other fields
  – There is HUGE potential energy savings out there
  – Low cost compared to equipment change-outs may compensate for reduced certainty of impacts