WATER AND ENERGY UTILITIES: IMPROVING COLLABORATION

Water and energy utility collaboration for end-user water and energy efficiencies

Cindy Dyballa
Sligo Creek Resources
c_dyballa@yahoo.com
Why This Topic?

- A burst of interest in the relationship of energy and water use and savings
- Little focus on joint utilities’ end-user efforts, despite potential savings
- Water and energy sectors operate in different worlds
- Common understanding can create opportunities to work together
Areas of Focus

- End-user energy and water efficiencies
- Program collaboration, not technical savings
- Key differences in water and energy utility sectors
- Challenges to joint program success
- Opportunities and techniques that work
- State policy trends and support options
Study Approach

- Issues identified by others
- Documented joint program experience
- 17 interviews with leading practitioners, others with broader perspective
- Trends in state resource management
- Literature comparing water and energy sectors
Focus: Program Collaboration
Key Industry Differences: Size, Service, Owners

- Many more water than energy providers
- Largest electric and gas utilities dominate their sector
- Water and wastewater fragmented
- Service territory sizes and geography don’t match
- Water and wastewater public
- Electric and gas investor owned
State Regulatory Structure

- Health and quality: water supply
- Water quality: wastewater
- Safety, rates and profits: electric & gas
- PUC vs DEP
Economic Factors

- Order of magnitude difference in revenues
- Water: local or regional rate-setting
- Energy: state PUC approved rates
- Energy IOUs can separate efficiency costs
- Who bears costs and who benefits differ
- Estimating embedded energy and water savings
Approach to Efficiency

- Water best management practices, conservation planning
- Wastewater operational efficiencies
- Energy efficiency targets for electric and gas
Communications

- Industry terms differ
- Internal processes and data differ
- Stove-piping common
- Perceived sector differences influence collaboration
- Weak understanding breeds mistrust
Issues Identified by Others

- Blueprint process:
  - Lack of cross-sector working relationships
- EPRI western workshop
- CA experience:
  - PUC’s joint efficiency pilot programs for embedded energy in water
- CO, AZ and TX analysis
- GAO and DOE
Program Experience

- Programs reviewed by ACEEE & AWE:
  - Austin—3 way multifamily program
  - Denver Watts to Water—one stop for hotels & offices
  - Windsor Pays—climate change motivates town and utilities
  - Santa Rosa—commercial laundry
  - Living Wise—turnkey contractor as broker
  - Boulder-- performance contracting for public buildings
Program Experience

- San Antonio—increased rebates for housing authority customers
- Fort Collins—audits built relationship
- East Bay San Francisco—residential washers and more, 11 publics & IOU
- West Basin—commercial kitchens
- Seattle WashWise—leveraged costs
Program Experience

- Great lengths to solidify joint commitment and build communication
- Structured decision making and rules
- Narrow focus to start
- Some used outside parties as partners
- Motives vary, not just efficiencies
- Mutual concern for customer
- Funding, staff, customer, organizational benefits
Strengthening Collaboration

- Regional benefits can be significant
- Those interviewed are positive about potential
- Industry differences shape what works and doesn’t
- Economic issues need attention
- Programs that recognize differences upfront are more successful
State Efficiency Policy Trends

- Energy efficiency resource standards that encourage all sources of energy efficiency, including water efficiency
- Statewide water reduction goals, water conservation plans
- Climate change policies seeking actions to reduce greenhouse gases
Energy, Water, Climate Change

- Energy efficiency resource standard &/or EE savings >0.5%/year
- Water conservation plans &/or permit conditions
- Greenhouse gas emissions targets
Methods to Get Better Results

- Get the right folks talking at the start
- Clarify common goals up front
- Agree on customer service & convenience
- Work through mechanics of collaboration
- Start small; keep it simple for smaller utilities
- One utility as program lead, others contribute what they do best
Methods to Get Better Results

- Acknowledge difficulties in estimating costs and benefits
- Seek contributions and pool resources proportionately
- Another party (nonprofit) can provide the glue and attract outside funding
- It (almost) never hurts to ask
Opportunities for Utility Collaboration

- States that actively promote robust energy efficiency programs
- States and regions with persistent drought and water shortages
- Utilities in any sector that need to go beyond low hanging fruit
Opportunities for Utility Collaboration

- Water and wastewater utilities facing significant energy costs or capital costs for expansion
- Municipally owned joint utilities
- Energy cooperatives and mid-size municipal water providers with similar scale
State Policies To Support Program Collaboration

- Regular communication of energy and water regulators
- In-state coordination of mechanisms that support water or energy efficiency
- Individual agency actions to address cost-benefit issues
- Existing funding mechanisms to jumpstart collaboration
State Policies To Support Program Collaboration

- Water-saving targets, like energy-saving targets
- Integrated state goals for water and energy efficiency and climate change
- Formal mechanisms to recognize broader benefits of programmatic water and energy savings
What Next?

- For more information, contact Cindy Dyballa at c_dyballa@yahoo.com
## Water and Energy Sectors

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Water</th>
<th>Wastewater</th>
<th>Electricity</th>
<th>Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>52,000</td>
<td>15,000</td>
<td>Over 3,000</td>
<td>nearly 2,000</td>
</tr>
<tr>
<td>Size &amp; service</td>
<td>400 serve half</td>
<td>1,770 treat over 90% of volume</td>
<td>145 make ¾ of sales</td>
<td>140 make 90% of sales</td>
</tr>
<tr>
<td>Ownership</td>
<td>Public</td>
<td>Public</td>
<td>Investor owned</td>
<td>Investor owned</td>
</tr>
<tr>
<td>Regulation</td>
<td>Drinking water</td>
<td>Water quality</td>
<td>Rates &amp; profits</td>
<td>Rates &amp; profits</td>
</tr>
<tr>
<td>Rates</td>
<td>Local or regional</td>
<td>Local or regional</td>
<td>State PUC</td>
<td>State PUC</td>
</tr>
<tr>
<td>Revenues</td>
<td>$42 b</td>
<td>$47 b</td>
<td>$368 b</td>
<td>$115 b</td>
</tr>
<tr>
<td>Efficiency</td>
<td>BMPs &amp; planning</td>
<td>Operational efficiency</td>
<td>EERSs</td>
<td>EERSs</td>
</tr>
</tbody>
</table>