

The Water-Energy Nexus in Missouri

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NASEO Midwest

Comprehensive State Energy Plan (CSEP)

- Stakeholder process
 - Guides much of our work
 - Released 2015; updates coming 2019
 - Input from/participation by Missouri-American Water Company (MAWC), municipal utilities
- “Water and wastewater utilities are typically the largest consumers of energy in municipalities, often accounting for 30 to 40 percent of total energy consumed.” (p. 91; citation omitted)
- “Across the U.S., four percent of power generation is used for water supply and wastewater treatment, and electricity costs represent approximately 80 percent of municipal water processing and distribution costs.” (p. 92; citations omitted)

Small Water Systems

- 1,433 community-run systems regulated by Missouri Department of Natural Resources (CSEP, p. 91)
- Some systems need significant, costly improvements – need to facilitate
- Rate consolidation as potential acquisition consideration
- District consolidation considerations:
 - Infrastructure needs
 - Cost of service
 - Rate impacts
- Role of potential Energy Investment Partnership (“green bank”)

Missouri-American Water Company (MAWC)

- Discussion of water-energy nexus to support:
 - Demand-side efficiency pilot
 - Process audits/walkthrough
 - Better residential rate design/block rate pilot (w/ efficiency)

Kansas City Power & Light Company (KCP&L)

- Water-energy nexus study
 - Included in 2018 triennial integrated resource plan (IRP) filings
 - Annual cost-effective savings potential: 61 to 165 GWh
- Water Heating DLC Switch program planned for next Missouri Energy Efficiency Investment Act (MEEIA) cycle

Combined Heat and Power (CHP)

- Potential measure for wastewater facilities
- Custom measure in current MEEIA program cycles
 - No projects have been approved to date
 - Potential MEEIA participation by small water/wastewater system customers of electric IOUs?
- “Modifying” vs. “reducing” net consumption under MEEIA
 - Differing values of energy over time, shifting consumption
- Gas vs. electric impacts
 - Counting costs and savings (participant impacts, electric/other savings)
 - “Promotional practices”
- Standby rate structures
- Resiliency value
- Work with Empire/Liberty

Statewide Technical Reference Manual (TRM)

- U.S. Department of Energy grant, with cost-sharing from government, utilities (including MAWC), advocates
- Released in 2017; trying to get it used for investor-owned electric and gas utilities
- Includes some water savings
- Currently working on EM&V 2.0 (electronic format for using current info to assess savings)

Energy Loan Program (ELP)

- Revolving loan program
- \$10,000 minimum/ Max \$1M
- Energy savings determine the loan amount
- Maximum of 10-year repayment
- Bi-annual payments
- The higher the savings, the shorter the term
- Sewer and water supply districts eligible
- CHP is an eligible energy conservation measure
- 30 year old program with zero defaults.

Thank you!