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Saving Water and Energy Together - Helping Utilities Build Better Programs

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October 2013

Presented at the WaterSmart Innovations
Conference, Las Vegas, NV

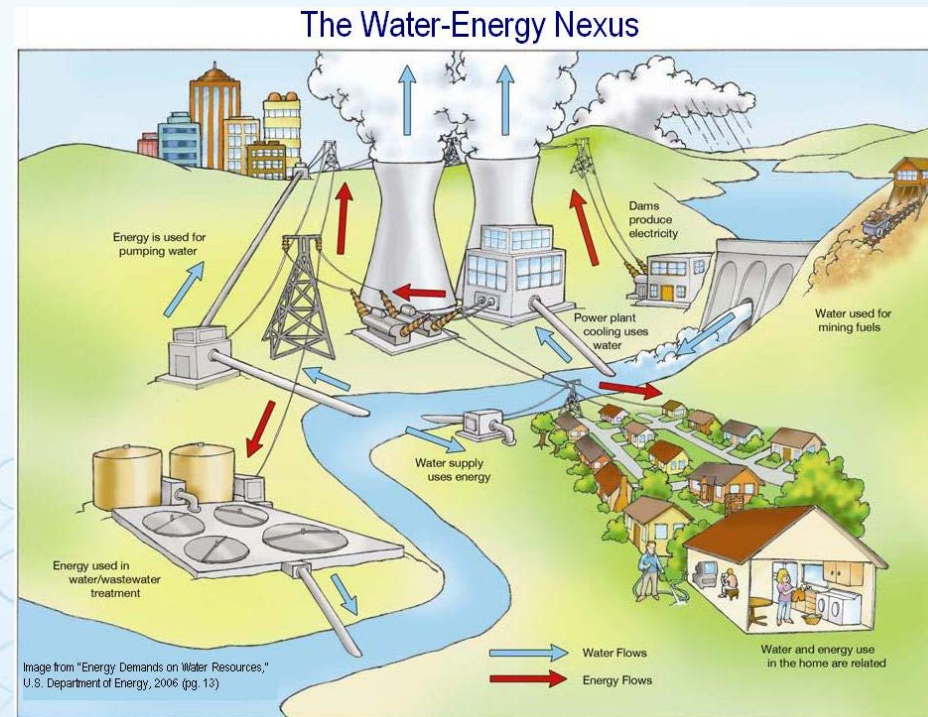
The American Council for an Energy-Efficient Economy (ACEEE)

- ACEEE is a nonprofit 501(c)(3) that acts as a catalyst to advance energy efficiency policies, programs, technologies, investments & behaviors
- Nearly 50 staff based in Washington, D.C.
- Focus on end-use efficiency in industry, buildings, utilities & transportation
- Other research in economic analysis; behavior; national, state, & local policy
- Funding:
 - Foundation Grants (52%)
 - Contract Work & Gov. Grants (20%)
 - Conferences and Publications (20%)
 - Contributions and Other (8%)



What is Energy-Water Nexus?

- Energy is needed to transport, treat, heat, cool, and recycle water.
- Water is needed in energy extraction, production, and processing.
- Saving water saves energy and saving energy saves water.




Background: Programs that Save Energy and Water

- A greater recognition of the energy-water nexus has spurred more programs that save water and energy
- States and Cities are implementing programs and instituting state policies that recognize the nexus.
- Private companies are implementing sustainability programs that save water and energy.
 - (see: <http://aceee.org/research-report/e131> for more info)
- However there are limited examples of programs that are being run by energy and water utilities jointly.

Water-Energy Program Directory

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Water-Energy Program Directory

Keyword

Organization

State (e.g., CA, NY)

Program Category

Apply

Programs Directory

Low Flow Showerhead and Faucet Aerator Program
CenterPoint Energy | AR, MN, OK
Program Category: Residential (indoor & outdoor)

Bonneville Power Administration (BPA) Agricultural Energy Efficiency – “Save Water-Save Energy” Program
Bonneville Power Administration | BPA's service area includes the states of WA, OR, ID, western parts of MT and WY, and the northern parts of CA, NV and UT
Program Category: Agriculture

Des Moines Metropolitan Wastewater Reclamation Authority - Infor ASE Implementation
Des Moines Metropolitan Wastewater Reclamation Authority | Des Moines, IA
Program Category: Corporate/ Government/ Institutional Sustainability

EMWD - Energy Management Strategies
EMWD | Eastern Municipal Water District, CA
Program Category: Energy Supply or Generation

West Basin Municipal Water District- Water-Energy Efficiency Master Plan
West Basin Municipal Water District | CA
Program Category: Corporate/ Government/ Institutional Sustainability

About the Directory
This directory is a publicly-available online resource which provides basic information on over 450 existing programs saving both water and energy from across the United States, Canada and Australia. The program information was received from program nominations for *Tackling the Nexus: Exemplary Programs that Save Both Energy and Water*, submissions directly to the directory, and from the E Source DSMdat database. The directory also includes contact information for point people administrating each program when available.

Does your organization have a water-energy program you'd like to share? In order to keep the directory up to date we encourage anyone involved in the management of a program that saves both water and energy to submit their program for inclusion in the directory. If your program is already in the database and you would like to update information on it, please **email us**.

Submit a Program

Challenges

- Lack of a relationship between energy and water utilities.
 - Getting organizations to understand their roles, communicate effectively, willing to trust, and commit to the program.
- Regulatory and economic differences between partnering electric and water utilities.
 - Size and service area;
 - Dominant ownership;
 - Rate setting.
- Calculating energy and water savings benefits.

Benefits of Working Together

- Increased market penetration of efficiency programs.
- Improved cost-effectiveness of energy efficiency when considering both water and energy.
- Creation of dual water and energy audits, rebate programs, and education and outreach efforts reduces the number of times utilities knock on doors.
- Leveraging relationships with different manufacturers and retailers and running joint programs so that the utilities can bring in multiple stakeholders and take advantage of those different relationships.

Benefits of Working Together

- Multiple perspectives and agendas in the program planning process, which can help identify additional untapped savings opportunities.
- Having water utilities and energy utilities together during the planning process helps ensure that unintended consequences are avoided.
- Increased understanding of the relationship between water and energy through advanced tracking, metering and evaluating.

Areas of Opportunities

- Residential Programs
- Commercial Programs
- Agriculture Programs
- Industrial Programs
- Water/Wastewater Programs



Residential Programs

- Equipment New Technology Programs
 - Combine funding for rebates and incentives.
 - Take advantage of existing infrastructure that highlights water and energy benefits.
 - Voluntary rating programs.
 - Combine funding and contacts to educate retailers and manufacturers about efficient product choices.
 - Leverage their influence over customer decision-making.
- Behavior
 - Joint smart meter feedback.

Residential Programs

- Whole Home
 - Easier to identify water and energy saving.
 - Comprehensive audits all in one home efficiency upgrade.
 - Water is a large expense for multifamily owners and property managers and is a foot in the door.
- New Construction and Resale
 - Potential for greater efficiency during the design process.
 - Homeowner is already making updates and improvements to the entire home.

Commercial Programs

- Whole building
 - Identify water and energy saving opportunities based on the interactive effects of commercial process.
 - Costs can be split between the two utilities.
 - Help facilities measure their water and energy consumption, set targets and achieve savings.

Commercial Programs

- Equipment New Technology Programs
 - No single technology or practice can improve efficiency among all of commercial customers.
 - Combine funding for rebates.
 - Educate a wider variety of retailers and manufacturers.
- New Construction and Leasing
 - Push for broader “green” labels that include water and energy efficiency.

Agriculture Programs

- Increasing Awareness
 - Take advantage of a water utility's local connections while still getting benefits of shared resources.
 - Better assess a farm's energy and water use and potential efficiency improvements together across the entire farm.
- Equipment and Technology
 - Joint technical assistance and one-stop-shop models.



Industrial Programs



- System or Process Efficiency
 - Joint programs can ease the examination of a system to help better identify savings.
 - Performance-based programs are good models for joint water and energy efficiency programs.

Municipal Programs

- Equipment and Infrastructure Improvements
 - An opportunity for energy and water utilities to work together and build relationships.
 - Some water and wastewater processing facilities struggle to obtain the capital.
 - Working with energy utilities to share costs can help.
- Leak Detection
 - Electric utilities can help water and wastewater facilities identify and repair leaks through incentives and technical assistance.

Conclusions

- There are many opportunities for energy and water utilities to work together to achieve greater savings.
- Utilities should take advantage of the benefits of joint programs.
- “Just add water” to current programs and to the energy resource planning process.
- Begin developing and implementing pilots of some of the recommended programs.

Next Steps

- Beginning a dialogue about opportunities between the two (or more) utilities and establishing relationships.
- Creating utility partnerships for joint messaging.
- Collaborating to identify unique funding opportunities.
- Developing a format to add energy savings calculations to water programs and vice versa.
- Working with energy regulators to establish credit for embedded energy savings from water efficiency programs (and vice versa).
- Creating a clearly communicated strategy with measurable goals to help clarify priorities and cement roles.

Additional Resources

ACEEE. *Tackling the Nexus: Exemplary Programs that Save Both Water and Energy.* aceee.org/research-report/e131

Pacific Institute. *Water-Energy Synergies: Coordinating Efficiency Programs in California.* pacinst.org/publication/water-energy-synergies/

Western Resource Advocates. *Conservation Synergies: The Case for Integrating Water and Energy Efficiency Programs.* westernresourceadvocates.org/conservationsynergy.php

Questions

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Downloadable version of the report is available here:

www.aceee.org/research-report/e13h

Water-Energy Program Directory: www.aceee.org/w-e-programs

Alliance for Water Efficiency: www.a4we.org