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Saving Watts to Save Drops: Ongoing Research to Document Best-Practice Utility Programs

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The American Council for an Energy-Efficient Economy is a nonprofit 501(c)(3) founded in 1980. We act as a catalyst to advance energy efficiency policies, programs, technologies, investments, & behaviors.

Our research explores economic impacts, financing options, behavior changes, program design, and utility planning, as well as US national, state, & local policy.

Our work is made possible by foundation funding, contracts, government grants, and conference revenue.

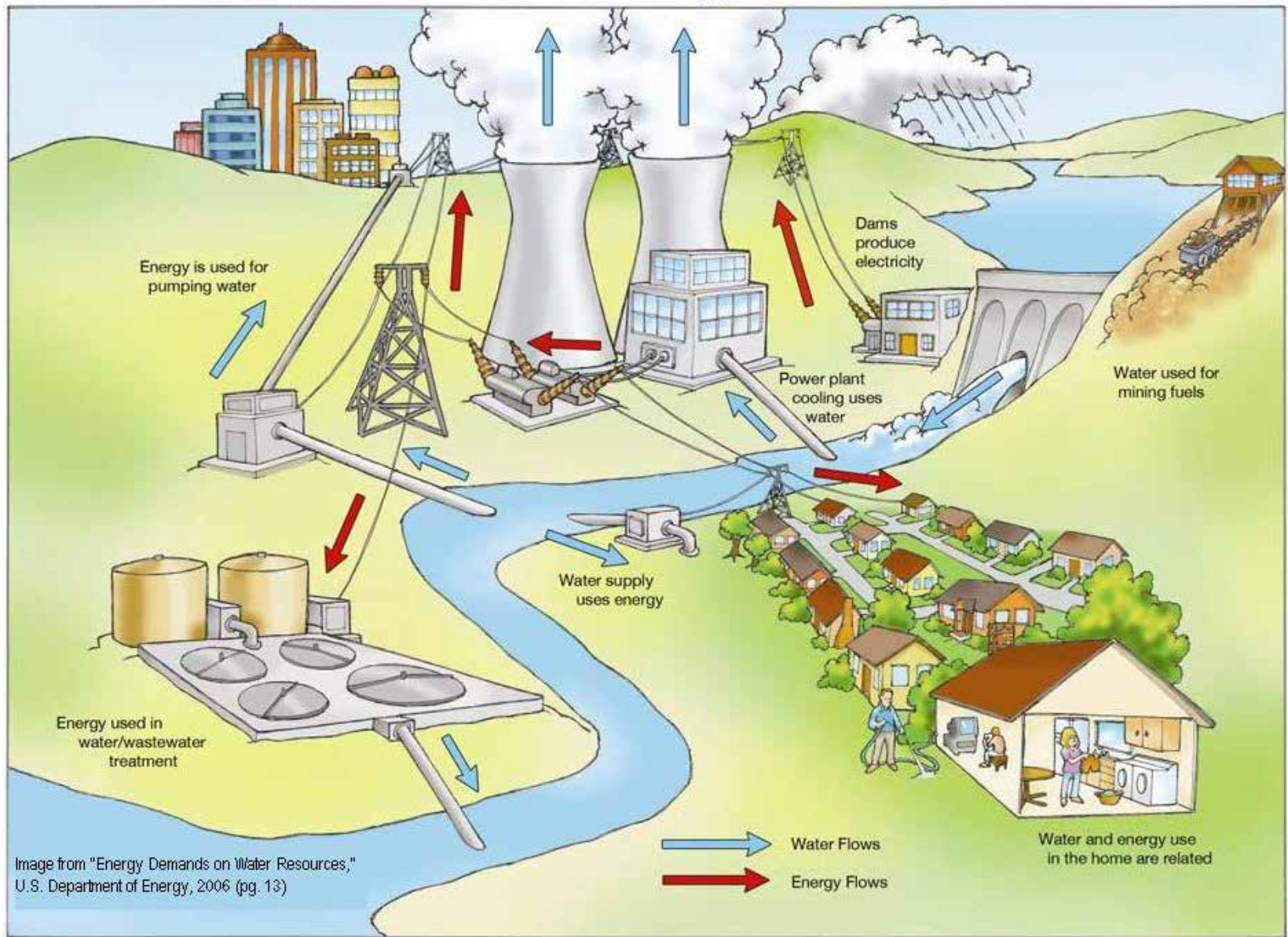
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Presentation outline

- Overview of the energy-water nexus
- Aims of current research
- Past work on best-practice programs
- Status of research and next steps
- How to get involved





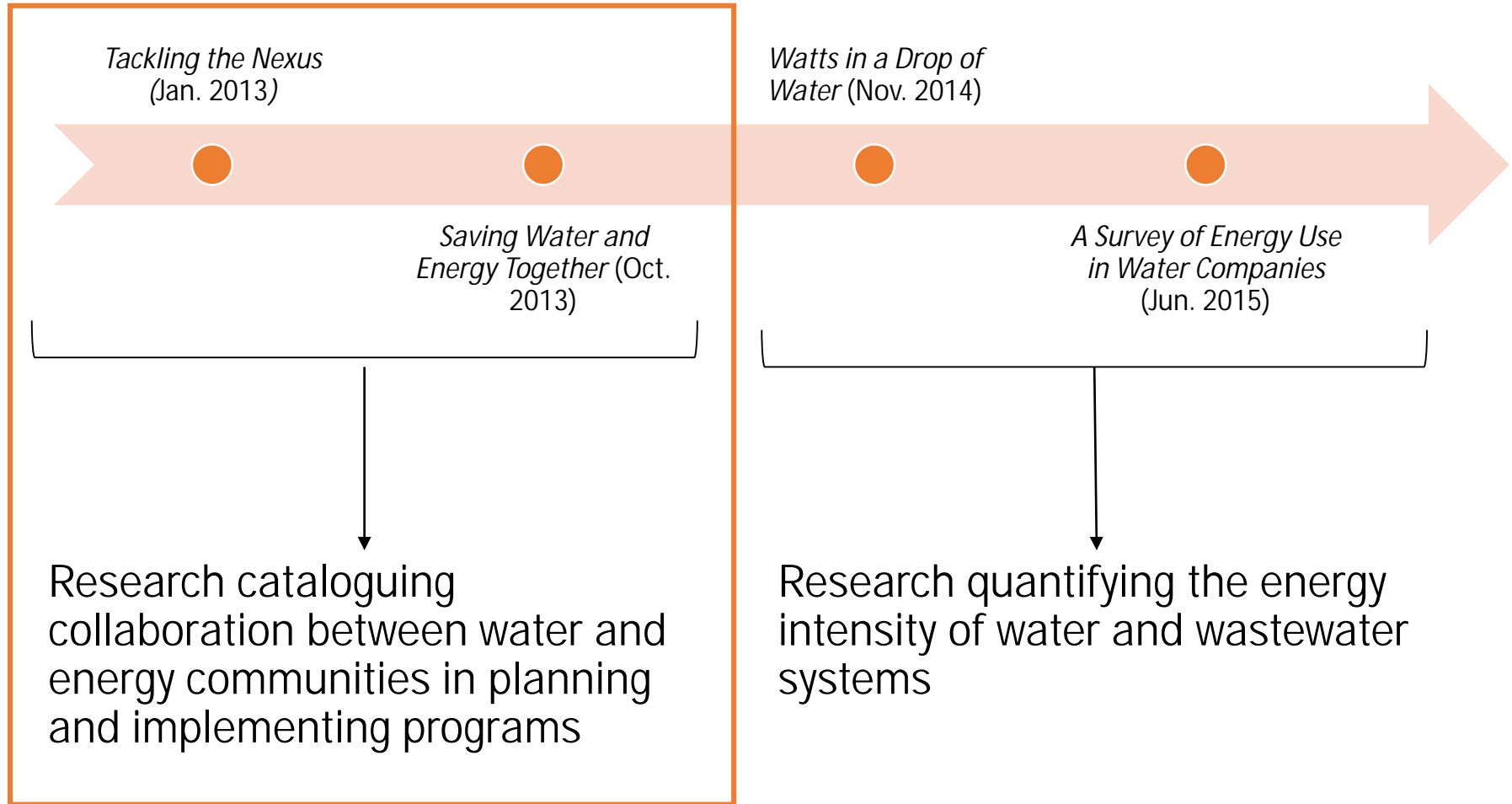
Why energy efficiency?

- Energy efficiency decreases the demand for energy, reducing the burning of fossil fuels and water withdrawals for energy generation.
- Efficiency can lower operational costs.
- The water-energy linkage means that efficiency programs operated by a water utility will benefit an energy utility and vice versa.

Research aims of *Saving Watts to Save Drops*

1. Compile the extent to which energy utilities have guidance to account for and track levels of water savings from energy efficiency programs
2. Determine programs most successful at saving water and energy
3. Extract lessons learned from successful programs and document whether they are jointly-offered by energy and water utilities

Recent ACEEE publications



Exemplary programs from past research

Administrator	Program
Boulder, Colorado	Energy Performance Contracting Program
Darden Restaurants	Darden Sustainability—15 X 15
Massachusetts Water Resources Authority	Long Term Sustainability Program
Southern California Edison	Leak Detection Pilot Program
United Technologies Corporation (UTC)	2015 Sustainability Goals



Source: <http://aceee.org/research-report/e131>

Research plan for *Saving Watts to Save Drops*

Research phase	Major tasks	Time period
Phase 1 - Literature review and background research	1. Review select technical reference manuals 2. Interviews with stakeholders	Summer 2017
Phase 2 - Gather data on exemplary programs	1. Compile program data from existing resources 2. Use survey to utilities to solicit information on new programs	Fall 2017
Phase 3 - Data analysis and further research	1. Gather energy and water savings data 2. Evaluate programs based on energy and water savings and other criteria 3. Document best practices from most highly ranked programs	Fall 2017
Phase 4 – Complete research	1. Publish report	Winter/Spring 2018

Guidance for calculating water savings

California Public Utilities Commission

- 2013: CPUC issues decision to explore strategies to reduce energy use by saving water and promote a partnership between energy IOUs and the water sector
- 2014: CPUC releases water-energy calculator
- 2015: CPUC issues decision requiring EE program administrators to use calculator to demonstrate benefits of water-energy programs and prioritize water-energy programs for evaluation

Guidance for calculating water savings (cont.)

Arkansas TRM Version 6.0

- December 2015: Arkansas PSC directs creation of algorithm for calculating value of avoided water/wastewater consumption due to EE measures
- Uses the marginal retail water rates and average water sewage rates to residential and commercial consumers to calculate a statewide, average proxy value

Potential program sectors

Residential

(e.g. high efficiency clothes washer rebate program)

Commercial

(e.g. whole building retrofit program)

Industry

(e.g. strategic energy management program)

Agriculture

(e.g. irrigation and agriculture efficiency program)

Water and Wastewater

(e.g. energy efficiency improvements in treatment plants)

Survey to gather program data

Call for Data: Best Practice Programs to Save both Energy and Water

Call for Data: Best Practice Programs to Save both Energy and Water

ACEEE
American Council for an Energy-Efficient Economy

The extent to which energy utilities account for water savings from their efficiency programs or account for energy savings from water efficiency programs has been an area of growing research interest but remains relatively unclear. In an effort to better understand recent advances in programs jointly addressing savings in both water and energy, we would like to request your help! The following questions are intended to gather any information you may have regarding burgeoning or established programs designed to capture water savings from energy efficiency measures. Please respond by Tuesday, October 10th in as much detail as you can with any information regarding relevant or exemplary programs that you would like to be considered as part of this research. Thanks in advance for your participation and feel free to reach out to me with any questions at wiberg@aceee.org.

1. Contact information for survey participant:

First Name Last Name

Title

Company Name

- Take our survey to help us highlight energy efficiency programs in your area that track energy and water savings.
- Our focus is on energy efficiency programs, but we would welcome water utility programs that have documented energy savings.

Link to survey:

[http://www.surveygizmo.com/s3/3821323/
Water-and-Energy-Data-Survey](http://www.surveygizmo.com/s3/3821323/Water-and-Energy-Data-Survey)

Methodology for assessing programs

- Methodology to identify most successful programs is still to-be-determined.
- Ideally, we would assess programs based on evaluated energy and water savings.
- However, data may not be available for enough programs, so we may use other qualitative factors (such as major accomplishments) in our assessments.

Concluding thoughts

- Energy efficiency programs provide an opportunity to save energy and water at the same time
- The extent to which energy utilities account for water savings from their programs is still unclear
- Our research aims to compile guidance available to utilities and identify best-practice programs
- Programs will provide examples and case studies for other utilities
- Potential follow-up research
 - Opportunities to scale up offerings in underserved markets
 - Most successful strategies used to overcome barriers to programs

Questions?

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