



2023-24 CORE RESEARCH PROGRAM

Tuesday March 14, 2023

Alliance for Water Efficiency

WEBINAR INFO

- Thank you for joining us today!
- Webinar will be no more than 60 minutes
- Webinar will be recorded.
 - Slides and recording will be made available.
- How to ask a question? Use the Q&A function, AWE staff will moderate.
- Poll responses throughout webinar will only be shared with AWE staff.

AGENDA

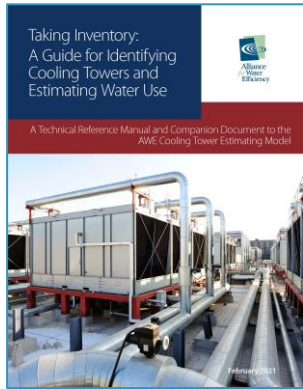
- History of AWE Research Projects
- Proposed 2023-24 Research Projects
 - AMI Primer
 - Peak Demands
 - Large Scale Landscapes
- Next steps & How to get involved
- Other announcements:
 - AWE Water Efficiency & Conservation Symposium August 2023
 - Upcoming webinars



AWE RESEARCH PROJECTS

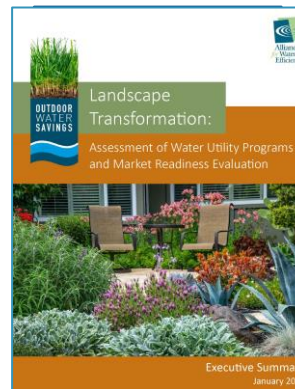


EXAMPLES OF RECENT MULTI-AGENCY PROJECTS



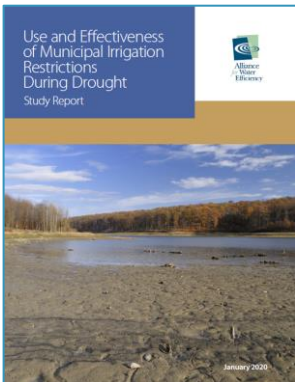
Cooling Technology

- 18 participating agencies
- ~\$500k budget



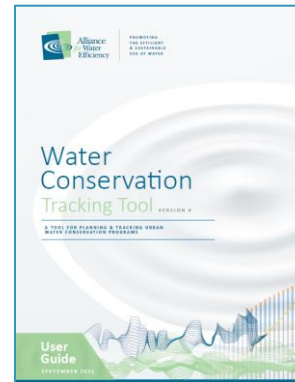
Landscape Transformation: Assessment of Water Utility Programs & Market Readiness Evaluation

- 15 participating agencies*
- ~\$320k budget



Use & Effectiveness of Municipal Irrigation Restrictions During Drought

- 14 participating members*
- ~\$200k budget



Version 4 of the Conservation Tracking Tool

- 17 participating agencies
- ~\$200k budget

*Project was partially funded by a foundation grant.

HOW DID WE SELECT OUR NEW PROJECTS?

- Member-Driven Priorities
- Relevance to Majority of AWE Members
- Gaps in Existing Research
- Knowledge that Helps Activate Conservation and Efficiency in Effective Ways
- Multiple Topics to Meet Different Organization's Needs/Realities
- Incorporating Different Participation Options to be More Accessible



WHY PARTICIPATE IN AN AWE PROJECT?

- Cost-effective means to get individualized evaluation and analyses by coordinating with multiple agencies
- Avenue to rally your organization around a given topic
- Avenue to bring multiple department silos together
- Ensure your agency's perspective and issues are considered
- Early access to findings
- Demonstrate your organization's leadership and commitment
- Access to a peer network centered on a topic you care about
- Professional development and networking
- Help contribute to creation of resource(s) that help:
 - demonstrate the benefits and costs from the real world
 - advocate for the personnel, software, tools, and other resources you need
 - support applications for funding



AMI PRIMER

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WHERE AM-I?



ADVANCED METERING INFRASTRUCTURE

- AMI can enable new & enhance existing programs and services. What is possible beyond leak notifications?
- How can we use AMI to save more water? To improve customer service? To improve other utility operations?
- What processes, policies, skills, software, or tools are needed to bring the business/use cases to life?



WHAT RESOURCES EXIST?

Advanced Metering Infrastructure: A Guidance Manual for Water Utilities

Don Schlenger, PhD

Covers foundational information about AMI technology, feasibility studies, procurement, implementation, project management.

Advanced Metering Infrastructure System Template Request for Proposals

A group of AWE and CalWEP members created an RFP for utilities to use/customize.

The Behavioralist & AWWA released a study and guidebook on AMI customer portals. Focus was on customer engagement and use of portals.

Water Research Foundation Project #4741: AMI-Meter Data Analytics.

This project focused on foundational interactions with customers (high bills, unexpected use), water accounting for water loss audits, and meter management practices.

Improving Water Management Using Advanced Metering Infrastructure Data: A Guide for Facility Managers

EPA WaterSense



PLUS...

Forthcoming AWE report:

Smart Practices to Save Water with AMI-enabled Leak Notifications

- Evaluation of the impact of four different utility leak notification programs
- Survey results from 102 utilities



Revealed utilities are exploring dozens of ways to use AMI data



EXAMPLES OF USE CASES ...in addition to high use and leak notifications...

- Pairing AMI with weather data to flag irrigation during rain events.
- Benchmarking multi-family and commercial properties.
- Indoor and outdoor audits.
- Water loss/revenue recovery efforts like tracking use on inactive accounts.
- Optimizing marketing of programs and services to customers who may benefit the most.
- Enhanced messaging and reporting for customers.
- Water use restrictions monitoring and enforcement.
- Demand modeling and forecasting; peak demand analysis.
- Education programs (K-12 and adult).

EXPECTED DELIVERABLES – AMI PRIMER

- **Practical Primer Document**
 - Resource on the many ways to use AMI data
 - Examples, data, lessons learned, collateral
 - Insight into the skills, tools, software or other resources needed
 - Reveal where and what education and training is needed
- **Learning and Engagement Activities**
 - Participating utilities form a peer network
 - Engage staff from multiple departments that contribute to the AMI system
 - Engagement with AMI-related vendor companies to help influence the market



TIMELINE & PARTICIPANT COMMITMENT: AMI PRIMER

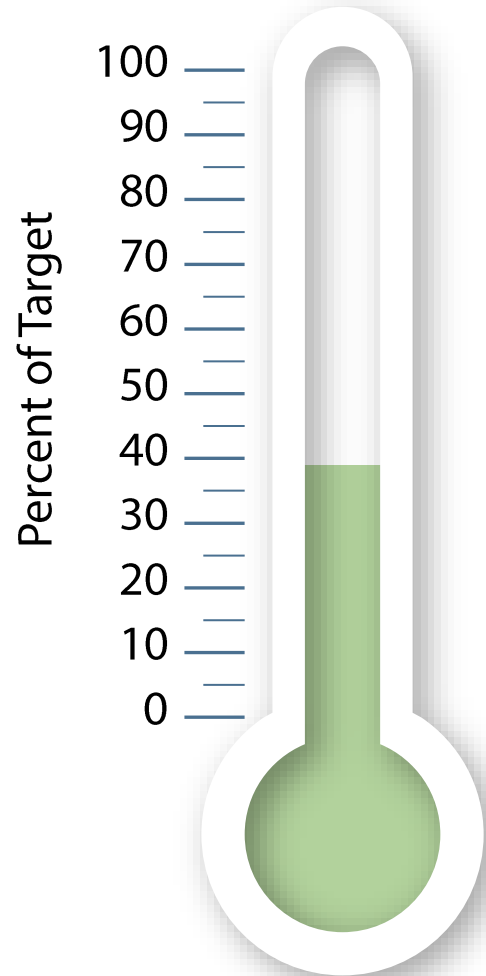
Project Timeline:

- Project is expected to launch May/June 2023
- Timeline: 9-12 months
- Does not require sharing of AMI data
- Project will be conducted by AWE staff

Participant Commitment:

- Project Advisory Committee (1 rep per organization):
- Peer Cohort quarterly meetings (Ideally includes multiple staff per organization)
- Time for individual interviews, focus groups, or a survey
- Time to collect data and collateral for relevant use cases
- **Total: 16-20 hours over 9-12 months**

FUNDING & PARTICIPATION: AMI PRIMER



Research Sponsor (Large agency, meter company, foundation, etc.)	\$7,500- \$10,000	Participate in PAC, Peer Cohort, Contribute use cases, information, and collateral
Research Sponsor (Small agency)	\$2,500	

Fundraising Goal: \$110,000

Two sponsor levels to increase diversity of perspectives, reduce barriers to participation.



PEAK DEMANDS

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IT TAKES A LOT TO GET WATER TO THE TAP

... which can be complicated by varying demands



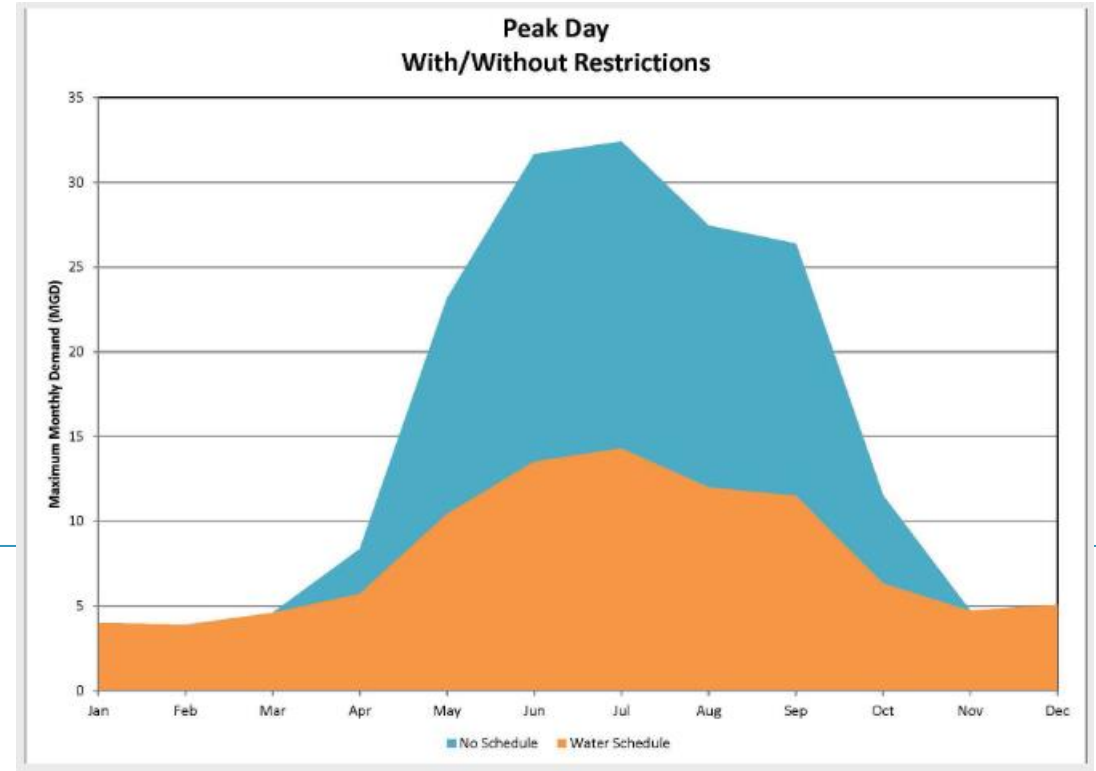
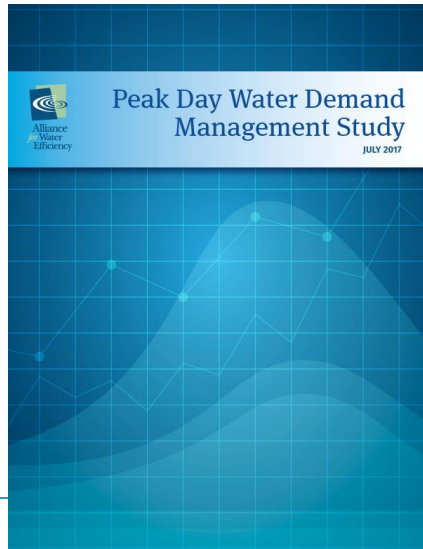
BALANCING SUPPLY AND DEMAND

Effectively managing peak demand can:

- Extend the life of existing infrastructure and facilities
- Extend water supplies
- Reduce/avoid capital and O&M utility costs – and keep water bills lower
- Maintain levels of services (e.g. pressure)
- Reduce energy consumption and GHG emissions
- Improve resiliency



HOW CAN AGENCIES EFFECTIVELY PLAN FOR AND MANAGE PEAK DEMAND?



TIPS AUGUST 17, 2021

Peak Demand Management

This is just a reminder, for customers that have an automatic sprinkler system to set your sprinkler timer outside the hours of 5:30a.m.–7:30a.m. to **Avoid The Peak!** During peak hours we are busy showering, cooking, doing laundry, and getting ready for the day. By simply not watering your lawn between peak hours on weekday mornings, you can help Central Arkansas Water manage peak demand periods, avoid undue stress on our public water system, and ensure adequate water pressure for you and your neighbors. With your help each summer, we can keep our water supply safe, dependable, and affordable. So, **Avoid The Peak!** If you have questions, please call 501.377.1331 or email us about Peak Demand.

RESEARCH QUESTIONS

- What are the different definitions of peak demand that are relevant to utility operations?
- What are the trends over time and the drivers of peak demand patterns across different geographies and contexts?
- How might climate change and extreme weather patterns influence peak demand in the future?
- What are peak demand strategies, which are effective, and why?
- What are the potential cost savings related to avoided capital expenditures and reductions in operating expenses, including energy expenses?



EXPECTED DELIVERABLES – PEAK DEMANDS



- **Analytical Report**
 - Analysis of trends and drivers of peak demand
 - Evaluation & description of peak demand management strategies
- **Guidance Document**
 - When, where, and how to deploy the right peak management strategies
 - Guidance for how to plan for your future peak demands
 - Potential costs and benefits of peak demand management strategies

TIMELINE & PARTICIPANT COMMITMENT: PEAK DEMANDS

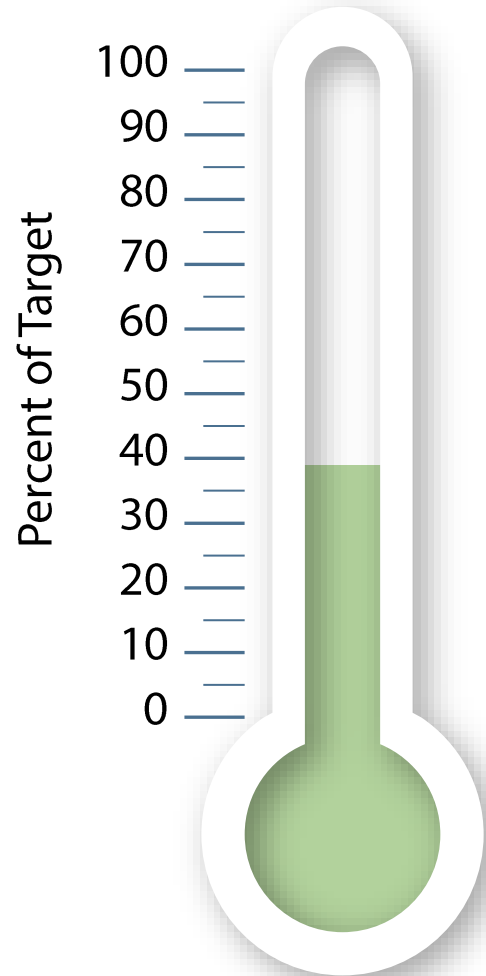
Project Timeline

- Project is expected to launch Fall 2023
- Timeline: 18-21 months
- Project to be conducted by AWE staff with consultant(s)

Participant Commitment:

- Project Advisory Committee meetings
- Data collection and sharing
- Interviews/focus groups
- Total: 30-40 hours over 18-21 months

FUNDING & PARTICIPATION: PEAK DEMANDS



Utility Participant	\$16,500	Participate in PAC, in-depth interviews, provide data, get individualized technical analyses
Active Sponsor	\$7,500	Participate in PAC. No or limited detailed data required. Provide qualitative and high-level qualitative information.
Research Supporter	\$2,500	Desire to support but limited time for involvement.

Fundraising Goal: \$225,000

Project is scalable depending on number of participants. Different levels of involvement available.



LARGE-SCALE LANDSCAPES

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STATEWIDE BAN ON NON-FUNCTIONAL TURF IRRIGATION

Applies to Commercial, Industrial and Institutional Properties



WATERING PLANTS WHILE IT RAINS.



The New York Times

To Save Water Amid a Megadrought, Las Vegas Outlaws Grass

They are "nonfunctional," serving only an aesthetic purpose. ... state assemblyman from Las Vegas who sponsored the turf ban bill,...

May 3, 2022

Metering Utah's secondary water may help overuse in drought

Less Turf. Less Water. More Beauty.

In addition to CWCB grant programs, additional one-time funding is now available to eligible entities to help remove turf in their communities. Learn more (below).



SMART PRACTICE: OPTIMIZING WATER MANAGEMENT

No matter the landscape, climate, water supplies – a smart place to start is optimizing management of irrigation.



- Landscape transformations can be more successful with smart irrigation management as a foundation.
- Utilities are trying a variety of strategies – and have multiple objectives like protecting trees and shade, reducing urban heat, community livability and vibrancy, stormwater management, habitat and pollinators, and resiliency.
- Multiple stakeholders are involved with large landscapes
- Creating sustained landscape water management can help during water shortages, too.

CHECK ALL THAT APPLY

- We don't have a large-scale landscape program but will.
- We've had a few projects, but not as much uptake as we'd like.
- We focus on irrigation through audits, landscape water budget, and/or rebate programs.
- We emphasize partnering with the landscape and irrigation industry.
- We've seen projects but have no idea how much water has been saved or why some projects are more successful than others.
- We. Have. HOAs.
- We've supported lots of projects and can't wait to share how we've cracked the code!
- We can't be the only ones struggling with this.



WHAT WE'VE BEEN HEARING FROM AWE MEMBERS

- We're learning as we go – can we learn with others, too?
- We need research to support requests for program funding (internal and external)
- Customers are asking for help, and it feels overwhelming
- Our community has multiple priorities, not just saving water
- Provide a participation option for organizations with limited projects/data
- Engage irrigation and landscape industry companies



PROJECT OBJECTIVES

- **Water Use Analysis and Evaluation Report**
 - Analyze water use impacts from projects across multiple geographies and climates
 - Both landscape transformation and irrigation management projects
 - Market readiness evaluation for large-scale landscape transformations
- **Guidance Document**
 - Examples of program designs, info about program costs, staffing needs
 - Complementary/enabling ordinances, policies, technologies, etc.
- **Learning and Engagement Activities**

PEER LEARNING COHORT

- Don't wait until the finished report – learn alongside your peers from the beginning.



TIMELINE & PARTICIPANT COMMITMENT: PEAK DEMANDS

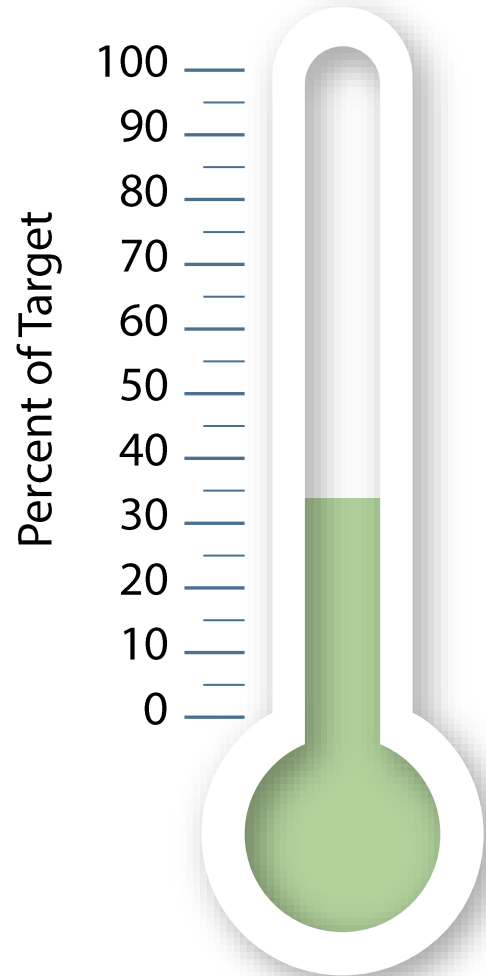
Project Timeline

- Project is expected to launch Summer 2023
- Timeline: 18-21 months
- Project to be conducted by AWE staff with consultant(s)

Participant Commitment:

- Project Advisory Committee meetings
- Data collection and sharing
- Interviews/focus groups
- Learning Cohort Meetings
- Total: 40-50 hours over 18-21 months

FUNDING & PARTICIPATION: LARGE-SCALE LANDSCAPES



Utility Participant – The Works	\$18,500	Comprehensive data, individualized technical analysis. Involved in PAC and learning cohort.
Utility Participant – Limited	\$10,000	Limited data. Involved in PAC and learning cohort.
Active Sponsor	\$7,500	No program/data to contribute. Involved in PAC and learning cohort.
Research Supporter	\$2,500	Desire to support but limited time for involvement.

Fundraising Goal: \$345,000

Project is scalable depending on number of participants.

NEXT STEPS – HOW TO GET INVOLVED

- **Ways to get involved:**
 - If you submitted a “yes” response to any of the polls, we’ll reach out to you. No additional action necessary.
 - If you didn’t submit a response, reach out to andrew@a4we.org to keep the conversation going.
- **Convos with potential participants by mid-April**
 - **Target project start dates:**
 - AMI Primer: May/June 2023
 - Large-scale Landscapes: July 2023
 - Peak Demands: October/November 2023





OTHER ANNOUNCEMENTS

Alliance for Water Efficiency

Space is
limited.

Abstracts
due Friday
March 31st



REGISTER
TODAY!

INTRODUCING THE 1ST ANNUAL

WATER EFFICIENCY & CONSERVATION SYMPOSIUM


AUGUST 2-3, 2023 | CHICAGO, IL

A dynamic event bringing together water efficiency and conservation professionals from across the country for two days of engaging sessions, hands-on learning, and networking opportunities. Join us August 1st for a pre-Symposium workshop and social outing.

WWW.ALLIANCEFORWATEREFFICIENCY.ORG/MEMBERS/2023SYMPOSIUM



OPPORTUNITIES TO GET INVOLVED WITH YOUR AWE NETWORK

- Water Efficiency Research Committee
 - WaterSense & Water Efficient Products Committee
 - Education & Outreach Committee
 - CAMI (Conservation + AMI) Group
- 
- List the group(s) you'd like to join through the Q&A function and we'll reach out.

REGISTER FOR UPCOMING WEBINARS

Smart Practices to Save Water with AMI-enabled Leak Notifications

Wednesday March 29th @ 9am PDT/12pm EDT

Planting Trees for the Future (in partnership with EPA WaterSense)

Thursday March 30th @ 11am PDT/2pm EDT

Find webinars and register: <https://www.allianceforwaterefficiency.org/events>





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Thank You!