

The background of the slide is a light gray gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance. The text is centered in the middle of the slide.

ENERGY EFFICIENCY OPPORTUNITIES AT WATER UTILITIES

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SUMMARY

- OVERVIEW OF AWWA'S ENERGY EFFICIENCY INITIATIVE
- WATER UTILITIES ENERGY CONSUMPTION IN MICHIGAN
- CURRENT EE MEASURES AVAILABLE TO WATER UTILITIES
- OPPORTUNITIES FOR ADDITIONAL MEASURES
- BRINGING WATER SECTOR KNOWLEDGE TO BUILD NEW MEASURES
- NEXT STEPS



OVERVIEW OF AWWA'S ENERGY EFFICIENCY INITIATIVE

- IN 2014, AWWA LAUNCHED A NATIONAL EFFORT TO RAISE AWARENESS OF THE ENORMOUS POTENTIAL FOR IMPROVING ENERGY EFFICIENCY AT WATER UTILITIES
 - FEDERAL POLICY IN CLEAN POWER PLAN
 - STATE POLICIES FOR RATE-PAYER FUNDS
 - WATER SECTOR'S EFFORTS TO RESPOND TO RISING ELECTRICITY PRICES AND INFRASTRUCTURE NEEDS



WHY NOW?

- WATER UTILITIES CONSUME 3-8 PERCENT OF US ELECTRICITY
 - AMOUNT VARIES SIGNIFICANTLY BY STATE AND BY SYSTEM
- ELECTRICITY BILL IS USUALLY THE 2ND/3RD HIGHEST EXPENSE FOR A WATER SYSTEM
- ELECTRICITY PRICES PROJECTED TO RISE 6-8 PERCENT NATIONALLY
- INFRASTRUCTURE NEEDS GREATER INVESTMENT



WHY NOW?

- MANY STATES ARE RE-EVALUATING THEIR RATE-PAYER ENERGY EFFICIENCY FUNDS
 - NEED TO FIND ADDITIONAL, COST-EFFECTIVE EE OPPORTUNITIES
- GROWING RECOGNITION THAT WATER SYSTEM IMPROVEMENTS ALSO SAVE ENERGY
- WATER UTILITIES CAN BE LONG-TERM EE PARTNERS
 - LOCALLY-BASED
 - TRAINED STAFF THAT MONITOR SYSTEM CONTINUOUSLY
 - OPERATE 24/7
 - VERIFIABLE IMPROVEMENTS
 - PROJECTS OFTEN KNOWN IN ADVANCE



WATER UTILITY ENERGY EFFICIENCY

- DELIVERY OF WATER UNDER PRESSURE TO EACH HOME AND BUSINESS USE A GREAT DEAL OF ENERGY
- WATER UTILITIES ENGAGE IN CAPITAL PROJECTS AND ROUTINE O&M EFFORTS TO REDUCE PRESSURE AND WATER LOSS AND TO DELIVER PRESSURE MORE COST-EFFECTIVELY
 - ALL OF THESE EFFORTS SAVE ENERGY AND/OR IMPROVE ENERGY EFFICIENCY OF WATER DELIVERY
- EXAMPLES
 - REDUCING PIPE AND VALVE LEAKS
 - PUMPING OPTIMIZATION TO USE MOST EFFICIENT PUMPS FIRST



WATER UTILITY ENERGY EFFICIENCY CHALLENGES

- AT THE SAME TIME, MANY WATER UTILITIES ARE SMALL
 - THEY LACK DEDICATED STAFF TO FOCUS ON ENERGY EFFICIENCY AND EE INCENTIVE PROGRAMS
- ALL WATER SYSTEMS HAVE A SIGNIFICANT BACKLOG OF POTENTIAL IMPROVEMENTS
 - CAPITAL PLANNING/INFRASTRUCTURE NEEDS ARE OFTEN REPORTED TO STATE AGENCIES
 - VIRTUALLY ALL OF THESE IMPROVEMENTS WILL ALSO SAVE ENERGY
- INCREASING ACCESS TO EE PROGRAMS AND STREAMLING APPROVALS
 - GOAL TO CREATE ENERGY MEASURES FOR THE INDUSTRY



WATER UTILITIES ENERGY CONSUMPTION IN MICHIGAN

- NUMBER OF WATER UTILITIES IN MICHIGAN
- EXAMPLES OF ENERGY CONSUMPTION
- EXAMPLES OF FUTURE ENERGY EFFICIENCY IMPROVEMENTS



CURRENT EE MEASURES AVAILABLE TO WATER UTILITIES

- PUMP REPLACEMENT
- MOTOR REPLACEMENT
- VSD/VFDS
- LIGHTING
- HVAC IMPROVEMENTS



OPPORTUNITIES FOR ADDITIONAL MEASURES

- LEAK DETECTION AND REPAIR
- CHANGES IN RAW WATER SUPPLY
- PUMP OPTIMIZATION AND CONTROL SYSTEMS
- FOR WATER/WASTEWATER UTILITIES, EVEN MORE OPPORTUNITIES
 - I/I IMPROVEMENTS
 - MORE ENERGY EFFICIENT AERATOR TECHNOLOGIES



OPPORTUNITIES FOR ADDITIONAL MEASURES

- EACH OF THESE POTENTIAL NEW MEASURES IS WELL UNDERSTOOD
 - ASTM AND OTHER ISO BODIES HAVE STANDARDS'
 - STANDARDS ENSURE EFFECTIVENESS AND EM&V REQUIREMENTS
- STANDARDS FOCUS ON THE WATER/OPERATIONAL SAVINGS, OFTEN NOT THE ENERGY SAVINGS
- CHALLENGE – TRANSLATE THESE INTO ENERGY SAVINGS FOR ENERGY MEASURES



NEXT STEPS

- BUILD AWARENESS AMONG MICHIGAN WATER UTILITIES OF EXISTING MEASURES AND INCENTIVES
- BUILD NEW MEASURES AND INCENTIVES TAILORED TO WATER UTILITY ENERGY EFFICIENCY OPPORTUNITIES