



Conservation Synergy:

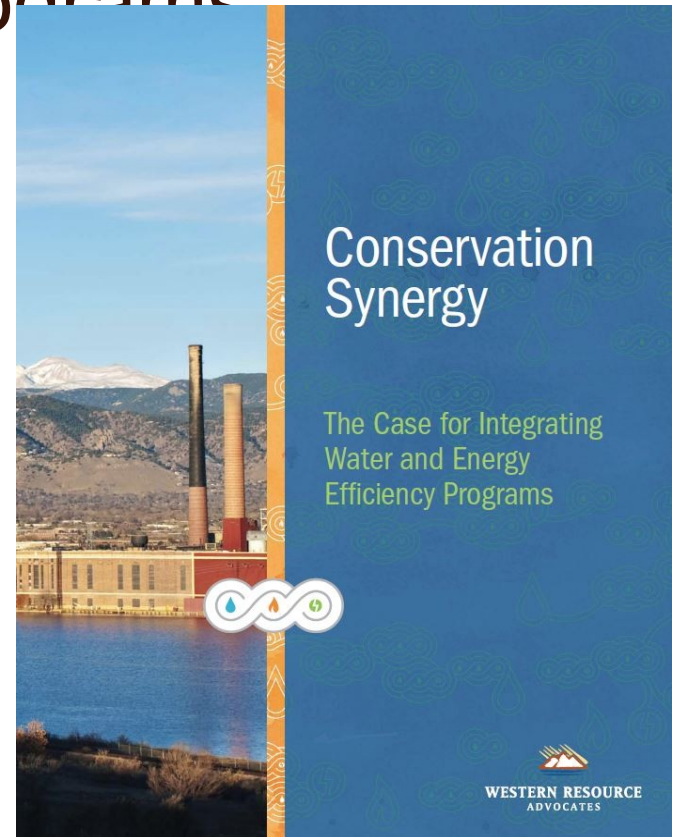
The Case for Integrating Water & Energy Efficiency Programs

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**WESTERN RESOURCE
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Protecting the West's land, air, and water



Water-Energy Nexus

Energy embedded in water,
specifically:

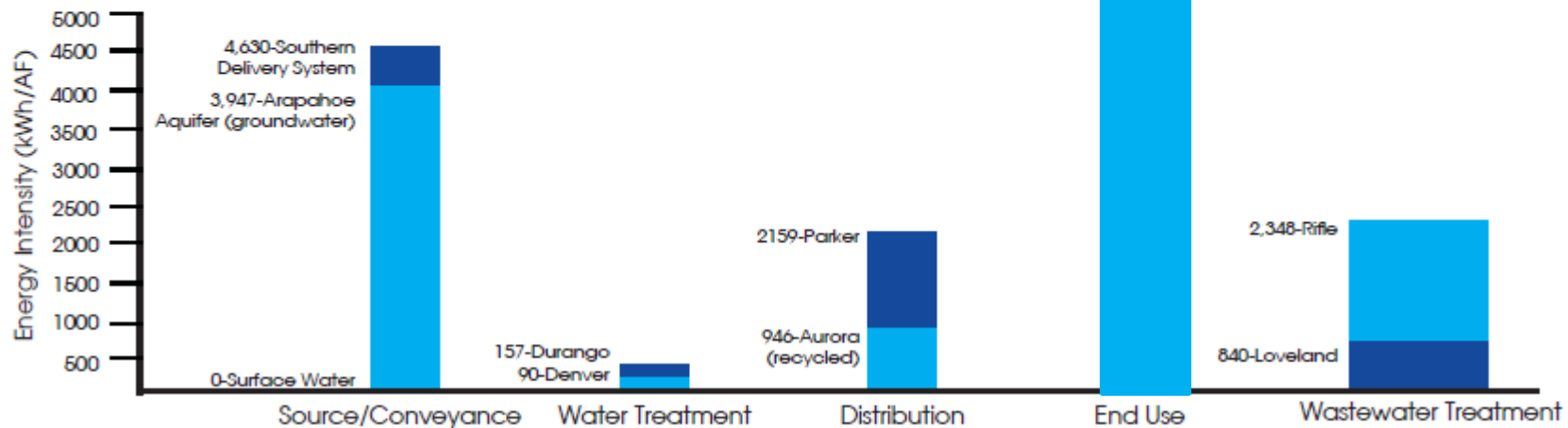
End use HOT water

Energy used to heat water in a home typically accounts for 20% of total home energy use.

Source: U.S. Energy Information Administration

Figure 1: Energy Intensity of Water System Stages

The energy requirements at each stage of the water system vary widely depending on the source of water, the regional topography, and the specifications of the treatment plants. This figure shows examples of the energy-intensity of water in each stage, throughout Colorado.⁹ Note that the heating of water by end users is so energy-intensive, it is literally off the chart, using 50,000 kilowatt-hours (kWh) of energy per acre foot (AF) of water.



Conservation Synergy:

Collaboration between electricity, gas and water utilities on efficiency programs to produce a combined effect greater than the sum of their separate effects



Examples to look to:

- At least one recent example in TX
(thanks ACEEE!)
- A few recent examples in California
via CPUC directives
- A few documented case studies
in 1990s





Utility Collaboration Example:

Joint Rebates

- PG&E + 41 water agencies
- Washing machine rebate program
- \$50 from PG&E, \$50-\$75 from water utility
- <http://www.waterenergysavings.com/>
- Results: 63% increase in participation, ranks highest in customer satisfaction, administrative costs are lower overall



Utility Collaboration Example:

Joint Audits

- Austin Water, Austin Energy, Texas Gas Service
- “Tri-Resource”
- Multi-family housing efficiency audit & upgrades— free aerators and showerheads
- Higher value package helps to overcome split incentive



Utility Collaboration Example:

Joint Building Efficiency Upgrades

- SoCalGas & LADWP
- 6 Building efficiency programs
- Launched late 2012
- Each utility is lead on a program when a process/program was already in place
- Legal framework established in 6 months

The Collaborative Process Guideline

1. Confer with regulatory bodies and secure commitment from top management.





The Collaborative Process

2. Bring the appropriate staff together to:

- Prepare market analysis.
- Identify the best, first collaborative opportunities. Existing programs?

1. Joint Rebates

2. Joint Audits

3. Joint Building Efficiency programs

- Assess cost, benefits, and financing options.
- Define roles & responsibilities, and address risks.



The Collaborative Process

3. Obtain regulatory approval, implement, and evaluate program performance.

4. Explore new opportunities for expanded collaboration (e.g. cold water efficiency).

- System water loss detection & repair
- Municipal irrigation efficiency
- Agricultural irrigation efficiency



Barriers & Challenges

- Significant up-front time investment
- Differences in service territory
- Differences in data collection protocol and expectations
- Establishment of trust
- Regulatory bodies



Identified Benefits of Collaboration:

- Higher participation rates, broader promotion
- Lower costs
- Increased customer satisfaction
- Improved reputation from working smarter - not harder
- Coordinated and complementary program design
- Long-term collaborative opportunities



Conservation Synergy

Could it be right for
you?




Progress in Colorado:

- Collaboration between a few integrated municipal utilities, and 3rd party orgs
- Currently discussions between Xcel Energy & a few water utilities
- Adoption of informational pamphlets about saving energy by saving water in Boulder and beyond....

Watts in the Water: Adopt me!

GET CLEAN. GET GREEN.




Older shower heads can use as much as 5.5 gallons per minute (gpm). New low-flow showerheads use 2.5 gpm or less.

Choose an EPA WaterSense-labeled shower head to ensure it works well and saves water. Installing a \$25 efficient showerhead will pay for itself in less than half a year in a typical household – and it will result in years of energy and water savings.

Letting your faucet run for 5 minutes while you wash/brush your teeth uses about as much energy as your hair dryer uses in 30 minutes.


Once you have changed the shower head, change your faucet aerators.

A typical aerator uses 2.5 gallons per minute, but new low-flow models use as little as 0.5 gallons per minute.



The EPA says new low-flow faucet aerators can save a home more than 500 gallons of water per year. Best of all, when you reduce the amount of hot water you use, you also reduce the amount of cold water you have to heat.

Feature your
water utility
and energy
utility
programs
here.




WATTS IN THE WATER?

When you use water, you often use energy too. Wasting water not only impacts your water bill; it can increase your energy bill.

Learn five things you can do in your home to conserve water and energy and start saving!


SAVE WATER. SAVE ENERGY.

Your logo and
contact information
here



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Energy • Water • Environment

This information developed in partnership with Western Resource Advocates and the City of Boulder.

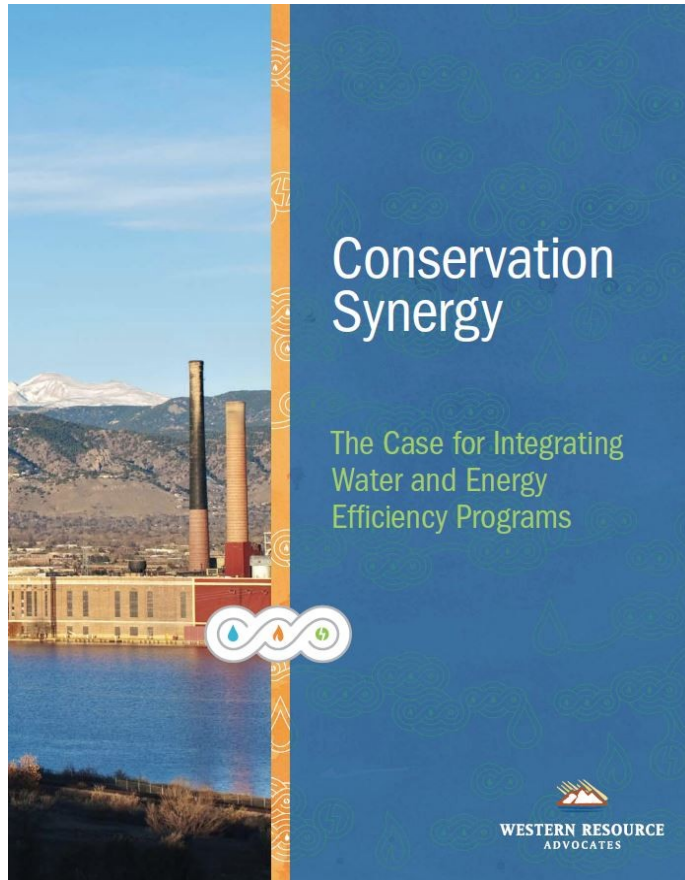


In conclusion, Conservation Synergy is:



It's more like...





Thank you!



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[www.WesternResourceAdvocates.org/
ConservationSynergy.php](http://www.WesternResourceAdvocates.org/ConservationSynergy.php)