

The Carbon Footprint of Water



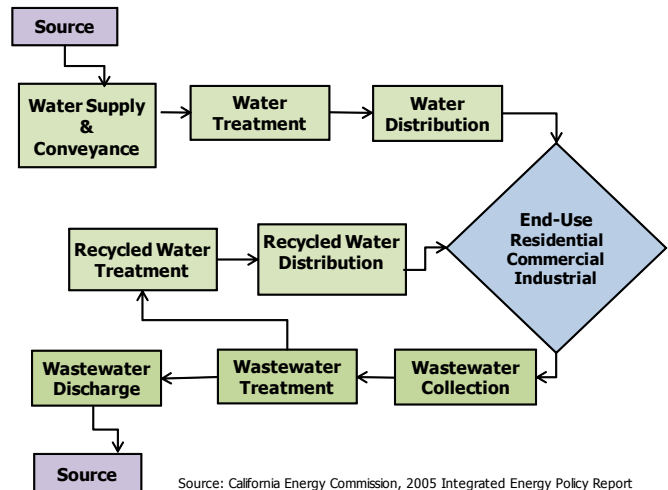
WHY DOES WATER HAVE A CARBON FOOTPRINT?

When water runs from your tap, substantial energy has commonly been used to treat, pump, and heat it. When it flows down the drain, additional energy is used to treat it before it is released into the environment. Since most energy production releases carbon dioxide, water-use creates a sizable carbon footprint.

We can significantly reduce carbon emissions by using less water.

Each part of the water use cycle has its own energy requirement, and these values vary substantially by region. Typically, end use (water heating and cooling) is the most energy-intensive step and wastewater treatment is the second-most intensive step.

Energy Used in Typical Water Use Cycle



HOW LARGE IS THE CARBON FOOTPRINT OF WATER IN THE UNITED STATES?

The magnitude of water-related energy use in the U.S. is considerable.



Water-related energy use accounts for 13% of the nation's electricity consumption.



The CO₂ embedded in the nation's water represents 5% of all U.S. carbon emissions, equivalent to the emissions of over 62 coal fired power plants.



Annual water-use in the U.S. requires 521,164 million kWh releasing 290 million metric tons of CO₂—roughly equivalent to the carbon footprint of driving 100,000 2010 Chevy Suburbans around the world 200 times.

HOW LARGE IS THE CARBON FOOTPRINT OF WATER IN THE TREASURE VALLEY?

Based on data provided by municipalities, wastewater treatment plants, and service-providers such as United Water, the estimated energy embedded in potable water is 4,200 kWh/million gallons (MG) in Boise, 5,300 kW/MG in Eagle, and 4,190 kW/MG in Caldwell; these numbers exclude end-use, which carries a high energy footprint. The resulting carbon footprint is 616 pounds of CO₂/MG in Boise, 738 pounds CO₂/MG in Eagle and 603 pounds of CO₂/MG in Caldwell.

Idahoans will save energy, reduce their carbon footprint and decrease environmentally stressful withdrawals from the Boise River and its companion aquifer through water efficiency.



Reduce your water and carbon footprint

MAXIMIZE EFFICIENCY: Replace inefficient water-using fixtures such as toilets, showerheads, dishwashers and washing machines with WaterSense models to save electricity and reduce carbon emissions.

Consider this

Compared to a toilet made in 1992 or earlier, a WaterSense toilet:

- Uses at least 60% less water.
- Could save a family of four over \$90 annually, or \$2,000 over its lifetime.



CONSERVE INDOOR HOT WATER: In Idaho, using less hot water is the most direct way to reduce energy use. If replacing appliances isn't financially feasible, consider adopting easy, everyday water conservation strategies to save water, energy, carbon, and money.



There's no need to keep the water on while lathering soap, brushing teeth, or shaving. Turn it off between rinses, dampen a cloth to wipe away cleansers, set aside a glass of water for mouth rinsing. **Savings: 240 gallons per month.**



Wait until the washing machine and dishwasher are full before doing a load. Avoid the permanent press setting and the pre-rinse dishwasher setting, both high-water users. **Savings: Up to 20 gallons/washing machine; 3 gallons/dishwasher.**

COLLECT WATER: Use a pail to collect "warm-up" water from baths, showers, and sinks for toilet flushing and outdoor irrigation of plants.

GARDEN WISELY: Gardening requires withdrawing water from the Boise River. Water-wise gardening decreases water demand, so less water has to be diverted from the river, thereby helping preserve river health.

BUY WITH WATER IN MIND: Ask local food producers what types of water conservation strategies they use. Choose food that is grown using water-wise practices.

Links to calculate

the carbon footprint of your water:

- Visit www.wecalc.org to learn how to save water at home.
- Go to our website www.idahorivers.org for more links to calculate the carbon footprint of your water.

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