YouTube and the Water-Energy Nexus

The Value of Water According to a Vlogger
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I can pass more time than I'd like to admit watching YouTube videos. One baking tutorial turns into dozens of elaborate cake videos, which then turn into a few vegan cookie recipes, and eventually I'm watching two guys recreate Big Macs in their New York apartment. You can imagine my surprise, and delight, when I found a connection between my energy-efficiency research and my love for YouTube.

Rewind to the beginning of March when I attended the Water-Energy Nexus Conference in Downey, California. As it turns out, a topic I feel passionately about—the relationship between water and energy—only attracted a couple niche researchers, myself included, and a few dozen California utility and government agency staff who are coping with a traumatic drought. Multiple speakers addressed the lack of interest in the water-energy nexus, labeling it as the main barrier to progress in water-energy efficiency:

"Our society doesn't appreciate the true value of water."

"Water is invisible."

"We view clean, running water as a right, not a privilege."

Now, fast-forward to my YouTube binging postconference. I found myself watching a series of videos by Josh, who was feeding himself on $3 per day for a week and documenting his culinary journey. He stayed true to his cost limit at the grocery store, but throughout the seven days, he used gallons of water to make broth, to soak dry beans, to cook rice, and to thin sauce. He didn't count water as an expense, which is understandable because the water he used for cooking probably amounted to less than a penny in fees from his water utility.

Water's inexpensiveness is part of why the resource is "invisible" to us, as one of the conference speakers stated. But does the end-use cost of water account for the overall cost of our water system? Consider the journey that water took before and after it got to Josh's kitchen. For him to soak black beans for his vegan burger, the water utility had to:

- Treat incoming water at large treatment facilities so that it's safe to consume

- Power the many pumps that transport the water to his faucet
- Treat and pump more water than necessary to account for leaks in distribution infrastructure
- Maintain miles of complex infrastructure including buried pipes and pumps
- Power more pumps to transport the wastewater to another treatment plant
- Treat the wastewater so that it's safe to reintroduce into the environment

Most of these processes are energy-intensive, and therefore have high energy costs. Does Josh's negligible water utility bill accurately compensate the water utility for these costs? What about when you consider the environmental costs of consuming energy and water? Or the price tag of replacing the aging infrastructure when it inevitably fails beyond repair?

> Water's inexpensiveness is part of why it's "invisible" to us. How do we determine its true value? Tweet this!

After two days of hearing speakers discuss the barriers to their work in water-energy efficiency, it was clear to me that the next step in achieving systemwide efficiency is determining water's true value—including its energy consumption. And maybe that starts with people like Josh taking time to consider the true cost, beyond his minuscule water bill, of his vegetable stock.

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