

Dear Colleagues,

Over the last six years or so many of us, including the big guns like the National Labs, have been talking about the cost of energy in water and the cost of water in energy. I've spoken with both businesses, NGO's, individuals and entire communities about the incredible savings to be had by deploying water/energy-saving tactics. When I was working with the Cumberland River Compact we even began quantifying some of the savings illustrating how water/energy-friendly building could save individuals money http://www.cumberlandrivercompact.org/resource_publications.shtml - just as it could save municipalities and corporations money.

This not only matters in the economic arena but in the environmental sphere (where fish need us to leave some H2O in streams for them) and in terms of quality of life where the Eco-Mom/Dad is quickly becoming an icon - not just an identifier for us "greenies".

As time has passed, those of us who work with water regularly began to teach others about conservation, efficiency and reuse of water for all those reasons; but numeric benefits were still challenging to find. For that reason, I think you'll enjoy the article from *Fast Company* from which I've extracted a sample below.

Enjoy, be kind to rivers, and reap the rewards,

Margo

Margo Farnsworth

Screendoor Consulting

Adjunct Faculty, Lipscomb University Institute for Sustainable Practices

[615-478-4889](tel:615-478-4889)

". . . Water comes into IBM Burlington cold from Lake Champlain and the Champlain Water District. It's so cold that it has to be warmed up before the staff can turn it into ultrapure water. Meanwhile, the factory has 13 massive, two-story-tall chillers using huge quantities of electricity to produce cold water, even in winter.

If it seems stunningly obvious to connect these two problems, well, it's really not. There's coldness in the incoming water that for most of its 50 years IBM Burlington wasn't quite smart enough to use. The coldness is undesirable; IBM spent money getting rid of it. In another part of the 750-acre campus, water had heat in it that was undesirable, and IBM spent money getting rid of it. In most companies, though, there wouldn't be much of a pipeline connecting the specialty department that creates ultrapure water with the everyday engineering department that is running the air-conditioning systems.

In a plant that already had something like 18 water-plumbing systems, including ones for steam and segregated fire sprinklers, IBM Burlington has created three fresh loops of water to capture cold and heat where they are, and use them where they're needed. The cold incoming water, for instance, is routed to areas that need chilling. It provides "free" cold, and in the process, it gets warmed up, also for free, so it's ready to be ultrapurified.

IBM Burlington now also uses the cold air outdoors -- abundant in Burlington, where the average high in December, January, and February is never above freezing -- to make cold water during the winter, instead of relying on big chillers.

All of this saves water, and it saves all the things water requires to do its job. And the result? Between 2000 and 2009, IBM Burlington cut its water use 29%, saving the factory \$740,000 a year in water bills. But here's where the magic of water really kicks in. Cutting water use by \$740,000 also saves \$600,000 in chemical and filtration costs each year, plus an additional \$2.3 million in electricity and energy costs. For every \$1 that IBM Burlington cuts from its basic water bill, it saves \$4 more. "We did 50 things to get there," says Bombardier. "Angles of usage, treatment, energy capture, using less pump capacity, capturing internal pressure that comes with the water in the line -- 50 different things."

For the full article, please see <http://www.fastcompany.com/magazine/154/a-sea-of-dollars.html>