

## Musings on Water (and Power)

Energy Savers Blog

Yes, this is energy related, very directly in my case. My household water comes from a well, and every drop of water that I use in the house has to be pumped out of the ground by an electrically operated pump; therefore, the less water I use, the less the pump has to operate, and the less electricity is used. (This is true for municipal water users too – there’s a lot of electricity involved in providing potable water to a city and treating the wastewater.)

This past summer I replaced my bathroom faucets with [low-flow faucets](#) [1] (kitchen yet to be done). The showerheads are also low flow, as are the toilets, which were replaced years ago, which helps reduce water (and electricity) used. I also try to remember to turn the water off while I’m washing my hands or brushing my teeth and not directly using the water.

As I was contemplating my morning shower routine recently, I thought of the additional distance the water has to move – not only from the well pump into the house (the well is 325 feet deep, a not insignificant distance, plus the horizontal distance from the top of the well to the house – maybe another 100 feet, although that doesn’t have to be lifted, just transported), but also from the pressure tank in the basement (also electrically controlled) to the showerhead. So, what was the next step? To run the hot water in to a bucket and see how much water is wasted waiting for the hot water to arrive at the showerhead. The bucket method isn’t terribly precise, but it’s an indicator.

It takes about 1.75 gallons of water washed down the drain for the first hot water to arrive at the showerhead in the bathroom on the top floor, and only one gallon to the showerhead in the bathroom on the lower floor. Assuming five showers a week per person for 50 weeks (the rest of the time is at the gym or on vacation), that’s 250 showers times .75 gallon wasted per person annually, just waiting for the hot water to arrive at the showerhead. If I use the shower on the lower floor, I can save almost 190 gallons of water annually. Not only is energy saved by not lifting/moving that amount of water an extra 10-15 feet (assuming that’s the difference between the first floor bathroom and second floor bathroom), I also save the expense annually of lifting 190 gallons the 325 feet from the bottom of the well in the first place – a far greater savings (the exercise is left to the reader), not to mention the additional cost of heating that 190 gallons – enough for another 19 showers.

What are other solutions to saving/heating water – other than showering downstairs? Be sure the [hot water pipes are insulated](#) [2] (they are). Be sure the water heater temperature is [set appropriately for your household’s use](#) [3], or consider installing “point of use” (demand) devices where the water is [heated where it’s needed](#) [1] (sink, showerhead, etc.).

Would the savings from showering downstairs likely be reflected in my energy bill?

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Probably not – it's likely only a very small portion, especially in the winter when heating is the vast majority of my energy use, but every little bit helps – and it would save water too, a precious commodity in the arid Rocky Mountain West.

*Stephanie Price is a communicator at the National Renewable Energy Laboratory, which assists EERE in providing technical content for many of its websites.*

[SOURCE](#) [4]

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[1]

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[2]

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[3]

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[4] <http://feedproxy.google.com/~r/EnergySavers/~3/4L8wDhPvDDQ/post.aspx>