

December 2009 newsletter from Building Diagnostics

Welcome to the 2nd issue of this newsletter. Thanks for the feedback from issue #1. I hope you will keep letting me know that you are reading it.

I hate to do this but I am starting with an apology. My goal is to have this out on the first of each month, but this month the first and second are the birthdays of two women who are very important in my life and this year both deserved special attention.

I also decided at the very last minute to address a topic from this morning's newscast, adding further delay.

Don't forget to send any ideas or announcements you would like to have included.

This Month's Topic: Decoupling

This morning my former employer, New Hampshire Electric Cooperative, was featured in a story on NHPR that is a perfect example of what could be a coming train wreck in the efficiency/renewables world. While *this* story amounts to little more than a bumper tap it is certainly worth looking at and seeing what it could mean in the larger picture.

The news story (Link: <http://www.nhpr.org/node/28164>) announced layoffs and an end to the co-ops' innovative renewable energy rebates. There are a few details in the story that raise questions about the issues we will face as we make the transition to both renewable energy and distributed generation on the electric grid.

Seth Wheeler, the Co-ops spokesman, spoke of the contradiction of an electric utility encouraging conservation of its product. It is one of the central issues facing utilities and energy suppliers of all types. For their businesses to grow consumption has to grow. For any hope of reaching a truly renewable energy supply conservation is vital. This basic contradiction could be the source of our greatest difficulties on the path to renewables.

One term that was mentioned, very much in passing, in the story is decoupling. The statement was that it was allowing utilities to charge a flat fee rather than billing by usage. That isn't the whole picture; there are lots of proposed variations, but no settled model. But it is worth asking why we should worry

about the utilities. Is there a model that gives us a sustainable, stable energy supply without them?

The main reason we do need to care about the fiscal health of our current energy infrastructure is that much of it is our future energy infrastructure. Let's stick with electricity for the time being. For renewables to be viable beyond the off the grid crowd (and it is a small crowd) we need distribution. The most efficient forms of distribution use fixed assets, the electric grid and pipelines. While biofuels are locally practical as direct burn products much of the talk involves conversion to electricity, often as part of a co-generation system. I'm not getting into the whole slew of issues that are legitimately raised in the biofuels debate; lets get back to distribution.

Our current grid is more than a bit cobbled together. We have a system that was initially designed by George Westinghouse in the 1890s and "improved" as we went along. The improvements have not kept pace either with demand (although it does a pretty good job there) or the way we make and consume electricity.

The electric grid is nonetheless a vital part of our foreseeable energy future. Solar and wind on any scale are only meaningful if there is an effective and efficient means of delivering that power to paying consumers. We need to upgrade our ability to switch power from region to region, to withstand local faults, and to accept power in more places into the grid. On the other end we need to provide better information to consumers about their usage patterns and how it affects their costs and the need for supply. Ideally information would be going back and forth between suppliers and consumers in real time so good decisions could be made all around.

Back to utilities, these are the people (companies) who need to make this happen. They own and operate the current grid; the only incentive for them to create the future grid (I dislike the term smart grid) is to make money at it. The same applies to conservation by the way; if they are going to do conservation programs it should be a profit center. The current model allows only for expenses to be covered, so every bit of conservation effectively reduces profit.

There is the nationalization model by the way, which takes utilities out of the picture. I view that as unlikely, this country does not do nationalization the way other countries do. And the cost will still be borne by the consumers, just in a different form.

For distribution we, as consumers, need to pay for having the infrastructure available and we need to pay for our consumption. If we don't we won't have infrastructure and there will be no incentive to us to conserve. The likely outcome of this will be higher overall energy costs but the option of doing

nothing will leave us with unreliable energy and continued climate change worries.

The Co-op is actually one of the few utilities that acknowledge these realities. It charges a higher monthly fixed fee than any other local utility, in part because of its higher distribution costs and its seasonal customer base. PSNH has asked the PUC for permission to raise its own fixed fee as well. I think that utilities nationwide will be looking to separate their distribution costs from their unit sales.

The other question I raised is whether the NH utilities should still be running efficiency programs. Bias note: I did run the commercial programs at the Co-op. I surely have developed the biases and inclinations that always come with association.

The programs in NH are traditionally among the most cost effective in the country as far as cost per Kwh saved. The people I worked with at the Co-op and other utilities were committed to running effective and meaningful programs. The costs that do not go into the equation are the costs to the utilities of lost sales. They make no money on conservation programs and lower their sales. That is not a sustainable business model. There are bound to be hard questions asked in the boardroom about that.

Vermont set up a separate corporation to do efficiency in that state. The reasons involved the large number of small utilities and, surprise, politics. Their costs have run higher than New Hampshire's but again we come back to the question of accounting. No systems fully match in accounting procedures and avoided cost assumptions so there is a bit of uncertainty there.

I don't have answers to these questions. The only thing I can say for certain is that we need effective conservation programs, we need renewable energy and we need an effective grid to make them function effectively together. In order to do that we do need answers. *That* is going to take all of us.

Energy tips:

It's winter! Good news for us who love cold weather and put up with the inconveniences. For wildlife things can get really tough, one of the major challenges for birds is water.

I have a heated birdbath because the passive solar one did not work well. I do want to be efficient as possible so I cut a circle of XPS insulation a bit smaller than the diameter of the birdbath and anchored it to float in the middle of the water with about an inch of water available at the edges. It cuts energy use

significantly, reduces evaporation and adds another landing platform for the birds

Blatantly Commercial Content:

This is now a static element, I won't be thinking up clever things for this part every month, so just call, I'm always looking for work.

I do have to justify the time spent on this effort, so I am charging myself an exorbitant fee to sponsor this newsletter. I get one ad per newsletter and free coffee refills in the kitchen.

Business update: I continue to do a mix of residential and commercial energy consulting work; I'm looking for more of both. Please visit my website, <http://www.buildingdiagnosticsnh.com/> for information on my capabilities and background.

I am putting the newsletters on the web site as well, for those of you who want to preserve them in all their PDF goodness.

Closing thoughts:

As mentioned above, I need feedback for this little venture to succeed. I would like to include notices for events that relate to energy, the environment and community building, so if you have any announcements please send them in to newsletters@buildingdiagnosticsnh.com. I also welcome rebuttals and amplifications for anything I write.

Please forward this to anyone who you think would like it, if you don't like it use the email address above to unsubscribe.

Thank you, I'll see you next month.