

May 2010 Newsletter from Building Diagnostics

Welcome to the May newsletter. I think I am going to declare "late" as the official schedule for this newsletter. Any that arrive on the 1st working day of the month are just an aberration.

This is especially late because I spent an inordinate amount of April fighting a three round bout with a respiratory infection. It was triggered by severe allergies and would not quit.

This month will be a couple of short topics. I have a couple of questions for you, too, oh wise readers. See below and put your thinking caps on. But first...

I'd like to offer a special tip of the hat and sincere best wishes to Kirk Stone who is leaving the Jordan Institute to join the US Dept of Energy in Washington.

Kirk will be missed, he has been a presence in the New Hampshire environmental community for many years. I'm sure most of you have had the pleasure of working with Kirk so I won't review his career. He has established himself with his work, and deservedly so. But the other thing we should give him credit for is just being such a pleasant presence. It wouldn't hurt any of us to emulate his genuine friendliness and cooperative style.

Good luck in Washington Kirk, I hope they appreciate you as much as we do.

This Month's Topics: Politics and Sunshine/Oil and Water.

The NH house recently defeated a bill that would have diverted a significant portion of the renewable portfolio standard funds from providing incentives to small renewable projects to funding a single large PV system to be owned and built by PSNH. Good news for those of us who opposed using the RPS money in this manner, right? Not so fast, the proposal came back and in an even worse way.

Senator Betsi DeVries, a Manchester Democrat, added it as an amendment to HB 1554, a bill to allow municipalities to create "energy efficiency and clean energy districts". You may recall that a couple of months ago I touted HB 1554 as the best thing since fresh warm bread, or words to that effect. The good news (again) is that the amendment failed in a 12 -12 voice

vote on the senate floor, HB 1554 passed without the amendment.

Is this the end of the idea of letting PSNH use RPS funds? I doubt it. The state budget is in tough shape, so those who would like to create their own little "earmarks" have to look for these non general fund dollars. The reason Manchester is so interested is that there is the possibility of \$400,000 in annual lease revenue for the proposed project site. I haven't seen the wooden stake in the heart of this one yet.

I do think that this project should be built. Should state funds be part of it? I really don't know, maybe. But the important thing is not to cut the legs out from under the homeowners and small scale installers who are just beginning to see funds becoming available to them. I think that is bad policy.

The proposed site should create a high level of visibility for the solar concept, so I hope it does get built. If PSNH doesn't want to proceed let's hope that there are other entrepreneurs out there who could find a way to make it work.

Oil and water:

I find myself in a bit of a quandary lately. When talking about deep energy retrofits I frequently find that I am talking about some of the low temp air/air heat pumps that are available now. The quandary part is that they run on electricity. Now, and for the immediate future, electricity is one of the most carbon intensive fuels we have.

Renewable energy arrives at our buildings either as biomass or electricity. So far I haven't found an air conditioning unit that runs directly from biomass, so for most small to medium size projects that leaves electricity as the only way to get renewable power on site. It also means that the building operator must purchase a renewable energy contract of some type, typically at a premium price.

One alternative is to stay with high efficiency combustion equipment for heating, and go with a high efficiency AC unit for cooling. That often comes with additional upfront costs and usually involves a duct system which has to be designed and installed correctly, neither of which is as common as it should be. This often looks like the best buy upfront, but it leaves a lot of savings, both in btu and carbon, on the table.

Co-gen is appealing, but most places don't have sufficient heat requirements during the cooling season, so that energy gets wasted, reducing the value of the system. Caveat here, smaller absorption chillers, down to 5 tons, are showing up on the market. Finding the products and getting them installed properly is another issue.

I don't need to go into the issues with the extraction of fossil fuels. The headlines recently have been quite sufficient.

So how do I decide what to recommend when getting into deep energy reduction retrofits? I usually stay with the air/air heat pumps. Here's my rationale.

Electricity is a fuel that everyone is familiar with and usually it is already on site. By going with simpler, lower cost HVAC systems I can invest more in energy reduction measures, reducing the btu load as far as possible, further reducing the size of the required HVAC system. It's the opposite of a vicious cycle.

I can encourage customers to include some form of renewable energy in their project, reducing their purchases from the grid. Alternatively I can encourage them to purchase a renewable energy contract, spurring the growth of renewable electric generation.

Finally, I can encourage a net zero project, or even a negative net project which will put additional renewable power onto the grid. BTW, shouldn't that be a net positive?

I think that our renewable energy supply is going to reach us largely in the form of kilowatts for the foreseeable future. We have the basic infrastructure and we know how to deal with it on site. I think the two most important things we can do are to use as little of it as possible and always encourage customers to request renewable energy. If we keep asking eventually someone will step up and sell it to us.

If we don't do those things we share the responsibility when they pull dead miners from coal mines and oil fouled wildlife from the shores.

Energy tips:

This month I'm turning the tables, I'm asking for your best explanations when describing either building or energy problems. How do you convert the heat transfers, delta T, HDD and CDD and all the other building geekology into some marginally coherent form of english for your customers. Whether it is the kilowatt hour concept or convective heat transfer, what have you found to be effective similes, metaphors or analogies to get your ideas across.

Next month I'll publish a few of mine and I hope, several of yours as well. Unless I hear otherwise from you I will give you credit for your contributions.

Blatantly Commercial Content:

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 haven't had an interesting "sick" building for a while. I'm afraid my diagnostic skills will get rusty. If you know a building that has people scratching their heads give me a call.

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.