



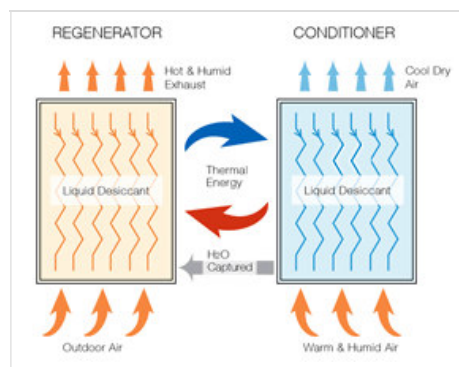
My professional blog's perspective on the latest green building trends, world-changing construction technologies and everything net-zero. The views expressed on this blog are my personal opinions. I look forward to reading your own opinions, feedback and questions.

▶ TELL A FRIEND

Tuesday, January 29, 2013

## Dehumidification + Cooling: A better mousetrap

For those of us in North America, indoor air cooling is the least of our worries right now, but the [International Air-Conditioning Expo](#) is taking place in Dallas this week and there is some news worth sharing. Faithful blog readers will know that I have a bit of a problematic relationship with air conditioning, on the basis of the electrical consumption, the disconnect with the outdoors, and quite often, the noise. However, my original beef was as a result of working with the [ICF](#) industry, where the insulation often took care of the sensible load (the temperature), leaving mostly the latent load (the humidity) to deal with. Modern AC systems were NOT designed for this application. More often than not, the AC system was oversized, would short cycle or hardly turn on at all, the house would be moist and cool, homeowners would leave for a vacation, come home to mold, and - I would get the phone call from a frustrated homeowner. All I wanted was a good dehumidifying system, with a bit of cooling.

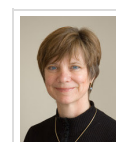


Finally, there seems to be a solution on the market, at least for commercial construction. [Advantix Systems](#) has developed a liquid desiccant system that first pulls the excess moisture out of the air, and then cools it to the right temperature. This is considerably more efficient than traditional AC technology, which is based on the principle of cooling air to the dewpoint in order to draw off the condensed moisture. This overcooled air is then re-heated to a more comfortable temperature. The Advantix technology pulls air through a

strong brine solution which absorbs the excess moisture. This brine water-filter also serves to clean the air of particulates larger than 5 microns, which covers most mold spores, pollen, and dust, but not smoke or insecticide. For the engineering type, the Advantix website has a detailed [schematic](#) diagram, and for the rest of us, there is a very nifty [video](#) explaining the basic science of absorption and diffusion. The website also provides the calculations behind their energy saving claims, and a mention of "competitive pricing." A few of the case studies offered projected savings, which will hopefully be updated with actual performance numbers and payback periods as these figures become available. Overall, I appreciate the transparency of information on the website.

This technology was initially developed to manage the air conditions of ice-skating. The company is relatively new on American shores, but the USA President, Ms. Hannah Granade was named "Most Creative People in Business" in 2012 by Fast Company. Certainly, Advantix is a company worth watching, and we can only hope that they will scale their product to residential size in the near future.

### About Me



Vera Novak

Blacksburg, Virginia, United States

A long time advocate of the "sustainable" building concept, Vera Novak was the first in the ICF industry to gain the USGBC LEED Accredited Professional designation, in 2004. Her continued work through technical and code outreach for the ICFA established her as one of the industry's top professionals in linking building science, energy raters and the green building world.

She just completed her PhD from Virginia Tech (Hurrah!), with a research focus on improving the process of efficient construction delivery in order to increase the adoption of energy efficient products and processes.

While English is the preferred language on this blog, Vera is a polyglot and also welcomes questions and feedback in French, German and Czech.

[View my complete profile](#)

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