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## Energy Professionals Talk Back

By **Bill Holmes, P.E.** October 17, 2013 02:31:10 pm[Email](#)[Print](#)[Like](#)

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I have been fortunate to spend my entire career doing something I love, working with energy systems; from my first thermodynamics class in college to working with systems in planes in the Air Force and since 1974, with energy systems in buildings. When I got out of the military during the Oil Embargo of the mid-1970s, I started an Energy Conservation Department for a consulting firm, did audits and studies and designed energy systems. In 1979 I started an energy management business and have designed, installed and operated energy monitoring and control systems, fixed poorly performing energy systems and been responsible for

the operation, control, management and maintenance of energy systems on a 24/7 basis. I have also taught related courses at a couple of Big 10 universities.

As a result of all of my varied experiences both in what I like to call the World of Theory and the Real World, I have found that I have a pretty unique view of building energy systems; what works, what doesn't and what needs to be done to make buildings and building systems work better and operate more efficiently. At this stage in my career, my main goal is to pass on what I have learned to others with the hope that we can continue to reduce the waste of energy, increase the efficiency of energy systems and buildings, and make this Earth a better place for us all.

For more than two years, almost since the birth of Sustainable Plant, I have been writing articles about my 39 years in the "Energy Conservation" profession. A few years ago, when I thought about the amazing advances that the airline industry has made in safety, reliability and performance, I realized that if energy systems in buildings were designed, operated and maintained the way they are on airplanes, and all of those involved with those systems were trained, certified and subjected to the same quality control standards as those working with planes, we could reduce the energy consumption of buildings by 30% or more. As a result, the driving force for every article I have written is the same: the Energy Conservation Profession needs to be professionalized, become information-based and results-oriented.

With a renewed interest in energy efficiency primarily due to concerns over climate change and sustainability, many in this profession are young, enthusiastic, sincere and motivated but have little or no actual field experience with real people and real energy systems in real buildings. The opportunity to work with and learn from those who have that actual experience is limited. There aren't many of us and we are aging. For so many of the years since the Energy Crisis of the 1970s, there has been little or no interest in energy efficiency in the United States, so there have been few jobs and few people entering or working in the field.

But I have been fortunate and thrilled to get feedback from around the world on a regular basis from experienced energy professionals, and want to share some of it with those of you who may be less experienced. I have also gotten some from some younger, less experienced people who see little value in real-world experience and want to challenge some of the things I have written.

My single largest concern which, from much of the feedback I have gotten is shared by a lot of seasoned professionals, seems to be the widening gap between the World of Theory and the Real World. In the old days, when you went to engineering school, in addition to the math and the physics

## Sustainability Infographics



We here at Sustainable Plant love infographics. Aside from being easy to read and ingeniously designed, they are also incredible resources to have on hand, ready to share with others. With this in mind we've put together a collection some of our favorites from around the web. Check them out, pass them along and let us know if you have any other infographics you'd like us to share with the community. [View the gallery](#)

## Author Bio

**Bill Holmes, P.E.**

**Bill Holmes, P.E.** founded Holmes Energy LLC [www.holmesenergy.com](http://www.holmesenergy.com) and developed the AutoPilot Monitoring-Based Commissioning (MBCx) System in 1979. He has a B.S. and M.S. in mechanical engineering and has done additional coursework and research for his PhD. He is a former Purdue professor and taught for several years in the Continuing Education in Energy Management Program at the University of Wisconsin.

Bill has produced savings from 20% to, in a few projects, more than 50% from low-cost, no-cost changes in management, operation, maintenance and control alone in all types of facilities including Industrial Plants owned by Fortune 500 Companies.

He is the recipient of a DOE Award for Energy Innovation and was the Indiana Energy

you had classes in machine shop, welding, foundry, etc., and you spent a lot of time in the labs with the physical equipment. Now some schools and some professors and a lot of younger students seem to think you can replace all of that "hands-on" stuff with computer models. Not only have they never been out "in the field," they see no reason to go there.

The Sacred Cow article, where I challenged this profession to do away with the Energy Audit and focus on saving energy, producing and maintaining actual savings rather than just preparing to save energy with audits, studies and computer models generated the most feedback. Probably my favorite email ever came from the Manager of Plant & Environmental Engineering for a \$5 billion company:

*Subject: There IS Life on this Planet!*  
*Date: Mon, December 05, 2011 5:34 pm*

*I just read your "Sacred Cow" article in Sustainable Plant, and I am elated to find out that there is another living, thinking being on this planet! For the 33 years that I have been working here, it has been a battle against "The Establishment" to try to change tradition within operations.*

*I HATE waste of any sort, and that includes our utilities. The "low-hanging fruit" was so obvious to me when I started here that, at one frustrated point, I offered to give up my salary in exchange for a percentage of the savings that I knew were possible! A couple of projects required a modest investment. Harder nuts to crack involved cultural changes such as peak load scheduling to eliminate the "stacking effect" of multiple high-kW loads which often had the nasty habit of all peaking during the same 15-minute demand period, literally DOUBLING the electric bill for the month. It took the equivalent of a Master's Thesis to finally convince all concerned that a simple scheduling change would save ten kilobucks per month - and it continues to do so - with ZERO cost!*

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Manager of the Year in 1990. He has published numerous papers and been making presentations on his projects and methods for more than 25 years. Bill is a sculptor, a writer and a regular contributor to Sustainable Plant.

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