



“WHAT? NO MORE MILK?”

Diversify or Die

A Wise Guy told me, quoting a Wiser Guyer, “Everyone needs heat.” The message was installing heating boilers was a reliable line of business. This struck home as I was struggling to make a go of my solar energy business, high in the remote Rockies. Sure, I was already framing houses in the winter, and had added (not without calamity) solar thermal and propane-powered generators to my repertoire. But now an idea started to dawn and form and shape into a plan.

At the time, I didn’t know that closed-loop glycol solar systems were nearly identical to closed-loop boiler systems. I might be able to put those thermal bruises to good use after all! And at about the same time, off-gridgers were heading to the bank (there was only one) to get loans for their woodstove-heated solar abodes. The bank said, no thermostat, no shekels! It took me a Rocky Mountain Minute to connect those dots and dashes and install my first boiler - a German bombshell - a classy cast-iron Buderus.

Beautiful as she was, it took some custom controls to effectively run her off-grid, in the winter, at 8,000 feet elevation, on solar power. By removing transformers, replacing 24 volt controls with 120 volt controls, and wiring a suite of cascading line-voltage DPDT relays, the inherent efficiency of delivering Btus by water became a slam dunk for PV-powered domiciles. And we could still do priority domestic or high-temp heating. Load management gets many more miles per gallon. Jez sayin’.

Boilers and radiant heat became half my income. What’s better is I could now sell and install a PV system that powered a solar thermal hydronic heating system with a boiler back-up. Throw in a propane generator for frosting. Nice mechanical contracts for this Iowa-boy. And I got to learn hydronics - delta-P - a most useful fluid and thermal dynamic to understand. Be a Wet Head! (Thanks, Dan Holohan!) Knowing hydronics and refrigeration enhance your solar capabilities.

“Where’s The Beef?”

I just received the October issue of ASHRAE Insights, their member newsletter. If you don’t know about ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers), you might check them out. This organization researches and writes about standards and technologies of the HVAC industry - standards and technologies that usually become Code. ASHRAE works with ANSI, ICC, IES and many other influential organizations.

Front-page article: “What is ‘Net Zero’? DOE Issues Definition”. The following organizations were quoted in the lovely feature: US DOE, U.S. Green Building Council, National Institute of Building Sciences, local DiNola of New Buildings Institute, American Institute of Architects, National Association of State Energy Officials (NASEO - who knew?), International Building Performance and Simulation Association, and, of course, ASHRAE.

Does ‘net zero’ have anything to do with renewables? There’s a good market, people. Start networking to net-zero.

“We’ll talk to Bob.”

No, you should talk to Jerry. Jerry Henderson. He gets it. Working with the International Code Council (ICC) and a couple solar schemers, they created the International Solar Energy Provisions (ISEP) and Commentary. This document “contains the complete solar-energy-related provisions and referenced solar standards from the 2015 International Codes® plus the NFPA 70: 2014 NEC® National Electrical Code provisions related to solar energy in one document. This publication is organized such that it provides the best and most comprehensive tool for the design, installation and administration of both solar thermal (or solar heating and cooling) and photovoltaic systems.”

Now that’s thinking ahead, seeing a need, filling a gap, coalescing with the forces that function and shape our society, mechanically speaking, to help and influence a whole bunch of folks from field wrenches to desk jockeys - code officials that craft our policy and requirements; modelers, architects, engineers and contractors that design and build our beautiful machines and systems; and the holy building owners that we impress with the magic of superior comfort and solar-powered efficiency. They all know and trust the ICC, ASHRAE and ANSI. Let’s work together in constructive ways to aid, simplify and enhance all our energy systems, *and* the implementation process.

“Got to get together, get together!”

Folks, post-FITC we’ll have to diversify, align, work together, research and lay it down like Holohan and Henderson. I believe ‘solar’ is one of our solutions. But why have one, when there are infinite? How about ‘Power Solutions’? ACME Solar is now ACME Powerful, “offering line extensions, service upgrades, car chargers, generators and transfer switches, short-term data logging, long-term utility monitoring, energy management, battery walls, flywheels, heat pumps....oh, yeah, we do solar. Been doing it for decades. It’s a great add-on for our customers who want to diversify their power source without generating a larger footprint. It’ll work great with your generator/battery backup power system. We could put an array on your parking lot and throw in some car chargers while we’re at it...”

Jason Jepsen, CEM, CDSM, is the Principal of Commercial Energy Consulting, an energy management and construction company providing solar energy, hydronic heating and HVAC systems and services to the hospitality and industrial production industries. That includes indoor agriculture, if anyone reads this far. “Bueller?”