Lessons from the Trenches at the Building Scale

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Little Rock, AR
13,342 SF
EUI: 23
50 kW roof solar
Office and warehouse
1959/2018

Entegrity Headquarters
Fayetteville, AR
26,532 SF
EUI: 19
115 kw solar system
28 apartments and 2 offices

Lincolnshire, IL
Net Zero Certified – ILFI 2021
LEED Platinum NC 2009 Certified
56,000 SF
Classroom Addition including Science Labs
Occupied 2019
Plainfield, IL
PHIUS+ & Source Zero Certified  37,000 SF
Designed & Built by Wight & Company

Prairie Activity & Recreation Center

Occam’s Razor
Forgetting Hot Showers & Cold Beer

Expecting Net Zero To Solve All
• When the Utility only has one person working on Interconnection Agreements
• Utility wants systems not sized for any usage beyond building needs. No Net Positive!
• Testing Grid to make sure electrons can travel in two directions!
• Construction Schedule Anyone?
• Performance Specification for PV Array
**Problem:** Air source heat pump that uses electric fuel source was designed to be the main heat source, with gas fire back up for extreme low temperature, but by factory preset AAHP switched to gas at 47 F°

**Result:** Air source heat pump mode never used. Gas usage off the charts.

**Fix:** Months into investigation, units were finally switched to lower setting that allowed AAHP to work as designed.
Coldest January in 30 years
7°F on January 17
Hours Below IECC Design

End Use Energy Breakdown

Space Heaters
Entegrity Headquarters

Stevenson High School

EUI: 32.34 EUI w/PV: -3.75
EUI: 23.82 EUI w/PV: 1.50

One Month’s Daily Performance Data
• Carbon
• Zero Carbon
• On vs. off site renewables
• Embodied Carbon
• Grid optimization
• Grid-Responsive Buildings
• Resilience
• Passive survivability
• Transportation

Contact Us

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