

Embracing Building Hybrid Technologies for Electrification

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ABSTRACT

Building owners and the design community are being challenged to invest in deep energy retrofits, lower carbon emission of existing buildings and plan for zero-net-carbon emissions on all new construction. To achieve these goals, we cannot continue to design and operate structures with a “business and usual” approach. New technologies must be implemented.

Utility companies no longer rely on a few power plants to feed the grid. PV arrays, wind turbines, residential photovoltaic installations provide multiple sources of energy for the grid. Demand has simultaneously been reduced by incentivizing more efficient equipment and lighting technologies.

Applying the same hybrid approach to buildings helps keep initial construction costs low, eliminates the “single point of failure”, and maximizes HVAC energy performance during seasons where the energy benefit of high-performance technologies can benefit our buildings the most.

Our presentation will highlight successful Hybrid “deep energy” construction projects that have been implemented in the SUNY System. These projects utilize a variety of new technologies that have been paired with traditional HVAC and high efficiency building envelope systems. The combination of reducing demand, when paired with multiple hybrid high-efficient systems to meet peak load is like another effective model used by our utility companies.

BIOGRAPHY

Jaimee Wilson, PhD, PE, LEED AP, BEAP, BEMP, is a Senior Energy Engineer and Associate at Pathfinder Engineers & Architects. She is responsible for providing energy modeling, comprehensive energy audits, energy calculations, and developing and implementing energy conservation measures (ECMs) across a variety of client sectors and facility types. She also provides technical analysis for the NYSERDA New Construction Program as a primary energy consultant. Dr. Wilson is a member of ASHRAE and the Association of Energy Engineers.

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