

USGBC NY Upstate Chapter

R333

Deep Energy Retrofits of Existing Buildings

DEREB

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CHAPTER



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Course Description

An assessment of eight renovation projects in eight Ulster County communities which vastly improved the energy performance of existing buildings through a variety of insulation assemblies and HVAC choices. We will view building plans and detailed sections that describe the building envelope improvements, as well as photos taken of existing conditions, during construction, and after completion.

The effect of various site issues, existing conditions, and budget constraints on energy-efficient renovation decisions will be addressed. For several of the projects, construction cost and energy cost savings will be estimated to allow return-on-investment analysis.

As a bonus, there will be discussion of some aspects of timber frame construction as it relates to renovation considerations, and of steel bulkhead installation on the Hudson River.



Learning Objectives

At the end of the this course, participants will be able to:

1. Cover a range of energy-efficient renovations, from modest improvement over standard construction to near zero-net energy
2. Discuss how various site issues, existing conditions, and budget constraints affect energy-efficient renovation decisions
3. Estimate energy savings for several projects with various insulation assemblies and HVAC choices
4. Address Return-On-Investment (ROI) via amortization of building envelope and mechanical upgrade costs over time compared to energy cost savings.