

Advanced Energy Performance: A Product Preview

An Online Education Initiative for Commercial Asset and Property Managers

Steven L. Newman Real Estate Institute & CUNY Institute for Urban Systems Building Performance Lab

The City University of New York

The Advanced Energy Performance Certificate Program represents a new paradigm in real estate sustainability education. AEP equips managers with both the technology and financial tools necessary to make energy investment decisions. In order to be economically viable, deep energy retrofits must be part of a real estate company's overall portfolio strategy. The program, created by the City University of New York with the support of the U.S. Department of Energy, offers the only curriculum that addresses energy performance from an asset management perspective.

AEP Integrates Five Sub-Sectors of the Real Estate Sector

AEP's academically rigorous curriculum is based on extensive nationwide market research. It delivers an integrated, full project cycle set of competencies from the areas of Property & Asset Management, Real Estate Finance, Leasing and Brokerage, Engineering, and Tax, Legal and Accounting. Where other continuing education and degree programs address these areas individually, AEP focuses on a new, integrated area of knowledge, one that will be increasingly valuable as energy prices rise and strategies for sustainability are assimilated into long-term goals for real estate assets.



The AEP Program

The AEP initiative is designed for busy real estate professionals. Its three classes – Energy Technologies and Real Estate Strategy, Energy Project Finance, and the Capstone, Energy Performance Assurance – are offered online, and class time is just 45 hours. Instructors are experienced practitioners in their field. Curriculum will include modules from experts on specialized subjects and the learning format will combine live, online classes and interactive exercises with self-led assignments, group discussions, and team collaboration.

Upon completion, students will receive a certificate in Advanced Energy Performance that, our market research indicates, will make them attractive candidates in a competitive job market.

AEP is Grounded in the Needs of the Market

AEP is based on national market research on the asset and property management sector conducted over six months by the Steven L. Newman Real Estate Institute & CUNY Institute for Urban Systems Building Performance Lab. The project team interviewed seventeen senior asset managers responsible for managing more than 1.4 billion square feet of real estate across the United States and conducted a curriculum review of all educational offerings in this area. Findings indicate that capital is available and that there is a significant interest in energy projects. The barrier to investment is actually in the supply of projects developed appropriately so as to inspire investor confidence. The team learned that asset and property managers who have successfully implemented energy projects that achieve both financial rewards and carbon reduction have specific skills in common. This is the integrated skill set that AEP addresses.

AEP Delivers the Skills Necessary to Achieve Next-Level Sustainability Projects

Advanced Energy Performance is not simply about retrofitting a building with more efficient lighting and HVAC systems. It is about identifying the strategies that are right for individual properties and designing, funding, and managing projects that deliver financial and environmental rewards. The recent, high-profile retrofit of the Empire State Building is projected to reduce the building's energy use by 38%. But the project afforded the opportunity to reposition the asset in a challenging real estate market. The building has attracted bigger, corporate tenants at higher rents than in the past and most importantly, the nation's most iconic skyscraper has become a beacon of efficiency and sustainability. It is this kind of next-level sustainability strategy that AEP students will learn how to formulate and execute.

Based on our interviews with leading asset managers, the project team identified a core set of five competencies, as well as sub-competencies/skills, that are integral to successful deep-energy reduction projects. Students will gain demonstrable skills in the following:

AEP Competencies and Sub-Competencies/Skills

Energy Performance Measurement & Performance Targets

- Developing a Comprehensive Energy Management Program based on familiarity with the range of approaches and technologies
- Assessing a facility's energy performance (Benchmarking)
- Metering, measurement, and understanding performance data
- Identifying and managing technologies with potential to contribute to performance targets
- Developing a Comprehensive Energy Management Program

Energy Performance Goals & Tenant Relationships

- Understanding lease structures and their impact on incentives for efficiency
- Implementing alternative leasing strategies
- Securing tenant buy-in for building-wide performance improvements
- Managing tenant disruption during retrofit activity
- Understanding and promoting tenant-level measurement, reporting and performance management
- Managing the impact of data centers on overall building performance
- Coordinating tenant-level and building-wide control systems

Planning Capital Improvements in the Context of Energy Efficiency Targets

- Determining when equipment is underperforming (alternatives to fix-it-when-it's-broken)
- Engaging and managing consulting engineering services
- Evaluating energy assessments and retro-commissioning results
- Understanding new technologies and their impact on performance
- Prioritizing improvements – energy systems vs. other capital needs
- Preparing a capital budget request

Energy Performance as a Financial Strategy: The Value of Efficiency Improvements

- Understanding the evidence for repositioning real estate in an energy efficient manner
- Assessing financial returns from efficiency investments in the context of lease provisions and turnover, base year charges, and landlord cost of capital
- Funding/financing options for energy efficiency, use of debt vs. equity
- Understanding accounting rules and their impact on financing options
- Assessing the real estate investment impact of energy performance over various holding periods and asset disposition strategies
- Evaluating "marketing" value vs. measureable operating income impact
- Understanding various cashflows from energy performance savings, including future possibility of securitization

Managing Property to an Energy Performance Target

- Understanding the value of commissioning
- Maximizing the opportunities made possible by modern control systems, data harvesting and monitoring
- Implementing Active Energy Management strategies, remedial actions for buildings that do not meet performance targets
- Platforms for portfolio-wide monitoring, measurement and response
- Complying with local and national reporting and operating standards
- Maintaining ratings
- Implementing Demand Side Management (DSM) strategies

What Sets AEP Apart: *Academic Rigor*

In our market research, we reviewed more than 90 education programs from 19 providers, focusing on the parallel areas of energy efficiency and project finance. We discovered that educational offerings nationwide have not kept pace with a fast-changing market. While there are many continuing education programs that offer an overview of energy management or an introduction to green building technologies, these programs do not teach how to achieve the ultimate goal of sustainable real estate: sustained carbon reduction without compromising financial rewards. Unlike other educational offerings, AEP takes real estate executives to a high level of understanding and practice around energy efficiency planning and implementation; integrates across management, finance and engineering disciplines; incorporates team-based and practice-based learning; and provides a rigorously evaluated certification that a structured set of skills has been mastered.

Portfolio of Case Studies

Throughout the program, students will work with a sample portfolio of case studies. It will include diverse buildings based on real properties drawn from locations around the country. They'll complete exercises that ask them to identify appropriate real estate strategies for their portfolio, and as they advance through the classes, they'll develop virtual energy projects and assess projected results.

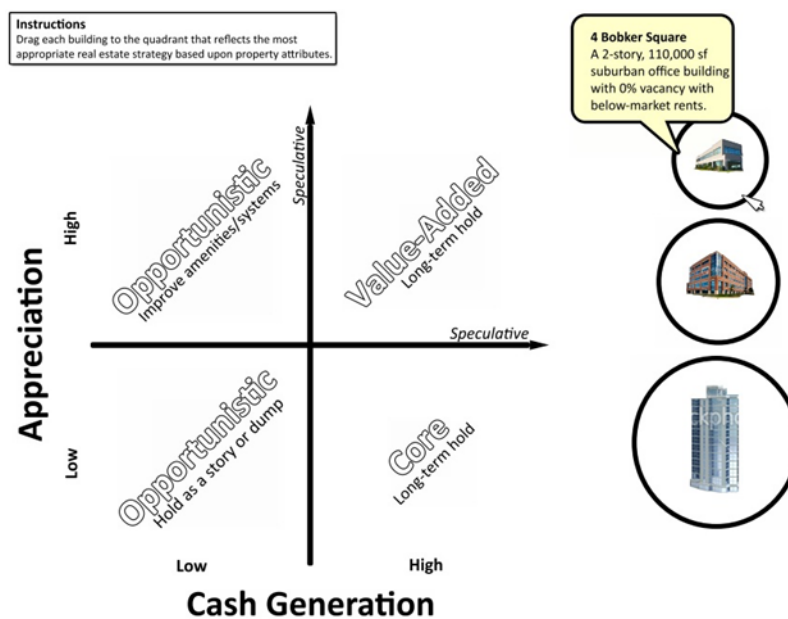


Figure 1: Sample Portfolio Exercise

Visual Language & Interactive Exercises

The unique strengths of the program are not limited to the curriculum. AEP's learning environment makes the most of the web platform. Evidence suggests that "visual language" – communication that integrates symbols and images with verbal language – encourages rapid comprehension and whole-group participation in learning environments. The AEP curriculum utilizes proprietary animations, interactive exercises, and other forms of visual language to convey complex concepts.