



## WEBINARS

### **AN INTRODUCTION TO LIFE CYCLE COST ANALYSIS FOR SUSTAINABILITY AND GREEN BUILDING DESIGN**

12 December from 10:00 a.m. – 12:00 noon

**Instructor Information:** Robert P. Charette, P.E., CVS, PQS

**Local Facilitator:** To be announced

#### **Purpose and Background**

Public and private sector investors in buildings seek reassurances more than ever before that maximum value be received for funds expended. This means that not only initial costs but long-term operational costs must be considered. The latter costs directly affect the total cost of ownership, i.e. the Life Cycle Cost (LCC). They also have a direct impact on the market value of a facility which increases with lower operational cost.

This webinar introduces Life Cycle Costing, based on the American Society of Testing and Materials (ASTM) International Building Economics Standards, as a means to achieve this objective. The methodology, illustrated with simple examples and case histories, ensures that a uniform standardized method is used for calculations and the analysis of investments in buildings, including those related to energy and green buildings/sustainability.

Whether involved in the design, construction, renovation, maintenance, operation, or management of buildings, participants will find it in their interest to understand the principles of the Life Cycle Costing methodology, based on ASTM International standards, and its value as a tool to analyze and lower their total cost of ownership of buildings.

#### **Learning Outcomes**

You learn the basics of Life Cycle Costing (LCC) based on ASTM Building Economics Standards, to ensure that a uniform universal standardized method is used for LCC calculations and evaluating the economic performance of investments in building related to energy, Green Buildings, and sustainability: simple examples related to buildings are provided to illustrate the application of the methodology.

#### **Webinar Benefits**

- Gain an understanding of the total cost of ownership of a facility (LCC) based on investment costs and future operational costs
- Learn of ASTM International Building Economics Standards and the convention to be followed for the calculation of LCC
- Learn how future costs may be converted to Present Values and how the performance of investments in buildings can be measured (e.g. rate of return)
- Understand the barriers to introducing LCC during design and potential solutions

- From examples and case histories provided, come to realize that the methodology is universal and applicable by all disciplines to most construction projects, including civil works such as bridges and highways
- Acquire the necessary information on LCC and ASTM Standards to recognize the benefits resulting from their adoption as a standard practice within an organization
- Be able to engage clients in a meaningful discussion on LCC, as well as demonstrate a commitment to minimize the total cost of ownership of a facility, i.e. the LCC

### **Intended Audience**

This webinar will benefit those who can directly or indirectly, from a supervisory or managerial position, affect the economic viability of new and retrofit building construction projects during the planning, design, and operational phases by applying Life Cycle Cost Analysis techniques based on ASTM International Building Economics Standards. These include design architects and engineers, technicians, facility managers, projects and program managers, owners, developers, Green Building and sustainability practitioners, general and design-build contractors, cost managers/consultants and educators. It will also be of interest to management personnel who recognize the benefits of standardizing economic analysis practices within their organization, a task simplified by the adoption of ASTM standards.

### **Webinar Outline**

- The notion of the Life Cycle Costing (LCC) – examples
- ASTM International Building Economics Standards
- Present Value (PV) factors for converting future costs to Present Values (today's dollar)
- Data requirements and the convention to be adhered to for calculating Life Cycle Costs: an example of the LCC costs of completing HVAC systems
- Evaluating the economic performance of building investments with measures such as the Adjusted Internal Rate of Return (AIRR); an example on calculating investment measures for the additional cost of increasing roof insulation to save energy
- Integrating LCC in the design process, barriers and solutions
- Case histories: chiller VFD, geothermal HVAC, daylighting and other features of a commercial Green Building project
- The Kats Report on the Cost and Benefits of Green Buildings (addresses productivity)
- LCC References

**Fees** [See registration page.](#)

## **AN INTRODUCTION TO VALUE ENGINEERING (VE) FOR VALUE BASED DESIGN DECISION-MAKING**

12 December from 2:00 – 4:00 p.m.

**Instructor Information:** Stephen J. Kirk, Ph.D., FAIA , FSAVE , CVS - Life, LEED™ AP

**Local Facilitator:** To be announced

### **Purpose and Background**

The objective of this webinar is to acquaint participants with the methodology of Value Engineering (VE) and its decision-making process. It will familiarize participants with procedures that provide standards for VE applications. VE methodology has been developed for more than 40 years to assist management and engineering professionals to obtain optimum value for each dollar spent. Typical savings range from 5 to 15% for most projects. This webinar teaches VE in a practical, project-based manner. During the webinar participants will engage in decision-making using VE tools to ensure quality and value while reducing the cost of projects. Participants will hear about a number of case study applications of the VE to gain practical experience. Whether involved in the design,

construction, renovation, maintenance, operation, or management of buildings, participants will find it in their interest to understand the principles of the Value Engineering methodology, and its value as a tool to analyze and lower their total cost of ownership of facilities.

### **Primary Discussion Topics**

The Speaker will discuss:

- Function analysis and FAST diagramming
- Cost modeling
- Quality modeling
- Risk modeling
- Group creativity
- Life cycle costing
- Case study applications

### **Learning Outcomes**

The following learning outcomes have been established for webinar participants:

- Understand the basics of Value Engineering (VE) to ensure that a standardized method is used for VE applications to projects
- Learn to perform “function analysis” for buildings and civil projects
- Understand the appropriate time to apply VE for building design projects

### **Webinar Benefits**

- Gain an understanding of the total decision-making methodology of value engineering
- Learn of the “SAVE International Value Methodology Standard” and the convention to be followed for application of VE to projects
- Learn how to perform “function analysis” for buildings and civil projects
- Understand the appropriate time to apply VE for building design projects
- From examples and case histories provided, come to realize that the value methodology is universal and applicable by all disciplines to most construction projects, including civil works such as bridges and highways
- Acquire the necessary information on VE to recognize the benefits resulting from their adoption as a standard practice within an organization
- Be able to engage clients in a meaningful discussion on VE as well as demonstrate a commitment to optimize the value for facilities

### **Intended Audience**

This webinar will benefit those who can directly or indirectly, from a supervisory or managerial position, affect the economic viability of new and retrofit building construction projects during the planning, design, and operational phases. It will also be of interest to management personnel who recognize the benefits of standardizing VE practices within their organization.

- Design architects
- Design engineers
- Technicians
- Facility managers
- Projects and program managers
- Owners and developers
- Green building and sustainability practitioners
- General and design-build contractors
- Cost managers/consultants and educators

## Webinar Outline

- The definition and methodology of Value Engineering
- SAVE International Value Methodology Standard
- Laws requiring VE in government projects
- Techniques of VE such as:
  - Function Analysis
  - Value Models such as Cost, Quality, Risk
  - Group Creativity
  - Life Cycle Costing Technique (Another ASCE webinar offers an overview of this topic)
- Case histories: buildings, roads, etc.
- Certification Requirements
- VE References

**Fees** [See registration page.](#)