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International expert in New Zealand
for a series of

ONE DAY SEMINARS - JUNE 2009
Sustainable Facilities & Infrastructure.

DR. ANNIE R. PEARCE

Assistant Professor in the Myers-Lawson School of Construction
Virginia Polytechnic Institute and State University, Blacksburg, Virginia, USA

CHRISTCHURCH – Wed 10 June
MWH Board Room, 7 Deans Ave.

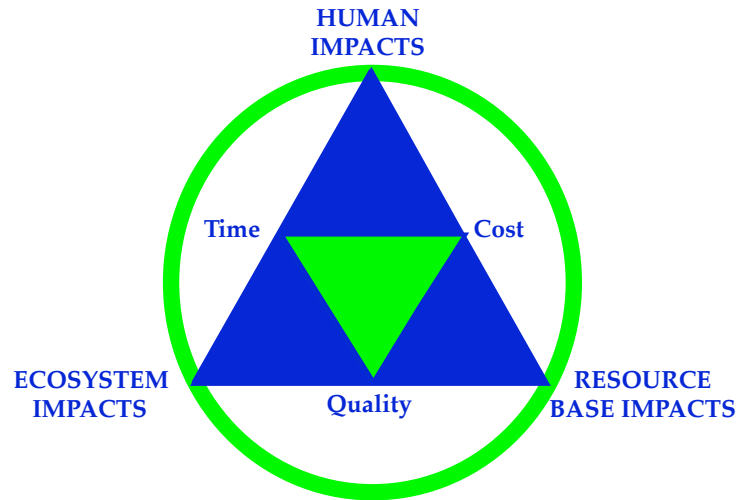
ROTORUA – Wednesday 17 June
The Heritage Hotel

AUCKLAND – Friday 12 June
AUT Conference Centre, Penrose

WELLINGTON – Friday 26 June
MWH Conference Room, Taranaki St.

Introduction

The concept of sustainability is gaining increased interest by decision makers as a potential solution for the myriad of global, regional, and local problems facing society into the foreseeable future. Even as developing nations struggle with issues of overpopulation, disease, and political conflict, developed countries such as New Zealand and the United States must balance problems such as infrastructure deterioration, pollution, and natural habitat loss with limited economic and physical resources to solve them. Sustainability looks at problems on both large and small scales, seeking to ensure that the needs of humanity are met in the present without endangering the potential for future human needs to be met. In the context of built facilities, sustainability can be defined as a system state marked by stability, both internal to the system as well as in terms of its context, on an ongoing basis. In terms of this definition, a sustainable facility is one that meets the needs and aspirations of its stakeholders without net negative impacts to the resource bases or ecosystems on which society depends for its ongoing existence.



Existing strategies for creating sustainable facilities range from recycling construction and demolition waste, to designing for energy efficiency or healthy indoor environments, to integrating building systems for wastewater, heating, and other basic functions with existing ecosystems that perform those functions in nature, and many others. The built environment is primed for implementing sustainability because not only are buildings vital to human existence in nearly all parts of the world, but also the built environment is one of the largest consumers of natural and manmade resources in the range of human endeavors. Built facilities also represent one of the most significant sources of negative impacts to the natural ecosystems on which we depend for life support.

Despite growing evidence of the benefits of sustainability for capital projects, stakeholders still struggle with perceptions that increasing project sustainability will cost much more and cannot be done within budgetary constraints and with limited resources. There is a growing body of evidence to the contrary, however, and a number of techniques exist to overcome this first cost barrier to sustainability in capital projects. Traditional construction represents a profit-based approach to constructing the built environment, often with controlling cost as the primary objective, maximizing performance as a secondary objective, and minimizing negative environmental and other sustainability-related impacts as tertiary objectives if they are considered at all. To be most effective, proponents for project sustainability must acknowledge the constraints of construction as a business enterprise while recognizing the benefits of sustainability for capital projects from a holistic standpoint.

Overview

This workshop provides real data and strategies for: (a) understanding sustainability in terms of today's economic language; (b) introducing methods for incorporating a broader range of considerations into economics-driven project decision making; (c) identifying and evaluating economic impacts and risks of sustainability in capital projects.; and (d) finding creative opportunities to overcome the first cost barrier to sustainability. The course will help participants understand how to formulate a business case for sustainability in capital projects, and will include a series of active learning exercises for

participants to practice developing an economic argument to support sustainability implementation on future projects.

Audience

This workshop is targeted to all stakeholders involved in the planning, design, construction, operation, maintenance, and end-of-service-life decision making of built facilities and infrastructure systems. It will be particularly relevant for stakeholders acting as agents of change within their organizations to improve sustainability practice.

Aim and objective

The course aims to provide participants with a framework of evidence and questions to enable them to evaluate the business case for sustainability on capital projects. It is an interactive course, which means that the participants are asked to actively contribute by asking questions and going through exercises both individually and in small teams. The course materials include a template of considerations that participants can take with them to use in future projects to establish a business case for sustainability.

Learning Outcomes

By the end of the course participants will be able to:

- Characterize the impacts of sustainability on a project using the economic language of project decision making
- Identify costs, benefits, and risks associated with implementing sustainability on a capital project from a holistic cost standpoint
- Construct a business case for incorporating sustainability tactics into capital projects
- Suggest tactics for overcoming common barriers to sustainability implementation, especially the first cost barrier.

IMPORTANT

ALL registered delegates must complete the online pre-course survey as part of the registration process. A link to the survey will be provided with the registration/confirmation packet for the course.

PROFILE:

Dr. Annie Pearce is an Assistant Professor in the Myers-Lawson School of Construction at Virginia Tech specializing in sustainable facilities and infrastructure systems. Throughout her career, Annie has worked with practitioners in both public and private sectors to implement sustainability as part of building planning, design, construction, and operations. As a LEED Accredited Professional, Annie brings the latest in green building methods, technologies, and best practices to the classroom. Her specific areas of interest include metrics of sustainability for built facilities, green building materials and systems, cost modeling to support sustainability implementation, and in situ performance of sustainable facility technologies.

She has served as a lead investigator for more than US\$2 million in research related to sustainable facilities and infrastructure for external sponsors including the US Army, Air

Force, Centers for Disease Control and Prevention, the Army Environmental Policy Institute, the National Science Foundation, the U.S.D.A. Forest Service, and multiple private corporations and state agencies. Annie has represented organizational sustainability initiatives at over 50 conferences and symposia both nationally and internationally, and has developed and taught lectures and courses of varying lengths on sustainable facilities and infrastructure reaching hundreds of graduate and undergraduate students and over a thousand practicing professionals around the world.

Along with others in the Myers-Lawson School, Annie is pioneering a new paradigm of construction research, education, and outreach that combines and synergizes inputs from stakeholders in the construction industry with new technologies and research efforts to promote sustainable innovations.

Programme

TIME	MODULE
9:00 – 9:30	<p>I: Sustainability – Benchmarking the Status Quo Welcome and Introductions Learning Objectives and Team Formation Sustainability Situation Assessment <i>Inventory: How sustainable is your organization?</i></p>
9:30 – 10:30	<p>II: The Economics of Project Sustainability The Holistic Project Cost Model <i>Team Exercise: Identifying Project Costs and Benefits</i> Predicting Sustainability Impacts Best Practices, Case Studies, and Resources</p>
10:30-10:45	COFFEE
10:45-12:00	<p>III: Planning the Business Case Sustainability and Organizations: Essential Resources <i>Inventory: Is your project team ready for sustainability?</i> Top 10 Barriers to Sustainability Implementation <i>Inventory: Which barriers will you face?</i> Best Practices, Case Studies, and Resources Barrier Breaker Matrix and Tool</p>
12:00-13:00	LUNCH
13:00 – 14:00	<p>IV: Building the Business Case Components of a Business Case Best Practices, Case Studies, and Resources <i>Team Exercise: Articulating Sustainability Value</i> Identifying and Managing Risks Developing Effective Action Proposals</p>

14:00 – 15:00	<p style="text-align: center;">V: Conveying the Business Case Stakeholder Assessment <i>Team Exercise: Customizing the message</i> Formulating Effective Arguments <i>Inventory: What pitfalls might impede your message?</i></p>
15:00 – 15:30	COFFEE
3:45-5:00	<p style="text-align: center;">VI: Course Presentations and Close-out Team Case Development and Presentations Course Summary and Reiteration of Resources Course Evaluations</p>

Registration / Information

Fee	<ul style="list-style-type: none"> ○ \$395 plus gst for Members (NZSSES, IPENZ, RSNZ, NZIA) ○ \$495 plus gst for non members ○ Student rates available upon application ○ Note: A 25% cancellation fee will apply to all cancellations. Cancellations made within 48 hours and non- attendance on the day will incur the full fee.
More information?	<i>Details on www.nzsses.auckland.ac.nz</i>
To Register	<p>Email to vicky@nzsses.org.nz</p> <p>IMPORTANT ALL delegates must complete the online pre-course survey Please follow the link from our website http://www.nzsses.auckland.ac.nz/forums/index.htm#infrastructure</p>