

# Powerful Business

*Facing a Dynamic Energy Future*

**May 24, 2007**

Washington State Convention & Trade Center  
Seattle, WA



Presented by



BETTERBRICKS  
*Bottom line thinking on energy.*

# Powerful Business Facing a Dynamic Energy Future

Thursday, May 24, 2007  
Washington State Convention & Trade Center  
800 Convention Place, Seattle, WA

The event's prime sponsors, Puget Sound Energy, Seattle City Light, Snohomish PUD, BetterBricks, Northwest Energy Efficiency Council and the Electric League of the Pacific Northwest have scheduled a series of presentation panels on topics that help commercial facility managers understand opportunities for saving energy and operating costs in their buildings.



Seattle City Light



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SOUND  
ENERGY



BETTERBRICKS  
*Bottom line thinking on energy.*



Five concurrent presentation tracks throughout the day will highlight proven strategies that work to improve energy performance and sustain those operational cost savings over time. Session topics will cover operations & maintenance issues, the latest in technology and practices in HVAC and lighting systems, as well as an entire track focusing on improving analysis and communication skills for effective energy project management. Exhibits will provide attendees opportunities to talk directly with product and service vendors as well.

7:00 am - 8:00 am - **Registration and Breakfast**

8:00 am - 8:50 am - **Morning Plenary**

9:00 am - 10:15 am - **Breakout Sessions**

10:15 am - 10:30 am - **Morning Break (Visit the Industry Exhibit Displays)**

10:30 am - 11:45 am - **Breakout Sessions**

12:00 pm - 1:20 pm - **Lunch & Afternoon Plenary**

1:30 pm - 2:45 pm - **Breakout Sessions**

2:45 pm - 3:00 pm - **Afternoon Break (Visit the Industry Exhibit Displays)**

3:00 pm - 4:15 pm - **Breakout Sessions**

4:15 pm - 5:30 pm - **Exhibit Reception**

## Morning Plenary

“Welcome and Utility Program Overviews”

Bob Stolarski, *Director, Customer Energy Management*  
Puget Sound Energy

Steve Ottenbreit, *Manager, Commercial & Industrial Energy Services*  
Snohomish PUD

Sue Walsh, *Acting Director, Conservation Resources Division*  
Seattle City Light

Skip Schick, *Senior Manager*  
Better Bricks

The opening plenary will connect you with all the conference information and the resources available from the local utilities. The leaders of the energy efficiency efforts for the utilities will discuss their program offerings as well as how each utility is working with their customers to implement successful efficiency projects.

## Afternoon Plenary

“I-937 and the Climate Change Imperative”

**Speaker:** KC Golden, *Policy Director*  
Climate Solutions

Washington State is beginning to rise to the climate challenge. The recent success of citizen's initiative I-937 is touted as a critical step that extends our existing “renewable edge” by delivering increased energy efficiency and new renewables. In both the power and transportation sectors, “efficiency first” is the best rule of thumb for practical, profitable climate solutions. KC Golden, Policy Director of Climate Solutions will provide insights into Washington's dynamic energy future. Mr. Golden will describe the challenges of climate change.

Track 1  
HVAC & Controls

**Keys to Successful Control Projects**

*Moderator:* Cindy Reside, Seattle City Light  
*Speakers:* J. Jay Santos, PE, Facility Dynamics

This presentation will examine changes that have taken place in the DDC industry over the past decade and the associated impacts on HVAC projects. The focus will be on ways that all parties involved in projects (owners, engineers, contractors and operators) can improve the overall process and can have successful projects.

**HVAC System Optimization**

*Moderator:* Alan Budman, Snohomish PUD  
*Speakers:* Al Cunningham, Cunningham Engineering  
Jim Merfeld, United Energy Engineers

Just because your building has a modern VAV system doesn't mean there isn't potential to reduce energy use and improve occupant satisfaction. The session will address fine-tuning HVAC systems to realize these opportunities. Presentations will focus on HVAC systems including VAV, VVT and legacy systems including CV, MZ and Dual Duct systems. Presenters will provide real-world examples including practical diagnostics and remedies such as testing, balancing and retro-commissioning HVAC and control systems.

Track 2  
Proven Technologies for Buildings

**Top Ten Lighting Trends in 2007**

*Moderator:* Paul Warila, Northwest Energy Efficiency Alliance  
*Speakers:* Edward Bartholomew, Lighting Design Lab  
Katie Smith, Pacific Lighting Systems

What are the 10 things you should know about lighting in 2007? Have LEDs finally become an architectural light source? Should we only be using High-Performance T8s? Have HID lamps in high ceilings gone the way of the 8 track tape? Will controls ever work? Are energy codes changing again? Should you run away when someone says LEED? And more! Come and learn about how lighting will affect you now and in the future.

**Efficient Gas Heating Systems**

*Moderator:* David Broustis, Seattle Parks & Recreation  
*Speakers:* David Landers, Puget Sound Energy  
Chao Chen, Puget Sound Energy

Is it time for a heating system upgrade? Improvements in combustion control and heat transfer technology are continually yielding more-efficient gas heating systems. This session will provide an overview of natural gas fired packaged boilers and infrared heating. Tips for maximizing energy savings will be provided, including case studies demonstrating appropriate applications. Attend this session to learn how heating system improvements can help offset rising fuel costs.

Track 3  
Strategies for Successful Projects

**Making the Business Case for Energy Efficiency**

*Moderator:* Bill Younger, Puget Sound Energy  
*Speakers:* Shirley Hansen, CEO, Hansen Associates  
Karen Monahan, Store Manager, JC Penney Company

Energy audits alone are not well suited to build compelling business cases for senior management. Making a distinction between funds for energy efficiency and for other organizational needs is key to financing energy projects. We need to remind top management that energy efficiency can be a self-funding endeavor. The money needed for energy investments is already in the budget – and being spent on wasted energy. This session will provide an overview of proven approaches to successfully move efficiency projects forward and financial analysis methods to help facilities professionals communicate from a business point of view.

**Success in the Executive Suite: Strategies for Facilities Managers**

*Moderator:* Jennifer Stout, Northwest Energy Efficiency Alliance  
*Speakers:* James T. Lussier, Founder, The Lussier Center/TLC  
Gary Hall, VP of Integrated Support Services  
PeaceHealth Lower Columbia Region

Success in the executive suite begins with knowing yourself and your organization. What is the organization's strategic plan and how can the facilities function demonstrate contributions to larger strategic objectives? A seasoned CEO and an experienced VP of Facilities share their perspectives and experiences using strategic planning approaches to improve facility management and performance. This presentation will help facilities professionals understand what it takes to be successful in their organizations and how to make effective use of internal and external resources to maximize visibility.

Track 4  
Improving Plant Performance

**Motors and Drives – Applications**

*Moderator:* Steve Ottenbreit, Snohomish County PUD  
*Speakers:* Don Casada, Diagnostic Solutions  
Greg Bateman – North Coast Electric

Sources indicate that motor-driven equipment accounts for 64% of the electricity used in the US industrial sector and 36% of commercial sector electrical use. As such, motors and drives offer great potential for improved energy performance. Presenters will address motor selection and applications of variable frequency drives (VFDs) in fan and pumping applications. They will focus on gathering reliable savings and financial information and on installation considerations to assure the success of VFD installations for your project service.

**Chilled Water System Optimization – The Concept, The Process and The Results**

*Moderator:* Michael Cuba, Seattle City Light  
*Speaker:* David A. Rogers, PE, R&A Engineering Solutions Inc.  
Harold Hougham, PE, R&A Engineering, Solutions, Inc.

Chilled water system optimization is a process that improves system function and efficiency by analyzing and improving piping configuration, equipment, systems and controls. A properly configured, controlled and commissioned system enhances thermodynamic performance and minimizes process energy requirements while serving the same loads. Results will be provided for three specific projects: a health care facility, a trauma center with research and teaching facilities, and a biomedical facility.

Track 5  
Case Studies & More

**2006 Changes to the Non Residential Energy Code**

*Moderator:* Stan Price, Northwest Energy Efficiency Council  
*Speakers:* Duane Lewellen, P.E., The Rice Group  
Robbie Liem, P.E., City of Seattle  
Department of Planning & Development

Both the state Non Residential Energy Code (NREC) and Seattle's version of that code are changing beginning July 2007. This session will cover highlights of changes to both codes as well as information and support material to help designers, construction managers, and facility professionals with code compliance.

**Top Ten Operational Problems in Facility Energy Performance**

*Moderator:* Janice Peterson, Northwest Energy Efficiency Alliance  
*Speakers:* Michael Hatten, P.E., Solarc Architecture & Engineering  
Tom Ripley, Egis Real Estate Services, LLC.

It doesn't take a capital investment to improve building energy performance. Facilities managers on the trail of energy savings are finding high returns in improvements to building operating practices for HVAC, lighting and plug loads. Where should a review of O&M practices focus to get the best bang for the buck? Hear from two experienced practitioners how they assess opportunities and what they see as the most common operational problems. This session will bring new meaning to the adage "tune it up, turn it down, turn it off" by offering a list of areas to focus, and a set of ideas and resources for starting their own building O&M assessments.

**Retro-commissioning***Moderator:* David Rodenheizer, PE, Seattle City Light*Speaker:* David Sellers, PE, Facility Dynamics

Retro-commissioning is a process that is applied to existing buildings to optimize their performance and tends to focus on low cost /no cost opportunities rather than capital improvements. Frequently, the improved performance leads to energy and other resource savings while providing an attractive payback. This session will include a series of case studies that explore some common retro-commissioning targets while highlighting the clues that lead to their discovery, the theory behind them, implementation techniques as well as the associated costs and benefits.

**Energy Conservation - Uncovering Hidden Opportunities***Moderator:* Jim Healy, Seattle City Light*Speakers:* Will Pokorny, PE, CEM, LEED AP, McKinstry  
Michael Baker, Vice President, SBW Consulting, Inc.

This session will provide an overview of commercial building energy use, including an explanation of building systems, their operation, and opportunities for energy and resource savings. It will bring together the latest advancements in energy savings opportunities for the major building systems. Savings from operation and maintenance practices requiring little or no capital investment will be covered as well as projects with modest to large capital requirements.

**Benchmarking Your Facility and Your Organization - Tools for Strategic Energy Management***Moderator:* Syd France, Puget Sound Energy*Speakers:* Fabian Biagetti, VP Operations, Envinta  
Richard Beam, Regional Utility Manager  
Providence Health System

Companies have been engaging in energy efficiency strategies for years as a means to control costs. Organizations that take a systematic and strategic approach to energy management continually outperform their competitors and have greater value to shareholders.

This session will provide an overview of how organizations are using creative benchmarking tools to evaluate business practices and building performance. The results are being used to develop action plans, maximize visibility, and contribute to the organization's strategic objectives.

**Monitoring and Maintaining Steam Systems***Moderator:* Mark Lenssen, Puget Sound Energy*Speakers:* Ross Metcalf, Flow Solutions  
Gary Robertson, Proctor Sales

Steam traps are an integral part of any and all steam systems, and when they fail, steam traps can increase production times, reduce system performance, waste valuable energy, and jeopardize safety. To minimize these consequences, this session will discuss methods and available technologies for monitoring and maintaining your steam traps.

**Lighting Retrofit Projects – Facility Managers Share Results***Moderator:* Edward Bartholomew, Lighting Design Lab*Speakers:* Mike Hughes, Maintenance Supervisor  
Seattle Parks and Recreation  
Ken Fox, Facilities Manager, Phillips Oral Healthcare  
Tom Derrer, Eddyline Kayaks

Lighting retrofit projects are some of the most cost-effective energy management projects, with ROI's in under a year. Yet one size does not fit all applications. Appropriate lamp and fixture selection and a simple control strategy are keys to occupant satisfaction and cost savings. Hear about the experiences of three facilities managers who recently completed major lighting retrofits. What systems did they start with, what were the drivers behind the change and their choices, and how are the completed projects working? This session will help facilities managers understand the decision steps and process for a successful lighting retrofit.

**Rooftop Units (RTUs) – Application and Optimization***Moderator:* Tom Hovde, Snohomish County PUD*Speakers:* Bob Davis, Ecotope, Inc.  
Les Klopp, MacDonald Miller Facility Solutions

HVAC energy use can range up to half of a building's total energy use. As a result, optimizing RTU performance offers great potential to save on operating expenses. This session will cover opportunities in RTU operations and maintenance that offer potential for savings, improved reliability and comfort. Presenters will cover topics including economizer diagnostics, refrigerant charge, air flow and heat transfer as well as maintenance practices to insure continuous performance.

**Lighting Controls and Retrofit Strategies***Moderator:* Paul Warila, Northwest Energy Efficiency Alliance*Speakers:* Michael Lane, Lighting Design Lab  
Scott Fishkin, Director, Energy Management, Boeing

Believe it or not, lighting retrofit projects don't begin (or end) with the selection of light fixtures. Start with an idea or concept. What kind of lighting do I want? Are there any special lighting needs that should be addressed? Is daylight available? How do I control the lighting to maximize the performance while controlling energy costs? This session will provide an update on current lighting retrofit strategies, and their relative effectiveness in various applications. Simple lighting controls such as occupancy sensors, daylighting controls, photocells and their appropriate application in commercial office settings will be covered. A recent lighting retrofit project at Boeing will be used to illustrate the opportunities, key considerations and benefits of a lighting retrofit project.

**The Road to Proven Performance – A Tale of Two Buildings***Moderator:* Lori Moen, King County DNRP*Speakers:* John Fairman, Building Manager, Wright Runstad  
Bob Burns, Deputy Director, King County DNRP  
Steve Fry, Department of Ecology

This session will provide case studies of two truly sustainable and energy efficient commercial buildings. Speakers will provide background on how the projects were conceived and sold to the decision makers, barriers encountered along the way, energy efficiency and sustainability features of the final site, and how they have performed compared to estimates and similar building types.

**Data Center Cooling Options***Moderator:* Surinder Rekhi, PE, Seattle City Light*Speakers:* Jeff Sloan, PE, McKinstry

This session will focus on energy-savings opportunities in existing and expanding data centers. A wide range of questions will be addressed including how to optimize temperature and humidity, cool high-density loads, reuse data center heat in adjacent spaces, and use free cooling. Specific examples will be provided.

**The 2030 Challenge***Moderator:* Zuhair Mased, Seattle City Light*Speakers:* Peter Dobrovoly, Commercial Expert, City Green Building  
City of Seattle Department of Planning & Development  
Doug Smith, PE, LEED AP, Interface Engineering

The 2030 Challenge pushes us to design high-performance and carbon-neutral buildings and developments and to advocate for incentives and actions that will ensure all buildings and developments meet these challenges. This session will explain the impact that the built environment is having on climate change, and what resources are available to assist building owners and managers to do their part in reducing impacts.



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**2007**  
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The Washington State Convention and Trade Center is conveniently located in downtown Seattle with the main entrance on the corner of 7th and Pike Streets. For directions and maps, visit:

[www.wsctc.com/about\\_us/directions\\_parking.aspx](http://www.wsctc.com/about_us/directions_parking.aspx)

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