

3 – Commercial Buildings: Technologies, Design, Performance Analysis, and Building Industry Trends

Variable Refrigerant Flow: An Emerging Air Conditioner and Heat Pump Technology

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Indoor Air Purification Technologies that Allow Reduced Outdoor Air Intake Rates While Maintaining Acceptable Levels of Indoor Air Quality

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Patricia Hurtado, Global Energy Partners, LLC
K. R. (Ammi) Amarnath, Electric Power Research Institute

Energy Efficiency and the Control and Simulation of VAV Systems

Paul Bannister, Exergy Australia Pty Ltd

21st Century Cooling Strategies for Large Retail Facilities in Dry Climates

Richard Bourne, Western Cooling Efficiency Center
Scott D. Williams, Target Corporation
James McClendon, Wal-Mart

Common Boiler Excess Air Trends and Strategies to Optimize Efficiency

Kevin Carpenter, Energy & Resource Solutions
Kelly Kissock, University of Dayton
Chris Schmidt, Energy & Resource Solutions

Energy Design Guides for Army Barracks

Michael Deru, National Renewable Energy Laboratory
Alexander Zhivov, Construction Engineering Research Laboratory, Engineer Research and Development Center
Dale Herron, Construction Engineering Research Laboratory, Engineer Research and Development Center

Greening the U.S. House of Representatives

Rick Diamond, Lawrence Berkeley National Laboratory
Christopher T. Payne, Lawrence Berkeley National Laboratory
Grant Scherling, U.S. House of Representatives

How Accurate Is Energy Modeling in the Market?

Mark Frankel, New Buildings Institute
Cathy Turner, New Buildings Institute

Minnesota B3 Benchmarking Results: Prioritizing the Energy Savings Opportunity in Minnesota Public Buildings

Lara Greden, The Weidt Group
Tom McDougall, The Weidt Group
Leo Steidel, The Weidt Group
Janet Streff, Minnesota Department of Commerce

Up On the Roof: From the Past to the Future

Reid Hart, Portland Energy Conservation, Inc.
Dan Morehouse, Eugene Water & Electric Board
Will Price, Eugene Water & Electric Board
John Taylor, Consortium for Energy Efficiency
Howard Reichmuth, New Buildings Institute
Mark Cherniack, New Buildings Institute

Benchmarking and Equipment and Controls Assessment for a 'Big Box' Retail Chain

Philip Haves, Lawrence Berkeley National Laboratory
Brian Coffey, Lawrence Berkeley National Laboratory
Scott D. Williams, Target Corporation

The Importance of Integrated Design, Commissioning, and Building Tuning: A Grocery Store Case Study

Jonathan Heller, Ecotope, Inc.
David Baylon

Compressor Confusion: Field Findings on the Role of Supplemental Cooling in a Commercial Indirect Evaporative Air Conditioner

Cathy Higgins, New Buildings Institute
Howard Reichmuth, New Buildings Institute

Calibration and Collaboration: Important Tools to Design High-Performance Affordable Housing Buildings

Wei Jiang, Pacific Northwest National Laboratory
Bing Liu, Pacific Northwest National Laboratory
John Snell, Peregrine Energy Group
Dan Helmes, Boston Housing Authority

Design and Optimization of a Mixed Mode Raised Floor and Natural Ventilation System for a High Rise Office Building

Taylor Keep, Arup
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James Woods, Arup

Evaluating the Performance and Economics of Transpired Solar Collectors for Commercial Applications

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Steve Slayzak, National Renewable Energy Laboratory
Paul Norton, National Renewable Energy Laboratory
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James McClendon, Wal-Mart

Virtual Refrigerant Charge Sensor

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Jim Braun, Purdue University

Universal Energy Benchmarking for Commercial Buildings: Making It a Reality in California

Douglas Mahone, Heschong Mahone Group, Inc.
Karen Herter, Heschong Mahone Group, Inc.
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A Buildings Module for the Stochastic Energy Deployment System

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Sam Borgeson, Lawrence Berkeley National Laboratory
Brian Coffey, Lawrence Berkeley National Laboratory
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Way Beyond Widgets: Delivering Integrated Lighting Design in Actionable Solutions

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Carol Jones, Pacific Northwest National Laboratory

Wireless Sensor Technology for Data Centers

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Patricia Nealon, Synapsense Corporation

Avoiding Fluorescent Dimming Pitfalls for Daylight Harvesting

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Andrew Bierman, Lighting Research Center - Rensselaer Polytechnic Institute
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Development of Design Guidance for K-12 Schools: From 30% to 50% Energy Savings

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National Commercial Construction Characteristics and Compliance with Building Energy Codes: 1999-2007

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Field Testing of Commercial Rooftop Units Directed at Performance Verification

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Energy Implications of Economizer Use in California Data Centers

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Distributed Energy Resources On-Site Optimization for Commercial Buildings with Electric and Thermal Storage Technologies

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Deep Energy Savings in a Small Office Building: The Southface Eco-Office Demonstration and Research Project

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DOE's Commercial Building Benchmarks — Development of Typical Construction Practices for Building Envelope and Mechanical Systems from the 2003 Commercial Building Energy Consumption Survey

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