

CONTENTS

PANEL 10: INTRODUCTION

Limiting the Impact of Increasing Cooling Demand in the European Union: Results from a Study on Room Air Conditioner Energy Efficiency

Jérôme Adnot, *Ecole des Mines de Paris*

Matthieu Orphelin, *Ecole des Mines de Paris*

Carlos Lopes, *Centro para a Conservação de Energia, Portugal*

Paul Waide, *PW Consulting*

Is There a Future for Geothermal Heat Pumps in Southern New England?

Dinesh Bhagani, *Northeast Utilities*

Robert Wirtshafter, *Wirtshafter Associates, Inc.*

Russell Johnson, *Northeast Utilities*

Jonathan Weiss, *Wirtshafter Associates, Inc.*

Robert Bordner, *Energy Market Innovations, Inc.*

Developing a Roadmap to the 21st Century for Commercial Buildings

Drury B. Crawley, *U.S. Department of Energy*

Highlights of the California GeoExchange Project

Bill Dakin, *Davis Energy Group*

Marshall Hunt, *Pacific Gas and Electric Company*

Characteristics and Energy Use Trends for Major Commercial Building Types

Joelle Davis, *Energy Information Administration*

Alan Swenson, *Energy Information Administration*

Renewable Technologies and Energy Efficiency for Block Island Power Company

Mark de Figueiredo, *Massachusetts Institute of Technology/ Peregrine Energy Group*

John Snell, *Peregrine Energy Group*

High Performance Buildings for the State of Tennessee

David Edmunds, *State of Tennessee*

Ken Scalf, *State of Tennessee*

Debby Dodds, *Portland Energy Conservation, Inc.*

Karl Stum, *Portland Energy Conservation, Inc.*

Will the Clean Development Mechanism Hold Market Transformation Programs?

Anna Engleryd, *Swedish National Energy Administration, STEM, Sweden/International Center for Research on Environment and Development, CIRED, France*

Crediting Energy Efficiency Measures Under Air Emissions Programs

Steven Fine, *ICF Consulting*

Chloe Weil, *U.S. Environmental Protection Agency*

Improving Ground-Source Heat Pump Efficiency: Optimizing Pumping Control and Configuration of Closed-Loop Heat Pump Systems in Smaller Commercial Buildings

Reid Hart, *Eugene Water & Electric Board*

Will Price, *Eugene Water & Electric Board*

Microgeneration Concepts Using Thermophotovoltaics

E. Horne, *Edtek, Inc.*

M. Morgan, *Edtek, Inc.*

T. Butcher, *Brookhaven National Laboratory*

A Bottom-Up Engineering Estimate of the Aggregate Heating and Cooling Loads of the Entire U.S. Building Stock

Joe Huang, *Lawrence Berkeley National Laboratory*

Jim Brodrick, *D&R International*

Combined Heat and Power for Saving Energy and Carbon in Residences

Tina Kaarsberg, *U.S. Department of Energy*

Ronald Fiskum, *U.S. Department of Energy*

Andreas Deppe, *The George Washington University*

Satish Kumar, *Lawrence Berkeley National Laboratory*

Arthur H. Rosenfeld, *California Energy Commission*

Joseph Romm, *Center for Energy and Climate Systems*

Leon Gielen, *N.V. ENECO*

**Whole Wall Performance Analysis of Autoclaved Aerated Concrete:
An Example of Collaboration between Industry and a Research Lab on Development of Energy Efficient Building Envelope Systems**

Jan Kosny, *Oak Ridge National Laboratory*

Industry Transformation in Refrigerated Warehouses

David Leue, *Pacific Gas and Electric Company*

Patrick Eilert, *Pacific Gas and Electric Company*

Local Temperature Measurements on Full-Size Systems in the Laboratory: Insight into the Extent of Thermal Bridges in Building Envelope Components

Thomas W. Petrie, *Oak Ridge National Laboratory*

Jan Kosny, *Oak Ridge National Laboratory*

Jerald A. Atchley, *Oak Ridge National Laboratory*

André O. Desjarlais, *Oak Ridge National Laboratory*

Strategies for Energy Benchmarking in Cleanrooms and Laboratory-Type Facilities

Dale Sartor, *Lawrence Berkeley National Laboratory*

Mary Ann Piette, *Lawrence Berkeley National Laboratory*

William Tschudi, *Lawrence Berkeley National Laboratory*

Stephen Fok, *Pacific Gas and Electric Company*

Distributed Energy Resources and Combined Heat and Power: A Taxonomy of Terms

Richard Scheer, *Energetics*

Anna Monis Shipley, *American Council for an Energy-Efficient Economy*

R. Neal Elliott, *American Council for an Energy-Efficient Economy*

Bridging the Efficiency Gap: Commercial Packaged Rooftop Air Conditioners

John Shugars, *Consultant*

Philip E. Coleman, *Lawrence Berkeley National Laboratory*

Christopher Payne, *Lawrence Berkeley National Laboratory*

Laura Van Wie McGrory, *Lawrence Berkeley National Laboratory*

New Lithuanian Building Code Requirements on Energy Consumption

V. Stankevicius, *Institute of Architecture and Construction, Lithuania*

J. Karbauskaite, *Institute of Architecture and Construction, Lithuania*

C.M. Hector, *Institute of Architecture and Construction, Lithuania*

Svensk Bygledning, *AB, Sweden*

Building Technology Trends and Their Implications Regarding Technology Management in the Buildings Industry

Jay Stein, *E Source, Inc.*

Is A Sustainable Society Cost-Effective? Redefining Goals for Efficiency in Buildings

Charlie Stephens, *Oregon Office of Energy*

Performance of an Engine-Driven/Electric Motor Hybrid Refrigeration System Integrated with Desiccant Dehumidifiers in an Ice Rink

Richard S. Sweetser, *EXERGY Partners Corp.*

Hugh Henderson, *CDH Energy Corp.*

David Brooks, *Industrial Center, Inc.*

John Berndt, *Schwan's Super Rink*

The Role of Carbon Performance Contracting in Climate Change Mitigation

Joel N. Swisher, *E4 Inc.*

Breathing Walls: A Challenge for New Sustainable Building Techniques in Hungary

Gábor Tiderenczl, *Plc for Quality Control and Innovation in Building, Budapest*

Károly Matolcsy, *Plc for Quality Control and Innovation in Building, Budapest*

Linking Solar Photovoltaics and Building Disaster-Resistant Communities

Mary Tucker, *City of San Jose*

Lian Loo, *City of San Jose*

The \$535 Million Missed Opportunity in Federal Buildings

Malcolm Verdict, *Alliance to Save Energy*