

February
17-18
2009

Innovations in Energy Efficiency: California, Taiwan and Mainland China

Bechtel Conference Center
Encina Hall
Stanford University

Sponsors:



The Industrial Technology
Research Institute
Hsinchu, Taiwan



The Stanford Program on
Regions of Innovation and
Entrepreneurship
Stanford, CA

A Workshop at Stanford University

There is a potential for large gains in the efficiency of energy use with substantial economic payoffs: in buildings, motor vehicles, traffic control, electricity grids, industry. All of these applications involve the use of information technologies. This workshop will focus on demand and efficiency topics that are becoming increasingly salient.

This workshop involves three important actors on the world energy scene: California and Mainland China are large consumers of oil while Taiwan, for its size a substantial consumer of oil and emitter of greenhouse gases, plays a leading role in information technologies. California's size and commitment to energy efficiency makes its role an important one within the US while China's ongoing urbanization has major energy implications.

This workshop is the first in a series with the goal of convening leading experts from these three regions to focus on key energy-economic efficiency issues, form a research agenda and collaborate on possible solutions.

Topics for discussion will include:

- strategic policy choices, especially the challenges posed by cap-and-trading of carbon emissions
- improving industry use of energy
- urbanization 2.0: transportation and buildings
- how IT helps green the planet, including the use of smart meters
- how consumers respond to better data
- new venture capital investments in clean tech
- energy efficiency start-ups in Silicon Valley

For more information and registration information, please visit <http://sprie.stanford.edu/events/5617>



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DAY ONE

FEBRUARY 17, 2009

MORNING SESSIONS

8:00 AM – 8:30 AM Check-in and Continental Breakfast

8:30 AM – 8:45 AM Introduction

Professor Henry Rowen, Co-Director, Stanford Program on Regions of Innovation and Entrepreneurship

8:45 AM – 9:45 AM Keynote

“How to Think About Energy Efficiency”

Dr. James Sweeney, Director, Precourt Institute for Energy Efficiency, Stanford University

9:45 AM – 10:00 AM Break

10:00 AM Strategic Choices

Moderator: **Marguerite Gong Hancock**, Associate Director, SPRI

10:00 AM – 10:45 AM

- Overview: “Trading Carbon in California”

Dr. Lawrence Goulder, Chair, Economics Department, Stanford University; Member, California Public Utilities Commission

10:45 AM – 12:00 PM Panel

- “Taiwan’s 2025 Carbon Reduction Goals: Options and Challenges”

Dr. Robert J. Yang, Senior Advisor, Industrial Technology Research Institute

- “A Synthesis of Energy Tax, Carbon Tax and CO2 Emission Trading System in Taiwan”

Dr. Chi-Yuan Liang, Research Fellow, Institute of Economics, Academia Sinica & Professor, National Central University

- “Measurement of Energy Efficiency in Taiwan and Its Relevance to CO2 Decoupling”

Dr. Chung-Huang Huang, Dean, College of Transportation and Tourism, Kainan University and Professor, Department of Economics, National Tsing Hua University

12:00 PM – 1:00 PM Lunch



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DAY ONE

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AFTERNOON SESSIONS

1:00 PM

Industry Uses

Moderator: **Dr. Chin-Tay Shih**, Dean of College of Technology Management, National Tsing-Hua University

1:00 PM – 1:45 PM

- Overview: “Improving Energy Efficiency in Industry”
Dr. Eric Masanet, Principal Scientific Engineering Associate, Energy Analysis Dept., Lawrence Berkeley National Laboratory

1:45 PM – 3:00 PM

Panel

- “Technology R&D and Industry Development of Distributed Energy System in Taiwan”
Dr. Hsin-Sen Chu, Executive Vice President, Industrial Technology Research Institute
- “Industrial Energy Saving Potential and Trend Analysis in Taiwan”
Dr. Jyh-Shing Yang, Senior Consultant, IEK/ITRI and Professor, National Central University
- “Industrial innovation toward low carbon economy in Hsinchu Science Park”
Dr. Kung Wang, Professor, School of Management, National Central University, Taiwan

3:00 PM – 3:15 PM

Break

3:15 PM – 5:30 PM

The Urban Environment: Buildings and Transportation

Moderator: **Dr. William Miller**, Co-Director, Stanford Program on Regions of Innovation and Entrepreneurship
Framing Remarks: **Dr. Lee Schipper**, Senior Research Engineer, Precourt Institute for Energy Efficiency, Stanford University

- Integrated management of energy performance of buildings, building portfolios, and cities
Dr. Martin Fischer, Professor, Civil & Environmental Engineering/Director, Center for Integrated Facility Engineering, Stanford
- “Challenges, priorities and strategies for energy efficiency in the electric car industry”
Mr. Fred Ni, General Manager, BYD America Corporation
- “Urban Motorization in China: Energy Challenges and Solutions”
Ms Wei-Shiuen Ng, Consultant, previously with World Resources Institute
- Title TBA—delivered via video link
Mr. David Nieh, General Manager of Planning and Development, Shui On Land Corporation
- Commentator: **Dr. Fang Rong**, Researcher, Center for Industrial Development & Environmental Governance, Tsinghua University



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DAY TWO

FEBRUARY 18, 2009

MORNING SESSIONS

8:00 AM – 8:30 AM Check-in and Continental Breakfast

8:30 AM How IT Helps Green the Planet

Moderator: **Dr. John Weyant**, Deputy Director, Precourt Institute for Energy Efficiency, Stanford University

8:30 AM – 9:00 AM

- “Challenges for Energy Efficiency Innovation and Convergence with Green Environmental Technology”
Dr. Simon C. Tung, General Director, Energy and Environmental Research Laboratories, ITRI

9:00 AM – 10:00 AM

Panel: Two Perspectives on California Initiatives

- “Demand Response: Time-differentiating technologies, rates, programs, metrics and customer behavior”
Dr. Joy Morgenstern, California Public Utilities Commission
- “The PG&E Smart Meter Program”
Ms. Jana Corey, Director of AMI Initiatives, The Pacific Gas and Electric Co.

10:00 AM – 10:30 AM

- Overview: “Behavioral Responses” **Dr. Carrie Armel**, Research Associate, Precourt Institute for Energy Efficiency

10:30 AM – 10:45 AM

Break

10:45 A.M. – 12:00 P.M.

A Conversation on IT’s Impact on Energy

Moderator: **Professor Henry Rowen**, Co-Director, Stanford Program on Regions of Innovation and Entrepreneurship

- **Dr. Banny Banerjee**, Associate Professor, Mechanical Engineering, Stanford University
- **Dr. Hsin-Sen Chu**, Executive Vice President, Industrial Technology Research Institute
- **Dr. Sam Chiu**, Professor, Management Science and Engineering, Stanford University
- **Dr. Lee Schipper**, Senior Research Engineer, Precourt Institute for Energy Efficiency, Stanford University

12:00 PM – 1:00 PM

Lunch



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DAY TWO

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AFTERNOON SESSIONS

1:00 P.M. – 3:00 P.M.

Operating in the Cleantech Space

Moderator: **Dr. Craig Lawrence**, Accel Partners

- **Mr. Mike Harrigan**, VP Business Development, Coulomb Technology (charging hardware and software infrastructure for electric vehicles)
- **Mr. David Leonard**, CEO Redwood Systems (LED lighting management systems)
- **Mr. Frank Paniagua, Jr.**, CEO GreenPlug (intelligent DC charging for consumer electronics devices)

3:00 P.M. – 3:15 P.M.

Break

3:15 P.M. – 4:30 P.M.

A Venture Capital Perspective

Moderator: **Dr. William Miller**, Co-Director, Stanford Program on Regions of Innovation and Entrepreneurship

- **Mr. Maurice Gunderson**, Senior Partner, CMEA Capital
- **Dr. Marc Porat**, CEO, Calstar Cement
- **Dr. Marianne Wu**, Mohr Davidow Ventures